Foremost Farms' Climate Resilience Action Plan 2025-2030

Pursuant to California Senate Bill 261

For the fiscal year ended December 31, 2025

Biennial Report – reporting cycle: 2024-2025

Foremost Farms USA

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1. ABOUT THIS REPORT

a. This report has been prepared in accordance with the recommendations of the Task Force on Climate-Related Financial Disclosures (TCFD) and includes all recommended disclosures. It provides an overview of Foremost Farms' governance, strategy, risk management and metrics and targets related to climate change. By structuring our disclosures around the TCFD framework, we aim to give stakeholders clear, consistent and decision-useful information on how climate-related risks and opportunities may affect our cooperative's business model, value chain and long-term resilience.

2. U.S. DAIRY STEWARDSHIP COMMITMENT AND PLEDGE TO GREENHOUSE GAS (GHG) NEUTRALITY

a. Our Goal

i. In 2018, Foremost Farms became an early adopter of the U.S. Dairy Stewardship Commitment, solidifying our pledge to achieve GHG neutrality by 2050. This target applies to scope 1, 2 and 3 absolute emissions compared to Foremost Farms' 2018 baseline and is inclusive of applicable GHG emission types such as carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O) and hydrofluorocarbons (HFCs).

3. FOREMOST FARMS CLIMATE RESILIENCE ACTION PLAN 2025-2030

a. Interconnectivity of our climate action plan and our larger sustainability strategy

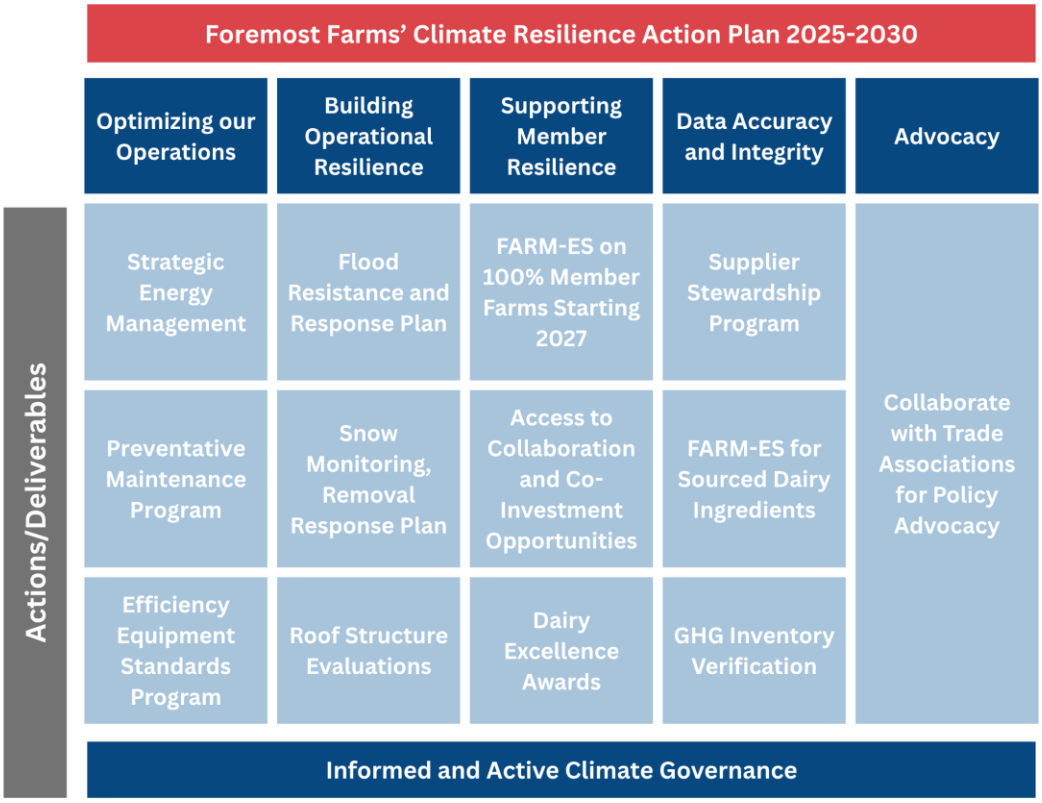
i. Foremost Farms' sustainability strategy reflects our responsibility to people within and beyond our cooperative, to the planet and its resources and to the wholesome dairy products we deliver to consumers. Climate action is a core commitment within our Responsible for the Planet pillar, but we also recognize that climate change presents both risks and opportunities for our stakeholders and our long-term ability to bring dairy to life. Our Climate Resilience Action Plan provides a roadmap for reducing emissions and adapting to changing conditions, while our broader sustainability strategy embraces a holistic approach that benefits the environment, society and economy. Grounding our Climate Resilience Action Plan within our broader sustainability strategy ensures a just transition that drives lasting, transformative change.

b. Key areas to drive to 2030

i. Foremost Farms' key climate resiliency levers for the short-term include a four-pillar strategy to both reduce Foremost Farms' contributions to climate change and strengthen our adaptive capacity to operate successfully in a low-carbon economy under evolving climate conditions. Through this strategy, Foremost Farms will focus on:

- **Optimizing and adapting our plant operations** to mitigate emissions and improve infrastructure vulnerabilities
- **Supporting member resiliency** through creating access to cost-share opportunities to enable adoption of new on-farm practices

- **Maturing measurement and reporting** practices to fulfill customer and regulatory reporting requirements
- **Advocating for policies and market-based tools** that support U.S. Dairy in decarbonizing
- **Establishing mature governance mechanisms** to further integrate climate-related considerations into long-term business planning



c. Climate resilience and a just transition for our dairy farm families

i. One of Foremost Farms' greatest strengths is the diverse network of dairy farm families that form the foundation of our cooperative. We are committed to voluntary, incentive-based programming that empowers our members to enhance farm resilience through practices tailored to their unique operations. As a cooperative, Foremost Farms serves as a facilitator - raising awareness, connecting members to technical expertise and expanding access to co-investment opportunities that support long-term sustainability.

ii. We also recognize the importance of advocacy. Through forums like the Dairy Sustainability Alliance and engagement with industry associations, Foremost Farms promotes policies and market mechanisms that enable producers and processors to thrive

in a low-carbon economy. Our mission is clear: to ensure our farm families can continue farming today, tomorrow and for generations to come.

4. GOVERNANCE OVER CLIMATE-RELATED RISKS AND OPPORTUNITIES

a. Foremost Farms' governance structure is essential to ensure that the cooperative's leadership makes well-informed decisions on climate-related risks and opportunities facing the cooperative. As we continue to embed climate-related risk assessment, identification and management into our enterprise planning, we will expand education on climate change, strengthen our ability to quantify climate risks and opportunities and more fully integrate the results of our assessments into long-term strategic decision-making.

Governance		Description
Board of Directors	**Sustainability Committee**	The Sustainability Committee, made up of select Board members appointed by the Chairman of the Board, reviews key programs and policies from the Sustainability Council, including goals, plans and progress on GHG reductions. It advises the full Board on climate strategies, monitors initiatives and ensures alignment with business objectives. The Committee receives biannual progress updates from the Council: one reporting on percentage changes in metric tons of CO_2e relative to our 2018 baseline and another highlighting progress in implementing mitigation and adaptation initiatives.
Management	**Sustainability Council**	The Sustainability Council, composed of executives, directors and managers from cross-functional teams, guides the cooperative's sustainability strategy and oversees initiative implementation. It incorporates climate-related considerations into business strategy, approves climate-related targets and receives biannual progress updates on GHG management from the Sustainability Team. In practice, this oversight ensures that our strategic priorities align with growing demand for transparent monitoring, reporting and verification of GHG emissions and that capital proposals to the board include long-term planning against climate considerations. The Council meets monthly, reports to the committee twice a year and receives quarterly progress updates from the Sustainability Team.
	Climate Working Group	In 2024 and continuing throughout 2025, the Sustainability Council formed a Climate Working Group—led by the Sustainability Team and staffed with subject matter experts—to assess climate risks and develop Foremost Farms' Climate Resilience Action Plan. The primary objective of the Climate Working Group was to identify appropriate management responses to decarbonize operations,

		reduce climate-related risks and capture emerging opportunities. The group's outcomes formed the foundation of Foremost Farms' Climate Resilience Action Plan, which now guides our cooperative's efforts through 2030.
	Sustainability Team	The Sustainability Team manages the cooperative's GHG inventory, tracks climate progress, assesses risks, develops the climate resilience action plan and educates leadership to support informed climate decisions. It reports biannually to the Sustainability Council on climate-related goals, progress, risks and opportunities.
	Sustainability Policy	Foremost Farms maintains an active Sustainability Policy that outlines our cooperative's principles and commitments to achieve the cooperative's sustainability goals. Within our principles, we state, "we shall enhance the environmental impacts of our products across their life cycles" and within our commitments we state, "we shall achieve GHG neutrality by 2050 with completion of public annual reporting to share progress against that goal." This policy applies to all Foremost Farms' employees, operations and external stakeholders.
Reporting		Foremost Farms is committed to completing an annual GHG inventory and publicly reporting results through a public performance progress update or a Global Reporting Initiative (GRI) referenced report. This commitment is embedded in the cooperative's Sustainability Policy.

5. CLIMATE RISK ASSESSMENT

a. Identifying climate stressors pressing to Foremost Farms

i. The six primary climate stressors of heat, drought, rain and flooding, sea level rise, changes in ocean composition and wildfire were considered. Primary climate stressors posing risks and opportunities for Foremost Farms' business operations include increasing average temperatures, increasing average precipitation and increased frequency of extreme precipitation.

ii. Climate-Related Scenario analysis

1. In 2025, Foremost Farms conducted climate-related scenario analysis using multiple climate models to assess resilience across our operating territories over the short term (2025–2030), medium term (2030–2040) and long term (2040 and beyond). Models utilized include the 5th National Climate Assessment , CREAT

Climate Change Scenarios Projection Map, Probable Futures, World Resources Institute Water Risk Atlas Tool, Climate Mapping for Resilience and Adaptation Tool, Eco Lab Smart Water Navigator and FM Climate Resilience Tracker. Model analysis incorporated representative concentration pathways (RCP) and shared socioeconomic pathways (SSP) at different radiative force intensities and future development trajectories to understand evolution in climate stressors at varying emissions levels (*reference appendix for breakdown of RCPs and SSPs assessed*).

iii. Likelihood x Severity of climate stressors

1. *Reference the appendix section to review scope and definitions for determining likelihood and severity of each climate stressor materializing under different SSPs and RCPs.*

SSP 1 - RCP 1.9-2.6 w/m2 3-degree F		Severity				
		Catastrophic	Hazardous	Major	Minor	Negligible
Probability	Almost Certain		Temperature			
	Likely		Extreme precipitation	Average total precipitation		
	Possible					
	Unlikely					
	Rare					

SSP 5 – RCP 8.5 w/m2 9-degree F		Severity				
		Catastrophic	Hazardous	Major	Minor	Negligible
Probability	Almost Certain	Temperature	Extreme precipitation			
	Likely			Average total precipitation		
	Possible					
	Unlikely					
	Rare					

b. Process of identifying risks and opportunities to Foremost Farms' operations

i. With climate stressors and their projected severity and likelihood defined across multiple emissions pathways, Foremost Farms held internal working sessions with subject matter experts to deepen our understanding of the risks and opportunities these modeled conditions create for our operations. In the future, we will strengthen our quantitative approaches for determining materiality thresholds for climate-related risks and opportunities. While our first iteration relied on qualitative assessments that were translated into quantitative scores using Likert scales, future assessments will incorporate more robust data-driven methods and measurable criteria.

Identification Method	Description
Stakeholder Analysis	
Sustainability Council	Foremost Farms held climate risk identification sessions with its Sustainability Council and Climate Working Group, which includes leaders from management through executive levels. These sessions gathered input on physical and transition risks by assessing the severity and likelihood of climate stressors under different scenarios. The process, built awareness, established a common understanding of key risks and identified the most material risks across the value chain.
Climate Working Group	
Modeling Tools	
FM **Climate Resilience Tracker**	Foremost Farms' insurance provider, FM, evaluates processing plants using its Climate Resilience Tracer, which integrates engineering analysis with climate science and modeling to assess risk and recommend resiliency measures. Insights from this tool have informed short-term actions to reduce climate exposure across our processing network.
Eco Lab **Smart Water Navigator**	Ecolab's Smart Water Navigator integrates the World Resources Institute's Water Risk Atlas with facility-specific data on location, production and resource use to project water-related risks. Although drought is not a primary stressor in Foremost Farms' operating regions, rising temperatures and shifting hydrologic patterns underscore the importance of measuring and monitoring water risks across both member farms and processing plants.

6. CLIMATE-RELATED RISKS AND OPPORTUNITIES

a. Risks and opportunities present to Foremost Farms over the short, medium and long-term and impact on business strategy

i. The physical and transition risks identified across the short, medium and long term inform Foremost Farms' Climate Resilience Action Plan through 2030. While all identified risks and opportunities are relevant, the most material financial impacts are

concentrated in member farm operations, processing plant performance and resilience, regulatory compliance and evolving consumer markets. These areas are considered material given their time scale to materialize, high likelihood of occurrence and their potential severity to disrupt the business and constrain our ability to produce and deliver final dairy products.

Time Horizons		
ST - Short Term	MT - Medium Term	LT - Long Term
1-5 years	5-10 years	10+ years

Physical Climate Risk					
Climate Stressor	**Risk Type**	**Potential Impact of Risks**	**Value Chain**	**Time Horizon**	**Management Approach Under Climate Resilience Action Plan**
Precipitation	Acute	Natural disasters creating business disruption	Processing Plants	ST	Flood resistance and response plan Snow monitoring and removal response plan
	Chronic	Decreased yield and quality of feed crops	Members	MT, LT	Access to co-investment Dairy Excellence Awards
		Dairy cow health	Members	MT, LT	Dairy Excellence Awards
Temperature	Acute	Equipment thermal exposure	Processing Plants	ST, MT, LT	Preventative maintenance program
	Chronic	Variability in energy demand	Processing Plants	ST, MT, LT	Strategic Energy Management Program Efficiency Equipment Standards Program
		Decreased milk production	Members	ST, MT, LT	Under evaluation
		Decreased yield and quality of feed crops	Members	MT, LT	Access to co-investment Dairy Excellence Awards
		Dairy cow health	Members	MT, LT	Dairy Excellence Awards
		Worker heat exposure	Processing Plants	MT, LT	Under evaluation

Transitional Climate Risk				
Risk Type	**Potential Impact of Risks**	**Value Chain**	**Time Horizon**	**Management Approach Under Climate Resilience Action Plan**
Policy	Carbon pricing mechanisms	Cooperative-Wide	MT, LT	Under evaluation
	Policy mandates on existing products	Cooperative-Wide	MT, LT	Under evaluation
Technology	Measurement, monitoring, reporting and verification tools	Cooperative-Wide	ST	FARM-ES on 100% Member farms FARM-ES for sourced dairy ingredients GHG inventory verification
	Mandated advancements in no-low carbon technologies	Cooperative-Wide	MT, LT	Under evaluation
Market	Emissions reporting requirements	Cooperative-Wide	ST	GHG inventory verification FARM-ES on 100% of members' farms FARM-ES for sourced dairy ingredients
	Consumer interest in carbon conscious products	Cooperative-Wide	ST, MT	GHG inventory verification FARM-ES on 100% of members' farms FARM-ES for sourced dairy ingredients
	Consumer expectations for low-carbon products	Cooperative-Wide	MT, LT	GHG inventory verification FARM-ES on 100% of members' farms

				FARM-ES for sourced dairy ingredients
	New low-carbon food commodities increasing competition	Cooperative-Wide	ST, MT, LT	GHG inventory verification Bi-annual reporting on full sustainability progress
Reputation	Stakeholder sentiment of dairy	Cooperative-Wide	ST, MT, LT	Bi-annual reporting on full sustainability progress
	Litigation from decarbonization efforts and/or capabilities	Cooperative-Wide	MT, LT	GHG inventory verification

Climate-Related Opportunities				
Opportunity Type	**Potential Impact of Opportunities**	**Value Chain**	**Time Horizon**	**Management Approach Under Climate Resilience Action Plan**
Resource efficiency	Reducing operating costs through efficiency	Processing Plants	ST, MT, LT	Strategic Energy Management Program Efficiency Equipment Standards Program
	Emergence of new efficient technologies	Cooperative-Wide	ST, MT, LT	Strategic Energy Management Program Access to co-investment opportunities
Energy source	Alternative fuel sources	Processing Plants	MT, LT	Under evaluation
Products and services	No-low carbon dairy products	Cooperative-Wide	MT, LT	FARM-ES on 100% Member farms FARM-ES for sourced dairy ingredients Access to co-investment opportunities
Markets	Ecosystem service markets	Members	ST, MT, LT	Access to co-investment opportunities

				FARM-ES on 100% Member farms
	Policy advocacy	Cooperative-Wide	ST, MT, LT	Collaboration with Trade Associations
	Consumer sentiment and trust	Cooperative-Wide	ST, MT, LT	Bi-annual reporting on full sustainability progress
	Global market access	Cooperative-Wide	ST, MT, LT	Bi-annual reporting on full sustainability progress
	Preferred supplier status	Cooperative-Wide	MT, LT	GHG inventory verification
Resilience	Regenerate agriculture	Members	ST, MT, LT	Access to co-investment opportunities
	Measurement, monitoring, reporting and verification tools	Cooperative-Wide	ST	FARM-ES on 100% Member farms FARM-ES for sourced dairy ingredients

b. Effects on Foremost Farms' financial position

i. Effects on Foremost Farms' financial position

1. Current reporting period effects:

a. Current climate-related financial impacts include observed changes in milk component production, due to higher average summer temperatures, that have required adjustments to milk balancing across our plant network, affecting operational efficiency. Rising energy prices have increased operating expenses at processing plants. In addition, capital outflows have increased due to investments in new data collection and reporting systems to meet emerging climate disclosure requirements.

2. Anticipated short-, medium- and long-term effects:

Time Horizon	Anticipated Financial Effects
Short-Term (1-5 years)	• Compliance with emerging climate disclosure regulations and requirements is expected to increase technology and reporting costs annually • Seasonal swings in milk component production will continue to require adjustments to milk supply and balancing needs • Energy efficiency and infrastructure projects will require additional capital investments and employee expertise in engineering and maintenance team

	• With climate action in the U.S. remaining largely voluntary, consumer demand is expected to remain a key driver of climate leadership across government and business. This dynamic is creating near-term opportunities for product differentiation and is accelerating the growth of carbon marketplaces, which may provide new revenue streams for dairy farmers
Medium-Term (5-10 years)	• Increasing variability in seasonal crop yields may heighten reliance on imported feed and put upward pressure on farm operating costs • Revenue opportunities through low-carbon dairy products, the growth of market-based incentives for decarbonization and positioning as a preferred supplier • Consumer interest evolves from interest to firm expectations for products with verified environmental and low-carbon attributes
Long-Term (10+ years)	• Shifts in temperature and precipitation are projected to reduce the total raw milk supply in certain regions, which could affect throughput and margins unless offset by adaptive farming practices • Further investments in cow comfort technologies

ii. Impact on Foremost Farms' financial planning process

1. Foremost Farms has identified material financial risks and opportunities related to member milk production, plant efficiency and resilience and evolving reporting requirements necessary for compliance and stakeholder confidence. To address these, a portion of 2026 capital expenditures have been allocated to energy efficiency and resiliency projects within processing plants. In parallel, the cooperative is implementing systems to measure and verify climate-smart practices at the farm level, supporting member access to carbon markets and cost-share programs. In 2025, Foremost Farms invested in sustainability management software to improve the accuracy and integrity of our GHG inventory, reducing the risk of non-compliance and ensuring continued alignment with customer and regulatory reporting requirements.

iii. Impact on Foremost Farms' financial performance

1. Foremost Farms anticipates short- to medium-term financial impacts from higher capital expenditures required to implement new technologies and practices. Over the longer term, these investments are expected to reduce operating costs, mitigate exposure to energy price volatility, enhance operational resilience and support expanded market access as customers increasingly prefer low-carbon suppliers. These efforts are also expected to strengthen customer relationships by positioning Foremost Farms as a strategic partner in achieving decarbonization targets and improving the resilience of the broader food supply chain.

c. Implications for Foremost Farms' Strategy and Business

i. The assessment indicates that Foremost Farms' current business model remains viable under a range of emissions pathways to 2050 but requires strategic adjustments. Specifically, increased investment in on-farm adaptation practices, plant-level energy efficiency and reporting tools are needed to safeguard milk production and processing under new climate conditions. Scenario results also reinforced opportunities for low-carbon dairy products, signaling a potential shift in product mix and market positioning.

ii. Uncertainty remains around the pace and scope of climate regulation, the availability and cost trajectory of low-carbon technologies and consumer willingness to pay premiums for sustainable products. In addition, regional variability in climate impacts creates uncertainty in milk supply stability. These uncertainties influence the range of possible financial impacts and timing of required investments.

7. FOREMOST FARMS' GHG FOOTPRINT

a. Metrics used to measure risk reduction and movement towards GHG neutrality by 2050

Metric	Scope	Description	Key Performance Indicator
Foremost Farms' GHG Footprint	Cooperative-wide	Use of change in absolute emissions across scopes 1, 2, 3 compared to our 2018 baseline is a strong indicator for progress towards absolute decarbonization goals irrespective to growth taking place in the business	% Change in scope 1, 2, 3 - Lb CO2e compared to 2018 baseline
On-Farm GHG Footprint	Foremost Farms' member dairy farm operations	Use of normalized metrics of CO2e per pound of milk produced is a strong indicator for decarbonization targets in Foremost Farms' membership as it links emissions to productivity and allows for meaningful tracking and comparison	Lb CO2e/Lb Fat and Protein Corrected Milk (FPCM) % milk supply evaluated through FARM Environmental Stewardship (ES)
Processing Energy Footprint	Foremost Farms' processing plants	Use of normalized metrics of energy per	KWh/Lb raw milk received in processing

		pound of milk input is a strong indicator for decarbonization targets in Foremost Farms' processing plants as it links energy use directly to production efficiency and provides a comparable, scalable way to track progress	Therms/Lb raw milk received in processing
FM Climate Risk Score	Foremost Farms' processing plants	FM's proprietary climate risk score measures the potential for property loss and business interruption from climate-related events. The score reflects the reduction in exposure achievable by implementing recommended mitigation actions. This metric helps Foremost Farms track how climate resilience measures are lowering risk across plant infrastructure and reducing the likelihood of business disruption	Proprietary climate risk score

i. GHG Calculation Methodology

1. Foremost Farms maintains a comprehensive GHG footprint to identify high-emission activities and track progress toward our goal of achieving GHG neutrality by 2050. Our calculations follow the 100-year global warming potential method recommended in the Intergovernmental Panel on Climate Change's (IPCC) 5th Assessment Report, quantifying the impact of carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O) and hydrofluorocarbons (HFCs). We define our emissions inventory boundary based on operational control, ensuring we account for 100% of emissions that Foremost Farms directly controls or influences. Following the principles of the Greenhouse Gas Protocol, we calculate and monitor all relevant Scope 1, 2 and 3 emission categories to measure progress against our 2018 baseline.

ii. Foremost Farms' Scope 1, 2, 3 GHG inventory

1. Reporting year: January 1, 2024-December 31, 2024

Foremost Farms' GHG Footprint Million Mt CO2e					
	2018 baseline*	**2022 results***	**2023 results***	**2024 results***	**2024 % change vs. baseline**
Total Foremost Farms	4,239,916.67	4,102,170.47	4,047,874.42	3,805,289.20	-10%
Scope 1 & 2 (location-based)	194,757.89	164,979.01	131,654.87	125,348.66	-36%
Scope 3	4,045,158.78	3,937,191.46	3,916,219.55	3,679,940.54	-9%

Scope 1, 2, 3 Metric Tons CO2e/1,000 Pounds of Raw Milk Received					
	2018	**2022**	**2023**	**2024**	**2024 % change vs. baseline**
Total Foremost Farms	0.586	0.575	0.593	0.584	-0.3%
Scope 1 & 2 (location-based)	0.027	0.023	0.019	0.019	-28.5%
Scope 3	0.559	0.552	0.574	0.564	1.0%

REFERENCES AND METHODOLOGIES

Frameworks and Standards Used

1. Task Force on climate Related Financial Disclosures (TCFD) - https://assets.bbhub.io/company/sites/60/2021/07/2021-TCFD-Implementing_Guidance.pdf
2. Global Reporting Initiative (GRI) - https://www.globalreporting.org/
3. Greenhouse Gas Protocol - https://ghgprotocol.org/
4. Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5) - https://www.ipcc.ch/assessment-report/ar5/

Data Sources and Tools

1. U.S. 5th National Climate Assessment - http://toolkit.climate.gov/NCA5
2. CREAT Climate Change Scenarios Projection Map - https://www.epa.gov/crwu/climate-resilience-evaluation-and-awareness-tool
3. Probable Futures - https://probablefutures.org/climate-maps/
4. World Resources Institute (WRI) Water Risk Atlas Tool - https://www.wri.org/data/aqueduct-water-risk-atlas
5. Climate Mapping for Resilience and Adaptation Tool - *https://resilience.climate.gov/*
6. Eco Lab Smart Water Navigator - https://www.ecolab.com/corporate-responsibility/environment/water-stewardship/smart-water-navigator
7. FM Climate Resilience Tracker - https://www.fm.com/solutions/services-we-provide/climate-solutions

External Publications or Benchmarks

1. U.S. Dairy Stewardship Commitment - https://www.usdairy.com/about-us/innovation-center/stewardship-commitment
2. Dairy Sustainability Alliance - https://www.usdairy.com/about-us/innovation-center/sustainability-alliance

APPENDIX

A. TCFD Reporting Elements

TCFD Pillar	Recommended Disclosure	Reporting Requirement	Report Page
Governance	A	Describe the board's oversight of climate-related risks and opportunities	Pg. 5
	B	Describe management's role in assessing and managing climate-related risks	Pg. 5, 6
Strategy	A	Describe the climate-related risks and opportunities the organization has identified over the short, medium and long term.	Pg. 8, 9, 10, 11
	B	Describe the impact of climate-related risks and opportunities on the organization's businesses, strategy and financial planning.	Pg. 12, 13
	C	Describe the resilience of the organization's strategy, taking into consideration different climate-related scenarios, including a 2°C or lower scenario.	Pg. 13, 14
Risk Management	A	Describe the organization's processes for identifying and	Pg. 6, 7, 8

		assessing climate-related risks.	
	B	Describe the organization's processes for managing climate-related risks.	Pg. 3, 4, 5, 6
	C	Describe how processes for identifying, assessing and managing climate-related risks are integrated into the organization's overall risk management.	Pg. 5, 6
Metrics & Targets	A	Disclose the metrics used by the organization to assess climate-related risks and opportunities in line with its strategy and risk management process.	Pg. 14, 15
	B	Disclose Scope 1, Scope 2 and, if appropriate, Scope 3 GHG emissions and the related risks.	Pg. 15, 16
	C	Describe the targets used by the organization to manage climate-related risks and opportunities and performance against targets.	Pg. 3, 14, 15

B. Scenario analysis representative concentration pathways (RCP) and shared socioeconomic pathways (SSP) assessed

Model	RCP	SSP
5th National Climate Assessment	2.6 4.5 8.5	1 2 5
CREAT Climate Change Scenarios Projection Map	8.5	x
Probable Futures	x	1

		2 3 5
Water Risk Atlas Tool	2.6 7 8.5	1 3 5
Climate Mapping for Resilience and Adaptation Tool	4.5 8.5	x
Eco Lab Smart Water Navigator	2.6 7 8.5	1 3 5
FM Climate Resilience Tracker	2.6 4.5 8.5	x

C. Likelihood x Severity of climate stressors

a. Climate stressors under different SSP and RCP scenarios were assigned likelihood and severity of materialization based on a temporal span of 2050 and spatial span of the Upper Midwestern USA. Analysis focused most granularly on the Southernmost and Northernmost parts of Wisconsin to account for variability in geographic distribution.

Severity	
Negligible	No impact, isolated individual/group or single facility
Minor	Low impact on safety, economy, environment; manageable with routine responses
Major	Requires intervention; causes disruption, financial loss or moderate health/infrastructure impacts
Hazardous	Widespread or long-term impacts; significant recovery effort; public health or economic disruption
Catastrophic	Severe, often irreversible damage to systems; major infrastructure collapse; mass displacement

Likelihood	
Rare	May occur in exception circumstances only <33%
Unlikely	Possible, but not expected >33-66%
Possible	Might occur at some point >66%

Likely	Expected to occur under current circumstances >90%
Almost Certain	Will occur, or already recurring unless action is taken >99%

SSP 1 (1.9-2.6 w/m2) - 3-degree F		**Severity**				
		Catastrophic	**Hazardous**	**Major**	**Minor**	**Negligible**
Probability	**Almost Certain**		**Temperature**			
	Likely		**Extreme Precipitation**	**Average Total Precipitation**		
	Possible					
	Unlikely					
	Rare					

SSP 5 (8.5 w/m2) - 9-degree F		**Severity**				
		Catastrophic	**Hazardous**	**Major**	**Minor**	**Negligible**
Probability	**Almost Certain**	**Temperature**	**Extreme Precipitation**			
	Likely			**Average Total Precipitation**		
	Possible					
	Unlikely					
	Rare					

Climate Stressors to 2050			
SSP & RCP Scenarios	**Increased Average Temperature**	**Increased Average Precipitation**	**Increased Average of Extreme Precipitation**
SSP 1, RCP 1.9-2.6	**Under this pathway, increased average temperature carries an almost certain probability and hazardous severity.** The Fifth National Climate	**Under this pathway, increased average precipitation carries a likely probability and major severity.** The Fifth National Climate Assessment reports	**Under this pathway, increased frequency of extreme precipitation carries a likely probability and hazardous severity.** The

	Assessment notes the Midwest has warmed faster than the global average, with scientists virtually certain of continued warming. Under SSP1 and RCP 1.9–2.6, projected annual temperature increases of 3°F will drive widespread, long-term impacts requiring significant adaptation.	wetter conditions across all Midwest seasons, with significant increases in extreme precipitation events. Under SSP1 and RCP 1.9–2.6, projected annual precipitation increases of 2–4% are expected to drive economic and social disruption, financial losses and the need for remediation.	Fifth National Climate Assessment shows a significant upward trend since the 1950s, with the Midwest experiencing over a 10% rise in extreme precipitation events. Under SSP1 and RCP 1.9–2.6, projected increases of 10–16% in extreme precipitation days are expected to cause widespread economic disruption and require substantial recovery and adaptation measures.
SSP 5, RCP 8.5	**Under this pathway, increased average temperature carries an almost certain probability and catastrophic severity.** The Fifth National Climate Assessment describes warming as "virtually certain" across all U.S. regions. Under SSP5 and RCP 8.5, projected annual temperature increases of 9°F would cause irreversible damage to agriculture, ecosystems, public health and infrastructure, representing a transformative and destabilizing shift.	**Under this pathway, increased average precipitation carries a likely probability and major severity.** The Fifth National Climate Assessment describes such increases as "very likely," though seasonal and regional variability remains. Under this scenario, projected annual precipitation increases of 4–5% are expected to drive ecological, social and economic disruption requiring intervention. While significant on their own, these impacts could escalate toward hazardous or catastrophic levels when combined with more frequent extreme precipitation events.	**Under this pathway, increased frequency of extreme precipitation carries an almost certain probability and hazardous severity.** The Fifth National Climate Assessment projects it is virtually certain that extreme precipitation will rise across the Midwest under SSP5 and RCP 8.5, with days of extreme rainfall increasing 28–38% depending on region. Such increases would create widespread and long-term impacts, particularly for ecological systems and communities in flood-prone areas, requiring substantial recovery and adaptation measures to maintain resilience.