



# *Climate Action in Practice:* Actionable Insights to Enhance Sustainable Agriculture

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*With the support of*





# Welcome to the *Climate Action in Practice Guide*

*The Consumer Goods Forum's Towards Net Zero Coalition has developed a new resource to help retailers and manufacturers turn climate ambition into action*

*This collection is organized into six focused packets, each addressing a specific challenge identified by our members. Every publication offers practical guidance, real-world examples, and actionable insights to accelerate progress toward a more sustainable future*

*Designed for companies at any stage of their climate journey, this guide provides the knowledge and support needed to drive meaningful change*



# Where to start | Six key challenges, one common framework

Six key challenges identified by our members:

**REDUCE DEFORESTATION** 

*Example activities*

- Agroforestry; Re/Afforestation
- Deforestation-free sourcing

**ENHANCE SUSTAINABLE AGRICULTURE** 

*Example activities*

- Cropland management
- Livestock management

**MERCHANDISE SUSTAINABLE PRODUCTS** 


*Example activities*

- Increased availability of sust. goods and ingredients
- Promotion of sustainable products to drive adoption

**REDUCE FOOD LOSS & WASTE** 

*Example activities*

- Shelf-life monitoring
- Responsible promotion tactics

**INCREASE LOW-CARBON ENERGY & LOW-CARBON TRANSPORT** 

*Example activities*






- Low-emissions refrigeration
- Fuel switch to BEV
- Renewable heat & power

**ADOPT CIRCULAR OR SUSTAINABLE PACKAGING** 

*Example activities*

- Reduction of unnecessary packaging
- Improved package-recyclability

For each key challenge, this publication provides the following resources:

-  **Shared vision of the future**
-  **Overview and key insights**
-  **Regional considerations**
-  **Actions retailers should consider**
-  **Relative impact & feasibility**
-  **Case studies & additional resources**

*This documents highlights one are of focus. Refer to the full Action in Practice Guide for a comprehensive view across all six challenges*

## Where to start | High-level impact and feasibility estimates can guide prioritization<sup>1</sup>

Action area	Impact		Scope for action			
	Emissions reduction	Co-benefits (business, social, environmental)	Affordability	ease of implementation	Public sector support	Degree of control
Reduce deforestation	High	High	Medium	Low	High	Medium
Enhance sustainable agriculture	High	High	Low	Medium	Medium	Medium
Merchandise sustainable products	High	High	Medium	Medium	Low	High
Reduce food loss...	High	High	Low	Medium	Low	Medium
...and food waste	Medium	Medium	High	High	High	Medium
Increase low-carbon energy...	Low	Medium	Medium	High	Medium	High
...and low-carbon transportation	Medium	Low	Low	Medium	High	High
Adopt circular or sustainable packaging	Low	Medium	Medium	Medium	High	Medium

1. The impact and feasibility estimates provided are relative assessments that evaluate each action area in comparison to the other areas in these materials. The ratings are based on high-level assessments of each action area as a whole and are not necessarily representative of each individual activity within a given area

Enhance  
sustainable  
agriculture

Shared Vision of The Future:

*Suppliers effectively apply a range  
of **sustainable agriculture  
techniques** with quantifiable  
emissions benefits*

Return to key  
challenges





# Climate Action in Practice Guide | Preview of enhancing sustainable agriculture insights, resources, and activities to consider

## Topic resources to follow ...

### Sustainable Agriculture Overview

**Overview | What to know about sustainable agriculture**

**Strategic Context**

Transitioning suppliers to more sustainable farming and livestock management practices are among the most significant decarbonization actions retailers can take.

**Key Challenges**

- Real-time impacts of supply chain volatility and the time-intensive nature of transitioning to more sustainable practices highlight the urgent need for swift action.
- A key constraint for suppliers is the complexity of defining and cost-effectively measuring the impact of sustainable agriculture action (e.g., challenges in impact modeling, traceability, demonstrating long-term permanence).
- Technology for reducing emissions from livestock (e.g., methane masks, Bovaer, manure management) remains costly and challenging to scale.

**Opportunity & Solutions**

- Sustainable ag can increase crop resiliency against pests, drought, and extreme weather. There is clear business value in enhancing supply chain resilience and reducing volatility and disruptions.
- Advancing this topic requires value chain collaboration and sourcing strategies to manage risks. Significant co-financing will be needed to further accelerate action.

### Regional Considerations

**Regional considerations**

- US & Canada | Precision agriculture leadership**  
High adoption of advanced farming technologies presents opportunity for partnership with tech-savvy suppliers and encouragement of these practices for others. - US, Canada
- Latin America | Sustainable livestock needed**  
High emissions from cattle ranching make sustainable livestock practices a priority. - e.g., Brazil, Argentina
- Europe | Policy incentives available**  
EU policies incentivize sustainable farming; retailers can benefit by sourcing from suppliers rewarded for eco-friendly practices. - EU
- Asia | Rice methane emissions**  
Traditional rice farming generates significant methane emissions, constituting key opportunity for retailers to support suppliers adopting low-emission techniques. - e.g., China, India, Vietnam
- Africa | Capacity constraints**  
Limited resources and technology hinder sustainable practices, meaning retailers may need to invest in supplier capacity building. - Sub-Saharan Africa
- Oceania | Methane reduction innovations**  
New Zealand is a global leader in methane-reducing tech. Retailers can source lower-carbon products by partnering with suppliers utilizing innovative practices. - New Zealand

### Activities Retailers Should Consider

**Actions | Early-stage retailers can accelerate learning by leveraging existing programs; advanced retailers can scale through innovation**

Early action should prioritize high-impact opportunities and leverage existing programs

**Example activities include**

- Inventory own ingredient landscape by identifying hotspots and ingredients with highest emissions
- Prioritize regen pilots for ingredients with highest emissions and value chain control, such as key ingredients for private label products or existing vertically integrated farms
- Identify and join existing supplier regenerative carbon insetting programs (e.g., established upstream programs looking to on-board retailers) to avoid steep learning curve and establish partnerships

Retailers further along in the journey should focus on scaling/advancing established initiatives

**Example activities include**

- Engage in landscape-level initiatives to share costs, amplify benefits and accelerate progress through a regional approach
- Develop advanced incentive/penalty system to drive supplier action
- Build out digital supply chain capabilities for complex, fragmented systems (e.g., use satellite imagery and AI models to supplement supplier data to map sustainability risks/opportunities across supply chain and enhance traceability)
- Consider business model innovation to mitigate risks and identify opportunities (e.g., backward integration of supply chain can increase control over product value chain and mitigate risks)

### Relative Impact & Feasibility

**Relative impact & feasibility | Sustainable agriculture drives major emissions reduction and other benefits; financing is biggest barrier**

	Impact	Feasibility
<b>High</b>	<p><b>Emissions reduction</b></p> <p>Reduces carbon emissions from high impact sources like fertilizers &amp; land use change, as well as lowering methane emissions from ruminants and rice farming</p>	<p><b>Co-benefits</b> (biodiversity, soil, water, environmental)</p> <p>Enhances supply chain resilience and yields ecosystem benefits including increased biodiversity and improved water quality</p>
<b>Medium</b>	<p><b>Affordability</b></p> <p>Low</p> <p>The transition to sustainable practices is expensive for farmers, and pilots are costly for CPGs, presenting a barrier</p>	<p><b>Ease of implementation</b></p> <p>Medium</p> <p>Though many sustainable ag practices are not highly technical, they require supplier training and a change in ways of working. Often the most difficult aspect is the measurement to prove impact.</p>
<b>Low</b>	<p><b>Public sector support</b></p> <p>Medium</p> <p>Government programs &amp; international frameworks encourage sustainable practices through funding and regulation, though there is also strong lobbying against</p>	<p><b>Degree of control</b></p> <p>Medium</p> <p>Meaningful progress requires long-term supplier partnership and potentially preferential purchasing agreements</p>

### Retailer Case Studies

**Case studies | Retailers leverage partnership to accelerate adoption of regenerative agriculture across key crop supply chains**

**Levers in action: Retail case studies**

- Alford Deloitte USA partners to launch farm-to-shelf regenerative agriculture pilot across wheat supply chain**  
Alford Deloitte USA, Ballentine, and Bartlett launched a regenerative wheat pilot to reduce Scope 3 emissions in the production of Wheat 100 and 100+ wheat. The initiative blends regenerative and conventional wheat practices to enhance soil and water health, with products hitting 2,000 Alford Deloitte stores by 2025.
- Walmart and PepsiCo partner to advance regenerative agriculture across 2 million acres for key crops**  
Walmart and PepsiCo launched a 7-year, \$120 million initiative to support regenerative agriculture on 2 million acres in North America for protein, oil, corn, wheat, soybeans and rice production. The program provides financial and technical resources to improve soil health, water quality, and cut greenhouse gas emissions by 4 million metric tons by 2030.
- Tesco launches two low carbon trial farms in its UK supply chain**  
Tesco is launching trial farms to test and scale technologies like bio-based fertilizers, alternative fuels, efficient cold storage, and carbon removal. The aim of the trial farms is to provide a practical demonstration of a route to net zero. The farms may also host academic studies and trial innovations from Tesco's Agri T-Lab initiative, which supports sustainable agriculture start-ups.

### "Best Source of Truth" Resources

**Resources | Evolving regulations demand greater supply chain transparency and understanding of upstream sustainable practices**

Regulation	Description	Relevant resource(s)
<b>EU Corporate Sustainability Reporting Directive (CSRD)</b>	Requires companies with significant EU activities to disclose their environmental and social impacts (including supply chain), increasing transparency and accountability in sustainability efforts	CSRD Reporting Essentials CSRD FAQ
<b>Regulations directly impacting supply chain reporting &amp; disclosure requirements (non-EU)</b>	<b>EU Corporate Sustainability Due Diligence Directive (CSDD)</b> : Requires companies to disclose human rights and environmental impacts in their own operations, subsidiaries, and relevant business partners throughout their value chains	CSDD overview CSDD FAQ
<b>US SEC Climate Disclosure Rules (pending challenges)</b>		US SEC Climate Disclosure overview
<b>California SB 253</b>	Requires companies with business in California to disclose climate-related financial risks in registration and measures adopted to address risks in reports	SB 253 FAQ: Climate-related financial risk disclosure
<b>Denmark's 2020 carbon tax on livestock</b>	Will tax livestock farmers \$40-\$100/tonne of CO <sub>2</sub> e emissions emitted by cows, sheep and pigs. It is the first carbon tax on agriculture and signals trajectory of regulations to come and will impact some prices 2030 and onward	Denmark 2020 carbon tax overview

Note: Enhancing sustainable agriculture and improving livestock management action areas grouped together due to similar strategies and implementation approach to working with upstream farmers

# Overview | What to know about sustainable agriculture

## Strategic Context



**Transition suppliers to sustainable farming and livestock practices**, one of the most impactful decarbonization levers for retailers

## Key Challenges



**Balance short-term volatility with long-term regenerative goals**, using long-term contracts to enable stable supplier collaboration



**Measure agricultural impact without overburdening suppliers**, addressing challenges in modeling, traceability, and long-term permanence



**Scale emissions-reduction technologies in livestock**, despite current cost and implementation challenges (e.g., Bovaer, methane masks, manure management)

## Opportunity & Solutions



**Build a sustainable agriculture roadmap** to improve crop resilience (e.g., pests, drought, extreme weather) and reduce cost volatility over time



**Engage suppliers to co-develop standards, share data, and de-risk investments** in climate-smart sourcing strategies



## Regional considerations



### US & Canada | Precision agriculture leadership

*Not exhaustive*

High adoption of advanced farming technologies presents opportunity for partnership with tech-savvy suppliers and encouragement of these practices for others<sup>1</sup> - *US, Canada*



### Latin America | Sustainable livestock needed

High emissions from cattle ranching make sustainable livestock practices a priority<sup>2</sup> - *e.g., Brazil, Argentina*



### Europe | Policy incentives available

EU policies incentivize sustainable farming; retailers can benefit by sourcing from suppliers rewarded for eco-friendly practices<sup>3</sup> - *EU*



### Asia | Rice methane emissions

Traditional rice farming generates significant methane emissions, constituting key opportunity for retailers to support suppliers adopting low-emission techniques<sup>4</sup> - *e.g., China, India, Vietnam*



### Africa | Capacity constraints

Limited resources and technology hinder sustainable practices, meaning retailers may need to invest in supplier capacity-building<sup>5</sup> - *Sub-Saharan Africa*



### Oceania | Methane reduction innovations

New Zealand is a global leader in methane-reducing tech. Retailers can source lower-carbon products by partnering with suppliers utilizing innovative practices<sup>6</sup> - *New Zealand*

Sources: 1. USDA Economic Research Service, "Precision Agriculture in the Digital Era: Recent Adoption on U.S. Farms", 2022; 2. Dialogue Earth, "Beef in the time of net zero: Reducing livestock emissions in Latin America", 2022; 3. European Commission, "Common Agricultural Policy", 2022; 4. International Rice Research Institute (IRRI), "Annual Report 2021", 2021; 5. Brookings Institution, "Overcoming the Barriers to Technology Adoption on African Farms", 2022; 6. New Zealand Agricultural Greenhouse Gas Research Centre (NZAGRC), "NZAGRC Annual Report 2021", 2021



## Actions | Early-stage retailers can accelerate learning by leveraging existing programs; advanced retailers can scale through innovation

### Early action should prioritize high-impact opportunities and leverage existing programs

#### *Example activities include*

- **Inventory own ingredient landscape** by identifying hotspots and ingredients with highest emissions
- **Prioritize regen pilots for ingredients with highest emissions and value chain control**, such as key ingredients for private label products or existing vertically integrated farms
- **Identify and join existing supplier regenerative carbon insetting programs** (e.g., established upstream programs looking to on-board retailer) to avoid steep learning curve and establish partnerships







### Advanced action should focus on scaling established initiatives

#### *Example activities include*

- **Engage in landscape-level initiatives<sup>1</sup>** to share costs, amplify benefits and accelerate progress through a regional approach
- **Develop advanced incentive/ penalty system** to drive supplier action
- **Build out digital supply chain capabilities** for complex, fragmented systems (e.g., use satellite imagery and AI models to supplement supplier data to map sustainability risks/ opportunities across supply chain and enhance traceability)
- **Consider business model innovation to mitigate risks and identify opportunities** (e.g., backward integration of supply chain can increase control over product value chain and mitigate risks)

1. Landscape-level initiatives: multi-stakeholder collaborative efforts across regions to address key sustainable agriculture and livestock management challenges by engaging diverse stakeholders

## Relative impact & feasibility | Sustainable agriculture drives major emissions reduction and other benefits; financing is biggest barrier

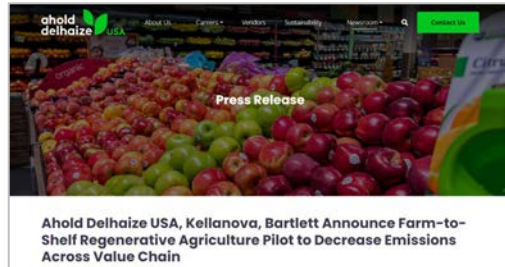
	Impact		Feasibility			
	High		Medium			
Rating						
Notes						
						
	<b>Emissions reduction</b>	<b>Co-benefits</b> (business, social, environmental)	<b>Affordability</b>	<b>Ease of implementation</b>	<b>Public sector support</b>	<b>Degree of control</b>
	<b>High</b>	<b>High</b>	<b>Low</b>	<b>Medium</b>	<b>Medium</b>	<b>Medium</b>
	Reduces carbon emissions from high-impact sources like fertilizers & land use change, as well as lowering methane emissions from ruminants and rice farming	Enhances supply chain resilience and yields ecosystem benefits including increased biodiversity and improved water quality	The transition to sustainable practices is expensive for farmers, and pilots are costly for CPGs, presenting a barrier	Though many sustainable ag practices are not highly technical, they require supplier training and a change in ways of working. Often the most difficult aspect is the measurement to prove impact	Government programs & international frameworks encourage sustainable practices through funding and regulation, though there is also strong lobbying against	Meaningful progress requires long-term supplier partnership and potentially preferential purchasing agreements

## Case studies | Retailers leverage partnerships to accelerate adoption of regenerative agriculture across key crop supply chains



### Levers in action: Retail case studies

#### Ahold Delhaize USA partners to launch farm-to-shelf regenerative agriculture pilot across wheat supply chain



Ahold Delhaize USA, Kellanova, and Bartlett launched a regenerative wheat pilot to reduce Scope 3 emissions in the production of Cheez-It® and Club® crackers. The initiative blends regenerative and conventional wheat practices to **enhance soil and water health**, with products hitting 2,000 Ahold Delhaize stores by 2025

See [Ahold Delhaize Press Release](#) for more info

#### Walmart and PepsiCo partner to advance regenerative agriculture across 2 million acres for key crops



Walmart and PepsiCo launched a 7-year, \$120 million initiative to support regenerative agriculture on 2 million acres in North America for potato, oat, corn, wheat, soybeans and rice production. The program **provides financial and technical resources** to improve soil health, water quality, and cut greenhouse gas emissions by 4 million metric tons by 2030

See [Walmart Press Release](#) for more info

#### Tesco launches two low carbon trial farms in its UK supply chain



Tesco is launching trial farms to test and scale technologies like **low-carbon fertilizers, alternative fuels, efficient cold storage, and carbon removal**. The aim of the trial farms is to provide a **practical demonstration of a route to net zero**. The farms may also host academic studies and trial innovations from Tesco's Agri T-Jam initiative, which supports sustainable agriculture start-ups

See [Tesco's Greenprint for UK farming](#) for more info



# Resources | Evolving regulations demand greater supply chain transparency and understanding of upstream sustainable practices

(Non-exhaustive)	Description	Relevant resource(s)
Regulations directly impacting supply chain reporting & disclosure requirements (Mandatory)	<b>EU Corporate Sustainability Reporting Directive (CSRD):</b> Requires companies with significant EU activities to disclose their environmental and social impact (including supply chain), increasing transparency and accountability in sustainability efforts	<ul style="list-style-type: none"> <li>• <a href="#">CSRD Reporting Essentials</a></li> <li>• <a href="#">CSRD FAQ</a></li> </ul>
	<b>EU Corporate Sustainability Due Diligence Directive (CS3D):</b> Requires companies to disclose human rights and environmental impacts in their own operations, subsidiaries, and relevant business partners throughout their value chains	<ul style="list-style-type: none"> <li>• <a href="#">CS3D overview</a></li> <li>• <a href="#">CS3D FAQ</a></li> </ul>
	<b>US SEC Climate Disclosure Rules</b> (pending challenges <sup>1</sup> )	<ul style="list-style-type: none"> <li>• <a href="#">US SEC Climate Disclosure overview</a></li> </ul>
	<b>California SB 261<sup>1</sup>:</b> Requires companies with business in California to disclose climate-related financial risks in registration and measures adopted to address risks in reports	<ul style="list-style-type: none"> <li>• <a href="#">SB-261 GHG: Climate-related financial risk overview</a></li> </ul>
Agriculture-specific regulation that will impact sourcing (Mandatory)	<b>Denmark's 2030 carbon tax on livestock:</b> Will tax livestock farmers \$40-100/ tonne of CO <sub>2</sub> e emissions emitted by cows, sheep and pigs. It is the first carbon tax on agriculture and signals trajectory of regulations to come and will impact some prices 2030 and onward	<ul style="list-style-type: none"> <li>• <a href="#">Denmark 2030 carbon tax overview</a></li> </ul>



Mandatory regulation



Voluntary standard, framework, or guidance

1. In March 2024 SEC adopted new rules mandating climate-related risk disclosure in registration statements and annual reports that are currently facing multiple legal challenges consolidated in the U.S. Court of Appeals for the Eighth Circuit

## Resources | Variety of frameworks and optional resources to support sustainable agriculture & livestock management (I/II)

(Non-exhaustive)	Description	Relevant resource(s)
<b>Frameworks and target-setting guidance</b> (Voluntary)	<p><b>OP2B Regenerative Agriculture framework:</b> Promotes biodiversity, soil health, and reduced environmental impact through agroecological methods, lower chemical inputs, and integrated crop-livestock systems for long-term sustainability and resilience</p> <p><b>SAI Platform:</b> Works with the food &amp; beverage industry to develop solutions for sustainable and regenerative agriculture, providing tools and programs to enable measurable progress</p> <p><b>Regen10:</b> Global multi-stakeholder initiative to support an inclusive regenerative and equitable food systems transition</p>	<ul style="list-style-type: none"> <li>• <a href="#">Cultivating Farmer Prosperity: Investing in Regenerative Agriculture</a> (BCG report in conjunction with OP2B)</li> <li>• <a href="#">SAI Platform Programmes &amp; Tools</a></li> <li>• <a href="#">Regen10 Farmer-Centric Outcome-Based Framework</a></li> </ul>
<b>Certification standards</b> (Voluntary)	<p><b>Organic certification</b> is offered by numerous certifying bodies globally and is widely recognized by consumers. Organic agriculture is input-based, avoiding synthetic fertilizers and pesticides, but can require more land and resources, potentially leading to unintended negative environmental impacts</p> <p><b>Regenerative and Biodynamic</b> certifications cover a range of food products and are typically more stringent than Organic certification, which focuses on input restrictions. In contrast, Regenerative certifications are outcome-based, prioritizing soil and ecosystem restoration</p> <p><b>Commodity-specific standards</b> address the unique context of raising and growing certain animal and plant products</p>	<ul style="list-style-type: none"> <li>• <a href="#">Rising Consumer Demand Reshapes Landscape for U.S. Organic Farmers</a></li> <li>• <a href="#">Regenerative Organic Certified labeling guidelines</a></li> <li>• <a href="#">Demeter</a> (primarily in Europe)</li> <li>• <a href="#">American Grassfed</a> (beef)</li> <li>• <a href="#">Land to Market</a> (meat, produce)</li> <li>• <a href="#">Sustainable Rice Platform</a> (SRP)</li> </ul>
<b>Funding /incentive programs</b> (Voluntary)	<p><b>NRCS Environmental Quality Incentives Program:</b> Provides financial and technical assistance to agricultural producers for implementing conservation practices</p>	<ul style="list-style-type: none"> <li>• <a href="#">EQIP Fact Sheet</a></li> </ul>



Mandatory regulation



Voluntary standard, framework, or guidance

## Resources | Variety of frameworks and optional resources to support sustainable agriculture & livestock management (II/II)

<i>(Non-exhaustive)</i>	Description	Relevant resource(s)
<b>Business guidance</b> (Voluntary)	Several resources exist that provide actionable guidance and recommendations for enhancing sustainable agriculture & livestock management at the corporate level	<ul style="list-style-type: none"><li>• <u>Recipe for Transformation: Embedding sustainability across food+beverage business functions</u> (Quantis report)</li><li>• <u>Scope 3 Action Agenda for the Agrifood Sector</u> (Quantis publication)</li><li>• <u>Regenerative Agriculture: Bridging the disconnect between corporates and farmers</u> (Quantis webinar)</li></ul>



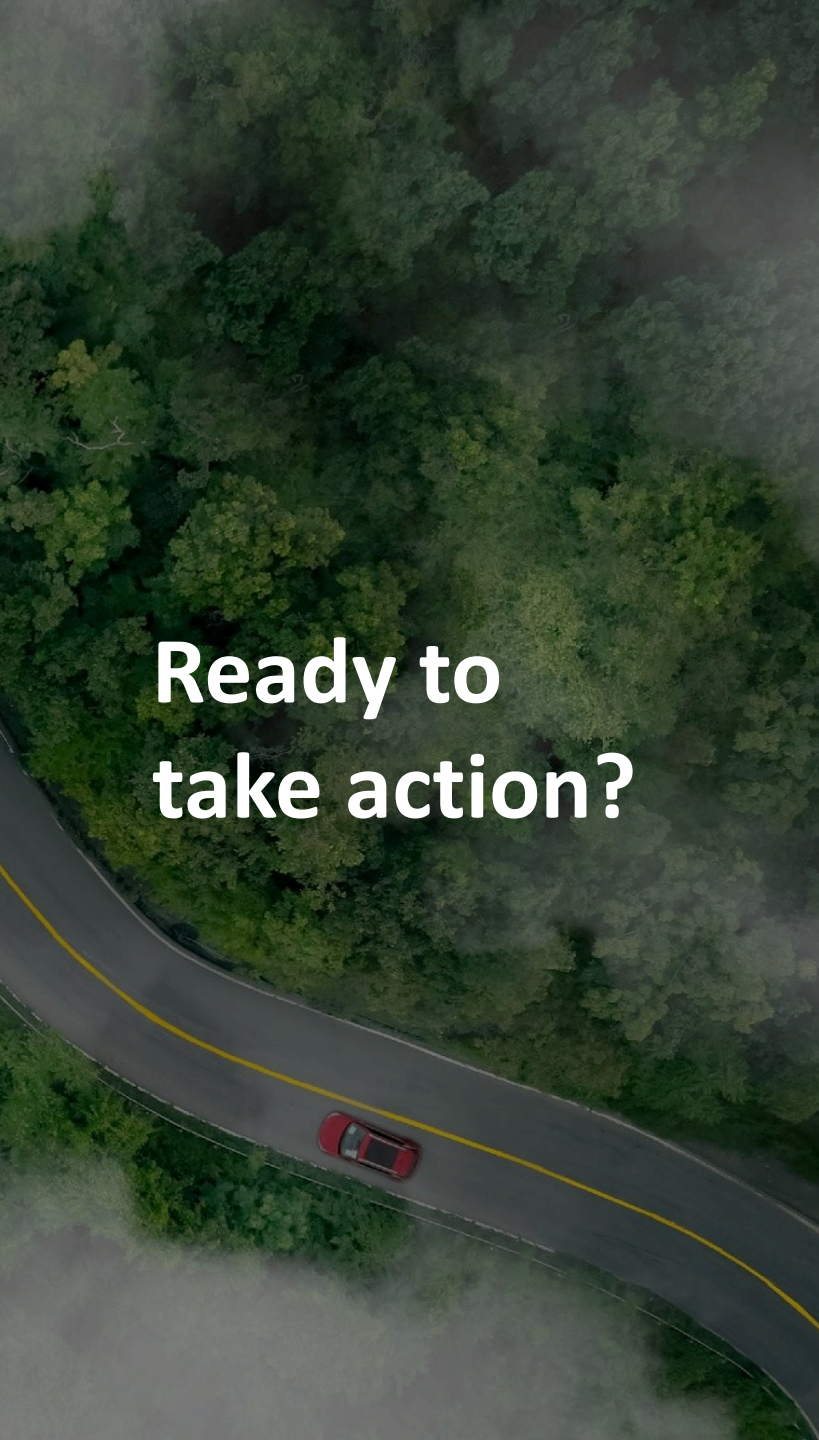
Mandatory regulation



Voluntary standard, framework, or guidance

[Return to key challenges](#)





Ready to  
take action?

## How to become the next changemaker:

- 1 **Explore practical resources** to tackle key sustainability challenges
- 2 **Connect with our experts** to accelerate your sustainability journey
- 3 **Join the CGF** to collaborate with industry leaders and drive positive change

**Thank you**

