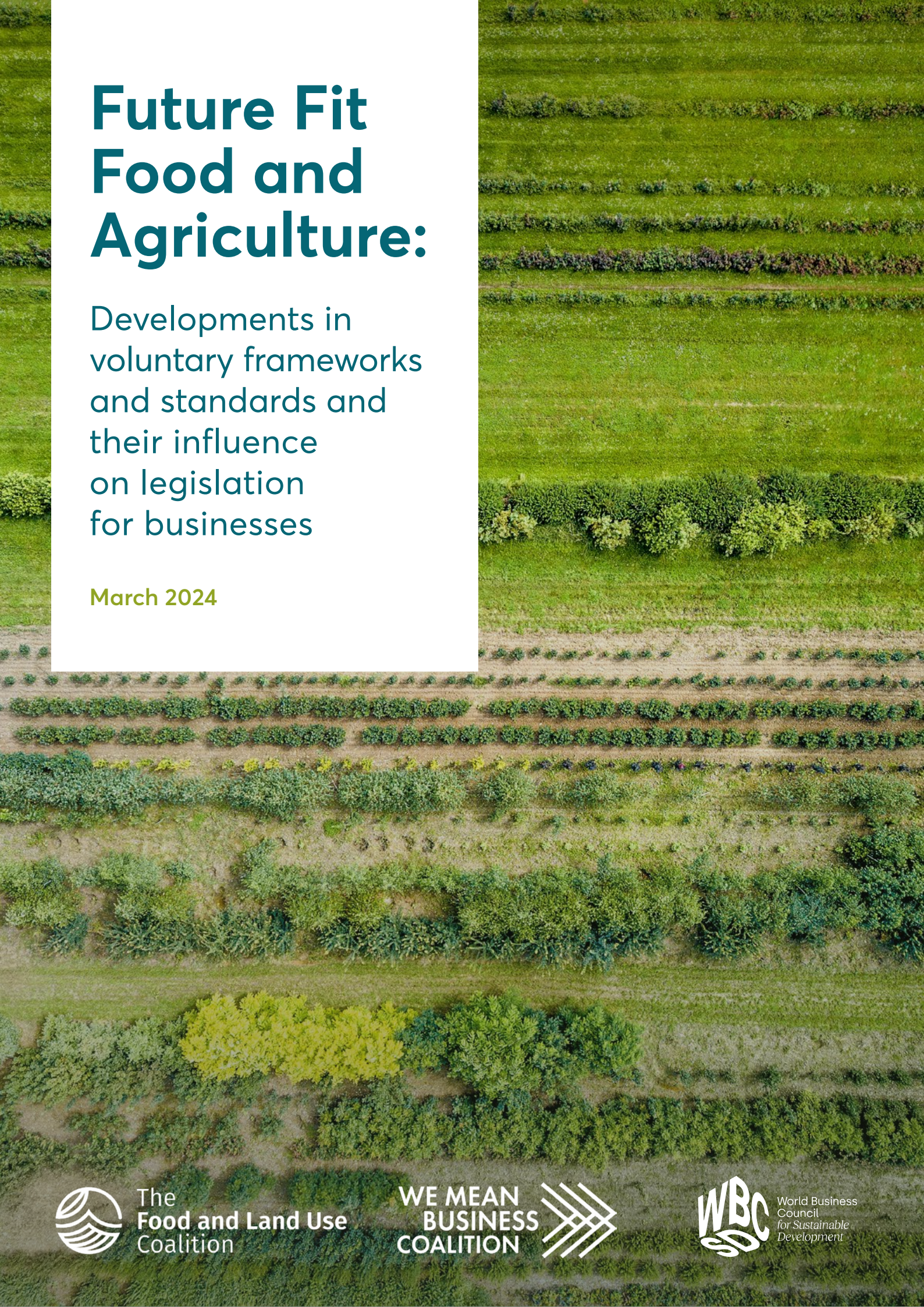

Future Fit Food and Agriculture:

Developments in voluntary frameworks and standards and their influence on legislation for businesses

March 2024

The Food and Land Use Coalition

WE MEAN BUSINESS COALITION

World Business Council for Sustainable Development

Contents

Disclaimer: The content of this report reflects as best as possible the landscape of voluntary business frameworks and standards, and public policies and regulations relevant to sustainability (with a focus on climate and nature) in the food and agriculture sector, as of January 2024. The landscape continues to evolve so readers are encouraged to check for subsequent developments. Please message info@folu.org if you have comments, additions and/or updates to the contents presented here.

The contents and opinions expressed herein are those of the authors and do not necessarily reflect the views of the associated and/or supporting institutions or of consulted experts.

Foreword and acknowledgements

This report is the first of two reports in the **Future Fit Food and Agriculture** series, which aims to support food and agriculture companies to 1) understand the implications of current and emerging voluntary standards and regulation for climate and nature, and 2) comprehend the financial costs and benefits of implementing land-based GHG mitigation measures. The two reports in this series are:

1. **Future Fit Food and Agriculture: Developments in voluntary frameworks and standards and their influence on legislation for businesses (this report)**
2. **Future Fit Food and Agriculture: The financial implications of mitigating agriculture and land use change emissions for businesses**

With these reports we seek to achieve:

- A significant scale-up in the number of food and agriculture companies setting and delivering climate and nature strategies;
- Accelerated mobilization of finance across value chains to implement the land mitigation solutions needed by 2030 so that the food and agriculture sector can achieve net zero by 2050;
- Effective and responsible corporate advocacy, calling for greater public-sector regulation and action from financial institutions.

The series was produced in partnership between:

- **The Food and Land Use Coalition:** FOLU brings together a diverse network of country platforms, partner organizations and ambassadors working to advance sustainability, equity and resilience in food and land use systems. The coalition empowers farmers, policymakers, businesses, investors and civil society to unlock collective action at scale.
- **The World Business Council for Sustainable Development:** WBCSD is a global community of over 225 of the world's leading businesses driving systems transformation for a better world in which +9 billion people can live well, within planetary boundaries, by mid-century. Together, we transform the systems we work in to limit the impact of the climate crisis, restore nature and tackle inequality.
- **We Mean Business Coalition:** The coalition works with the world's most influential businesses to take action on climate change. Together, the Coalition catalyzes business and policy action to halve emissions by 2030 and accelerate an inclusive transition to a net-zero economy.

This series was made possible by the generous support of Norway's International Climate and Forest Initiative (NICFI).

NICFI
Norway's International Climate and Forest Initiative

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The drafting of this first report was primarily led by: Elizabeth Petykowski, Kitty Parker Brooks, Alexandre L'Heureux, Abel Hemmelder, Paul Limpens, Liz Kirk and Talia Smith of FOLU.

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① Context

Today's food and land use systems are no longer working optimally for people and the planet.[1] Many struggle to access healthy and affordable food. More than 700 million people globally faced hunger regularly throughout 2022.[2] Global demand for food is estimated to increase by 35-56% by 2050.[3] At the same time, producing food is also damaging the environment. Food systems contribute approximately one third of total global greenhouse gas emissions annually,[4] are the largest drivers of ecosystem conversion[5] and biodiversity loss[6] and account for approximately 70% of freshwater withdrawals globally.[7]

While food and land use systems are now recognized as primary causes of the climate and nature crisis, they are also seen as critical to the solution. Land-based mitigation strategies can contribute over a third of the mitigation potential needed to achieve the Paris Agreement's goal to limit global warming to 1.5°C,[8] and it is possible to exceed this estimate by protecting natural carbon sinks, such as intact tropical forests.[9] Therefore, transforming food and land use systems is crucial to keeping the 1.5°C Paris target within reach, as highlighted in the recent COP28 UAE Declaration on Sustainable Agriculture, Resilient Food Systems and Climate Action.[10] Alongside this, the COP28 Presidency and the UN High Level Climate Champions developed the 'Nature Positive for Climate Action - A Call to Action',[11] focused on protecting nature as a critical lever for meeting the goals of the Paris Agreement. The emphasis on food and land use systems at COP28 sends a clear signal that governments and non-state actors, including businesses, are increasingly focused on accelerating action to transform our food and land use systems.

Importantly, companies within the food and agriculture sector have an outsized role in driving this transformation. As the world increases its focus on food and land use systems, there has been a similar increase in the **development of relevant voluntary business frameworks.** These frameworks aim to support food and agriculture companies to develop, deliver and report on science-based climate and nature strategies. While there are still some outstanding technical challenges that need resolution, these voluntary frameworks are increasingly important for business leaders and decision-makers in the sector.

This report aims to support business leaders in the food and agriculture sector, including those working in sustainability, compliance, public affairs, risk, and strategy teams, by demystifying several of the most important climate and nature frameworks and explaining how they relate to each other. Critically, this report shows how emerging frameworks are increasingly influencing new regulation and concludes that businesses that are already working to deliver voluntary targets will find the introduction of new regulation less disruptive to their business operations. For those that are lagging, there is a risk not only of business disruption when regulations come into force, but also of penalties for non-compliance.

② Overview of key voluntary frameworks

In the last five years, there has been a significant increase in the number of voluntary frameworks that aim to support companies to develop ambitious sustainability strategies. The landscape of voluntary frameworks continues to evolve rapidly to align with the best available science, account for new sustainability priorities and provide sector-specific guidance where needed. To date, companies' engagement with voluntary standards and frameworks has largely focused on two areas: i) setting targets and strategies for **greenhouse gas (GHG) mitigation**, and ii) building capacity for **climate disclosures**.[i] The leading voluntary frameworks focusing on climate mitigation for the food and agriculture sector are: i) the Task Force on Climate-related Financial Disclosures (TCFD);[12] ii) the Science Based Targets initiative's (SBTi) Forest, Land and Agriculture (FLAG) Sector Guidance, published in 2022;[13] and iii) the Greenhouse Gas (GHG) Protocol draft 'Land Sector and Removals Guidance', first published in 2022 and due for completion in 2024.[14] The TCFD's disclosure recommendations have been incorporated into the International Sustainability Standards Board's (ISSB) standards – IFRS S1 and IFRS S2 (more information provided in Box 1).[15] This marks the completion of the TCFD's work and the Task Force will be disbanded.[16]

With the adoption of the Kunming-Montreal Global Biodiversity Framework (GBF)[17] in 2022, there is now an **additional focus on the need for nature protection and restoration targets**, and the integration of nature into climate transition plans.[ii] Most importantly, the GBF commits governments to adopt policies that halt and reverse nature loss by 2030.[iii] [18] This goal is consistent with the 'Nature Positive' goal, developed by the Nature Positive Initiative,[19] which provides a global target for nature for all actors, including businesses, to achieve.[20] Together, the forthcoming Science Based Targets Network's (SBTN) corporate targets and recommendations for nature,[21] and guidance from the Taskforce on Nature-related Financial Disclosures (TNFD),[22] will support companies to set, deliver and report against nature strategies and targets.[iv] If the SBTi and the TCFD support companies in reducing emissions and achieving net zero[v], the SBTN and the TNFD will support companies to do the same for nature. **Ultimately, companies will be expected to utilize all these frameworks jointly to set and disclose ambitious and holistic climate and nature strategies.**

i Climate disclosures tell investors, regulators and other stakeholders how a company's activities affect and are affected by climate change. This is performed on either a voluntary basis or mandatory basis, and takes the form of publicly available information that includes the company's GHG emissions footprint and its exposure to climate-related financial risks.

ii In recognition that the goals of the Paris Agreement cannot be met without nature, the COP28 Presidency and the UNFCC Climate Champions Team developed 'Nature Positive for Climate Action – A Call to Action' with five key asks for non-Party stakeholders to help achieve Nature Positive as a global societal goal which they define as 'Halt and Reverse Nature Loss by 2030 on a 2020 baseline, and achieve full recovery by 2050'. Put simply, Nature Positive is about ensuring more nature in the world in 2030 than in 2020 and continued recovery after 2030. The five key requests of the call to action are: 1) put nature at the heart of climate transition plans; 2) increase investments in nature-based solutions; 3) set science-based targets for climate and nature; 4) assess, manage and disclose climate and nature related risks, impacts and dependencies; 5) address deforestation risk, without which net zero targets will be out of reach. (Source: https://climatechampions.unfccc.int/system/nature-positive-for-climate-action/)

iii In particular, Target 15 of the GBF will require all large businesses and financial institutions to assess and disclose their risks, impacts and dependencies on biodiversity. As governments will need to make clear in their National Biodiversity Strategy and Action Plans (NBSAPs) how they plan to deliver the targets of the GBF, this signals the need for businesses to step up their efforts to reduce their negative impacts as well as to restore and regenerate ecosystems to protect biodiversity. For more information, read Business for Nature's recommendations to governments on how to implement Target 15.

iv The Nature Strategy Handbook provides the key components of a credible nature strategy for business, as well as signposts to relevant frameworks and resources, including the SBTN and the TNFD.

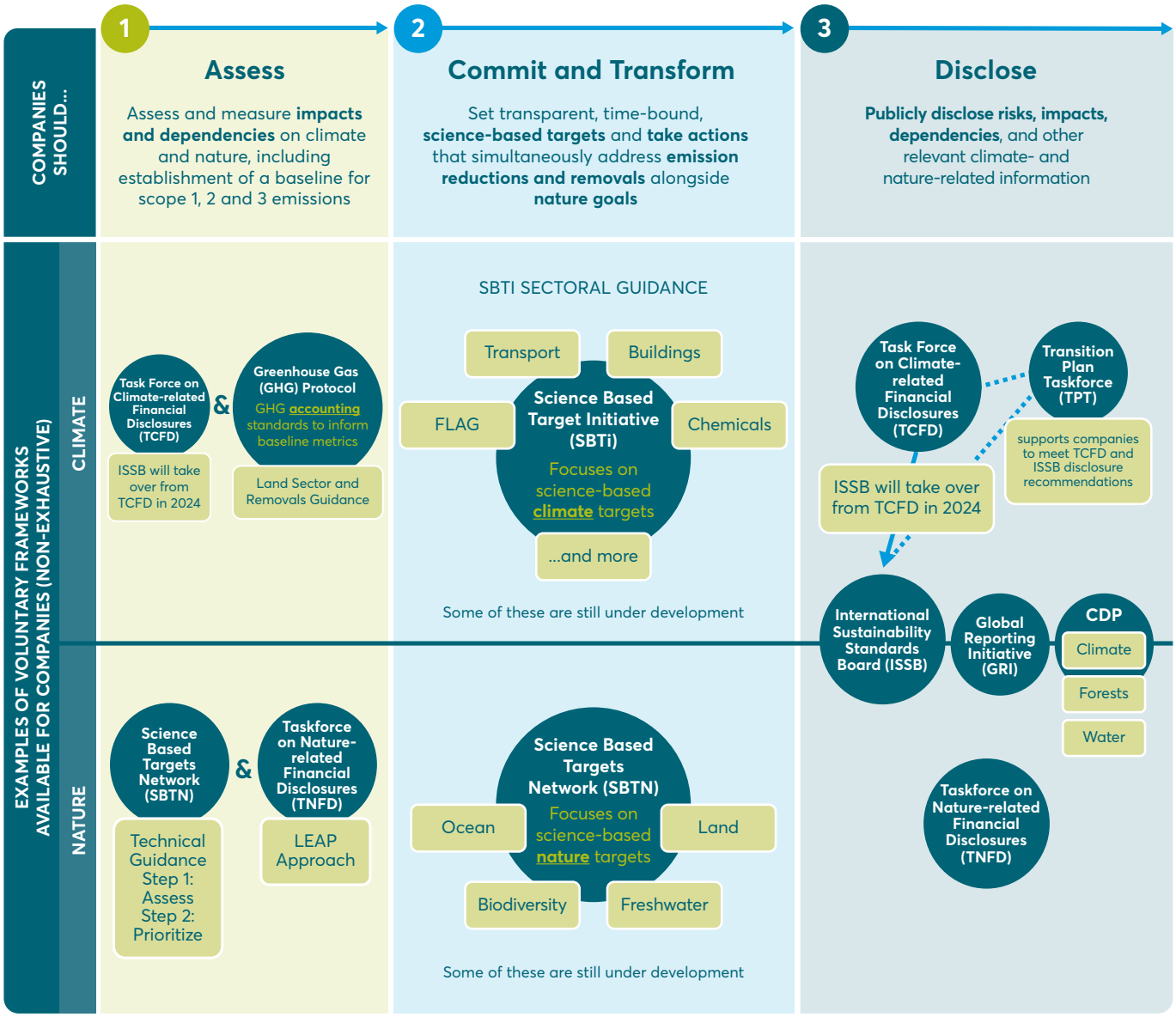
v Net zero emissions are achieved when anthropogenic emissions of greenhouse gases to the atmosphere are balanced by anthropogenic removals over a specified period (Source: Intergovernmental Panel on Climate Change). The SBTi published in 2021 the world's only science-based framework for corporate net-zero target setting. (Source: https://sciencebasedtargets.org/net-zero)

Eva Zabey, CEO,
Business for Nature Coalition, said:

"In Target 15 of the Global Biodiversity Agreement, governments have committed to requiring all large companies and financial institutions to assess and disclose their biodiversity-related risks, impacts and dependencies by 2030. We now need businesses to step up and harness the voluntary frameworks available. This is an important step towards mandatory disclosure which is critical to level the playing field and drive informed business and investment decisions in support of sustainable practices. By developing a credible corporate nature strategy, approved at the most senior level, a business is more likely to deliver concrete actions to contribute towards halting and reversing biodiversity and nature loss by 2030, and to meet increasingly stringent regulatory requirements on nature."

Figure 1 provides an overview of some of the key voluntary frameworks that companies can use to establish baselines, set targets and make disclosures for both climate and nature strategies. Further details about voluntary frameworks are outlined in Boxes 1 and 2 at the end of this section.[vi]

Figure 1: Overview of key voluntary frameworks that companies can use to set and deliver science-based climate and nature strategies[vii]



vi Boxes 1 and 2 in this report provide an overview of the GHG Protocol, the SBTi FLAG Guidance, the TCFD, the TPT, the ISSB, the SBTN and the TNFD. More information about CDP and the Global Reporting Initiative can be found on their websites and in this footnote.
While the IFRS's ISSB develops standards for sustainability-related disclosures to investors, the Global Reporting Initiative (GRI) develops standards for companies to publicly disclose sustainability-related information to a wider range of stakeholders (learn more in this Memorandum of Understanding between the IFRS and the GRI).
CDP provides a publicly accessible platform for companies, cities, states, regions and public authorities to disclose their environmental impact on climate, water and forests.

vii Figure 1 is based on the High-level Business Actions on Nature ACT-D (Assess, Commit, Transform and Disclose) framework and extends it to climate. The ACT-D framework was developed in a collaboration by the Capitals Coalition, Business for Nature, WBCSD, the TNFD, the SBTN, the World Economic Forum and WWF and supported by many other key organizations.
For a more comprehensive set of guidance and tools on Nature, refer to the Nature Strategy Handbook. The handbook is a practical guide to help businesses develop a credible nature strategy and meet the requirements of relevant frameworks, guidance and regulations in the space.
For further resources on the 'Transform' component of the ACT-D framework for food and agriculture companies, refer to WBCSD's Roadmap to Nature Positive: Foundations for the Agri-Food System (Row Crop Commodities) and Business for Nature's Agri-Food Overview.

Voluntary standards and frameworks have played an important role in raising corporate ambition levels, and the number of companies signing up to these has increased rapidly. More than 410 companies in the Agriculture, Forestry and Other Land Use (AFOLU) sector[viii] have set, or committed to set, approved emissions reduction targets with the SBTi.[23] Of these, only a small handful have updated their targets in line with the Forest, Land and Agriculture (FLAG) Guidance published in 2022 and the remaining companies will have to follow suit to retain the SBTi's validation.[ix] **The publication of the GHG Protocol 'Land Sector and Removals Guidance' (in 2024)** may have some impact on companies' SBTi target setting and they will be given time after publication to adapt their targets as needed.[x]

Despite this, many food and agriculture companies are still not making enough progress on the ground and with the speed required.[24] **Emissions from agricultural production need to reduce by approximately 30% by 2030** to align with the Paris Agreement.[25] **Yet, food systems emissions are projected to increase by 2030 in the absence of accelerated action.**[26] Food companies that are not directly involved in growing, harvesting or rearing food still share the responsibility for reducing emissions from agricultural production and land use change because these sit within their Scope 3 GHG inventory[xi] and account for a significant proportion of their total emissions. However, according to the World Benchmarking Alliance, of the 350 most influential food and agriculture companies, 165 are yet to disclose any Scope 3 commitments[xii], despite the publication of the SBTi FLAG Guidance in September 2022.[27]

It is important to acknowledge that there are several reasons why it can be hard for food and agriculture companies to tackle Scope 3 emissions. Three of the most important factors are:

1. **Supply chain complexity and data monitoring limitations:** Food production can involve long and complex value chains and Scope 3 emissions often occur beyond a company's direct control. This complexity means it can be challenging and expensive to achieve full traceability across the value chain. This is exacerbated by data limitations, particularly given the lack of primary data available at farm and landscape level as well as high monitoring costs.[28]

2. **Cost implications:** Implementing climate and nature solutions to reduce Scope 3 emissions frequently requires upfront investment to scale solutions and develop new markets. In some instances, it leads to increased Operating Expense (OpEx) costs. See the second report from the Future Fit Food and Agriculture series, 'The financial implications of mitigating agriculture and land use change emissions for businesses', for analysis of costs and benefits to the sector.

viii As of January 2024 and out of a total of over 7,000 companies across all sectors that have set, or committed to set, approved emissions reduction targets with the SBTi. (Source: https://sciencebasedtargets.org/companies-taking-action)

ix The 12 companies are: Charoen Pokphand Foods Public Company Limited, Danone, Domino's Pizza Enterprises (Australia entity), Dr. Martens plc, Heineken N.V., John Lewis Partnership, Mars Inc., Philip Morris International, Remy Cointreau, Sodexo S.A. (global entity), Sodexo Limited (UK entity), Tesco.

x Companies with existing, validated SBTi targets and who meet the requirements to set FLAG targets must add a FLAG target within six months after the release of the final version of the GHG Protocol Land Sector and Removals Guidance (Source: https://sciencebasedtargets.org/resources/files/SBTiFLAGGuidance.pdf)

xi Scope 1 emissions are direct emissions from owned or controlled sources. Scope 2 emissions are indirect emissions from the generation of purchased energy. Scope 3 emissions are all indirect emissions (not included in Scope 2) that occur in the value chain of the reporting company, including both upstream and downstream emissions. Examples of Scope 3 emissions include the emissions of a company's suppliers or those released when their product is used. (Source: Greenhouse Gas Protocol.)

xii Data drawn from the 2023 Food and Agriculture Benchmark of the World Benchmarking Alliance.

3 **Outstanding technical questions:** Despite several voluntary frameworks providing more clarity on many technical issues, some technical questions remain which require further examination and consensus. For example, two critical issues that need resolution to enable consistent accounting for Scope 3 emissions reduction and carbon removals, within and beyond a company's value chain are: i) the need for consensus on how companies should monitor the permanence of carbon removals[xiii] and ii) the standardization of accounting systems used for in-value-chain emissions reductions and removals.[xiv]

However, the reality is that consumers expect, and increasingly legislators demand, that companies set ambitious climate and nature targets that are concretely backed up with action. In addition, businesses are increasingly confronting high costs of inaction as a result of yield loss and reduced supply chain resilience in the face of rapid climate change such as more frequent and extreme weather events.[29] Therefore, whilst some outstanding technical questions remain, companies should utilize existing and emerging voluntary frameworks to set climate and nature targets and accelerate the implementation of mitigation solutions where possible. Fortunately, many technical questions are expected to be answered via finalization of the GHG Protocol Land Sector and Removals Guidance in 2024. In the meantime, FLAG sector companies can already make Scope 3 emissions reduction commitments using the published SBTi FLAG Guidance and draft GHG Protocol Guidance.

Diane Holdorf, Executive Vice President, Pathways, WBCSD (World Business Council for Sustainable Development), said:

"Food system transformation is a central solution to climate change. Business accountability and transparency is key for delivering the needed transitions and building trust in performance. The emerging climate and nature business frameworks and standards are increasingly influencing new policy which will help level the playing field for business performance.

Aligning business strategy and disclosure with these frameworks enables food and agriculture companies to make better decisions by integrating climate and nature-related risks and opportunities in product and business model innovation and delivery. Critically, this will also align financial markets with scaling the solutions that work, enabling capital to be deployed to companies and solutions that drive much-needed climate action in the sector."

xiii When accounting for carbon removals, there is a risk that stored carbon will be (re)emitted into the atmosphere, referred to as 'the risk of non-permanence'. Sequestered carbon – especially on working lands – can be re-emitted into the atmosphere, either via anthropogenic actions (e.g. deforestation, tillage) or natural events (e.g. storms, fires). Monitoring the permanence of carbon removals is difficult and expensive for food and agriculture companies to put into practice. (Source: BeZero. (2023, September 21). Non-Permanence. BeZero Carbon. https://bezerocarbon.com/insights/bezero-carbon-risk-factor-series-non-permanence/)

xiv Voluntary frameworks still need to agree on key considerations, including whether carbon credits generated in areas adjacent to a company's sourcing area can be accounted for in the company's science-based targets, or whether they should be limited to Beyond Value Chain Mitigation ('Beyond value chain mitigation' [BVCM] refers to mitigation action or investments that sit outside of a company's value chain. Please find more information in Box 1). The GHG Protocol draft guidance on Land Sector and Removals, dated September 2022, defines insets as activities taking place only within a company's value chain that must be certified as a carbon credit (Source: https://www.wbcsd.org/contentwbc/download/14797/210459/1). In contrast, the International Platform for Insetting includes activities around a company's value chain within insets and does not require carbon credit certification (Source: International Platform for Insetting, https://www.insettingplatform.com/wp-content/uploads/2022/03/IPI-Insetting-Guide.pdf)

Box 1: Overview of key frameworks for climate strategies

The **Greenhouse Gas Protocol (GHG Protocol)** is fundamental to any carbon accounting system and is widely used by companies.[xv] The GHG Protocol Land Sector and Removals Guidance, which is specifically for the AFOLU sector, was released in draft form in September 2022. This Guidance is expected to be finalized in 2024 after undergoing extensive consultation.

Accounting for land-based GHG emissions reductions and carbon removals in corporate value chains remains challenging for several reasons. First, complex agricultural value chains make it difficult to achieve traceability across the full value chain. Second, the lack of data on GHG emissions and removals by farm or supplier often prevents a purchasing company from credibly claiming that a given product has lower net emissions than the industry average. Third, the permanence of carbon sequestration varies, and uncertainties surrounding the permanence and appropriate monitoring and risk management of soil and pasture carbon sequestration have been holding back the development of carbon accounting approaches for in-value-chain carbon removals.[30]

Produced in response to these complexities, and at the request of businesses calling for more guidance, the **GHG Protocol Land Sector and Removals Guidance** will be a critical resource for food and agriculture companies for establishing an emissions baseline and accounting for land-based emissions and removals. Once finalized, the guidance will outline detailed methods for companies to account for and report on GHG emissions and removals associated with land-based products, land use change, carbon removals and storage, biogenic products, and other activities.

The **Science Based Targets initiative's (SBTi's) Forest, Land and Agriculture (FLAG) Guidance** provides the world's first sectoral guidance to help companies in land-intensive sectors set science-based targets for land-based emissions reductions and removals in line with Paris Agreement Targets. Published in 2022, the SBTi FLAG Guidance has created clarity around standards for no-deforestation,[xvi] value chain emissions reduction and removal targets for the AFOLU sector. Importantly, the SBTi FLAG Guidance aligns with the GHG Protocol on measurement and accounting for emissions reductions and carbon removals. The SBTi FLAG Guidance may need to be updated when the GHG Protocol Land Sector and Removals Guidance is finalized. The SBTi will require companies to properly account for FLAG-related emissions and removals in compliance with the GHG Protocol Land Sector and Removals Guidance six months after its release.

The SBTi's approach on Net Zero and Beyond Value Chain Mitigation: In 2021, the SBTi released the Corporate Net-Zero Standard, which clarified how much in-value-chain abatement companies should deliver to align with a science-based 1.5°C pathway. The SBTi recognizes that the FLAG sector – as well as other sectors – will have residual emissions which cannot feasibly be eliminated by 2050 and therefore these residuals must be neutralized through the permanent removal and storage of carbon from the atmosphere. The SBTi is undertaking research to determine eligible solutions, technologies, and associated guardrails to ensure permanence of neutralization, which will be included in future iterations of the Corporate Net-Zero Standard. This is expected to clarify whether land-based removals can be used to achieve neutralization and if so under what circumstances.

xv As of 2016, 92% of Fortune 500s companies that disclosed their carbon accounting through the Carbon Disclosure Project (CDP) either used the GHG Protocol directly or went through a programme based on the GHG Protocol to do so. (https://ghgprotocol.org/about-us)

xvi The SBTi FLAG Guidance requires companies to publicly commit to no-deforestation across their primary deforestation-linked commodities with a target date of no later than 31 December 2025 (and cut-off date no later than 31 December 2020). (Source: https://sciencebasedtargets.org/resources/files/SBTiFLAGGuidance.pdf)
The cut-off date specifies the permissibility of deforestation or conversion based on the timing of events on the ground. A cut-off date for deforestation set in the future would continue to incentivize deforestation until that future date. Therefore, a cut-off date is often set retroactively to discourage further clearance of forests. (Accountability Framework Initiative - Operational Guidance on Cutoff Dates).

Box 1 continued: Overview of key frameworks for climate strategies

The SBTi's Corporate Net-Zero Standard also defines the concept of 'beyond value chain mitigation' (BVCM) and recommends that companies deliver additional emissions reductions and removals outside of their Scope 1, 2 and 3 inventories to accelerate global progress towards net zero and to account for unabated emissions as they transition their business models over the coming decades. Companies can deliver BVCM through the purchase and retirement of carbon credits, in addition to other funding mechanisms. It is important to note that a company cannot count the mitigation from outside its value chain towards abatement targets under the SBTi Corporate Net-Zero Standard. The SBTi's newly released report on BVCM provides further recommendations on how companies can design and implement high-impact and high-integrity BVCM strategies and articulates the business case for doing so.

The **Task Force on Climate-related Financial Disclosures (TCFD)**, established by the Financial Stability Board in 2015, developed a framework (first released in 2017) to help public companies and other organizations more effectively disclose climate-related risks and opportunities through their existing reporting processes. This includes but is not specific to the AFOLU sector. While the TCFD began as a voluntary set of recommendations, it is now the common framework used to inform existing and proposed national legislation on climate disclosure in the US, Canada, EU, Japan, New Zealand, Singapore, Switzerland, the UK and other countries (see Box 5).[31] The TCFD will wind down in 2024 as its disclosure recommendations have been integrated into the International Sustainability Standards Board (ISSB).

The **International Sustainability Standards Board (ISSB)**, set up by the **International Financial Reporting Standards Foundation (IFRS)** and announced at COP26 in 2021, has four key objectives: i) to develop standards for a global baseline of sustainability disclosures; ii) to meet the information needs of investors; iii) to enable companies to provide comprehensive sustainability information to global capital markets; and iv) to facilitate interoperability with disclosures that are jurisdiction-specific and/or aimed at broader stakeholder groups.[32] The TCFD disclosure recommendations are already fully incorporated into the ISSB's International Financial Reporting Standards – the IFRS S1[xvii] and the IFRS S2[xviii] - and, in 2024, the ISSB will take over the responsibility for monitoring progress on companies' climate-related disclosures from the TCFD, marking the end of the TCFD as an entity.[33]

In 2024, the ISSB is expected to announce its two-year work plan, clarifying how it will enhance its standards to include guidance on nature and social aspects of disclosures.[34] On nature, this would potentially build on the TNFD recommendations (see Box 2).[35]

The **Transition Plan Taskforce (TPT)** is an initiative that was launched by the UK Government in April 2022 with a two-year mandate post-COP26 to develop the gold standard for private sector net-zero transition plans. In October 2023, the TPT released its final disclosure framework, as well as specific sector guidance for the Food & Beverage sector. The TPT Framework aims to complement the ISSB's requirement for companies to disclose their climate-related transition plans (aligned to the TCFD), by providing a tool for companies to develop and report their net-zero transition plans.[36]

xvii The IFRS S1 is the International Financial Reporting Standards – S1 'General Requirements for Disclosure of Sustainability-related Financial Information'

xviii The IFRS S2 is International Financial Reporting Standards – S2 'Climate-related Disclosures'

Box 2: Overview of key frameworks for nature strategies

The Science Based Targets Network (SBTN) helps companies assess their impacts across the environment, including climate, and then set targets to protect and restore nature across biodiversity, land, freshwater and ocean. This comprehensive approach to address nature and climate impacts together encourages companies to implement more holistic solutions over singular "silver bullet" ones that might maximize the outcome of one environmental indicator over another.

The current draft of 'Land' targets provide a methodology for the food sector to achieve nature goals in land systems. They build on and complement SBTi's FLAG guidance, incentivizing corporate action beyond GHG emissions reductions to address the overall needs of the environment. SBTN's Land targets include guidance for companies to set targets to halt conversion of natural ecosystems, reduce their agricultural land footprint and improve the ecological and social conditions of landscapes, including agricultural lands, by engaging with other stakeholders.

A beta version of the Land targets are currently available and were piloted by a cohort of companies in 2023-24. A version 1.0 will be published in mid-2024 informed by the pilot learnings. The SBTN has also released Freshwater targets (Version 1) and the first Ocean targets will be available for companies in 2025. By setting these targets companies are addressing the dominant drivers of biodiversity loss. This guidance is part of the SBTN's Step 3- 'Measure, Set and Disclose'. Before companies set targets, they must first assess and prioritize their environmental impacts:

- **Step 1 – 'Assess':** companies determine which environmental impacts, including climate, need to be addressed with targets, and which parts of their business they should deal with first. Regardless of sector, geographic location, or level of sustainability experience, at the end of this step companies will have estimated their value chain-wide impacts and dependencies on nature, resulting in a list of potential 'issue areas' and value chain locations for target setting.
- **Step 2 – 'Prioritize':** companies determine which science-based targets to set, which locations and economic activities to include within their target boundaries, and where to act first to effectively mitigate the most significant negative impacts on nature and increase the potential for positive impacts.

The **Taskforce on Nature-related Financial Disclosures (TNFD)** is a risk management and disclosure framework for organizations to report and act on evolving nature-related risks. The framework, released in September 2023, aims to support businesses to increase their understanding of their dependencies and impacts on nature. It encourages companies to integrate associated financial risks and opportunities into their corporate strategies. The TNFD makes 14 disclosure recommendations which are closely aligned to the TCFD and organized across the same four categories: i) governance; ii) strategy; iii) risk and impact management; and iv) metrics and targets.

Similar to the SBTN steps 1 'Assess' and step 2 'Prioritize', the TNFD developed the **LEAP approach** - 'Locate, Evaluate, Assess and Prepare' - which helps companies to identify, assess and disclose nature-related issues in their value chains.

While the TCFD is being absorbed into the ISSB, the TNFD remains an independent organization. However, the ISSB 'will look into the TNFD recommendations – where it relates to meeting the information needs of investors – in its future work.'[37] With the TNFD framework now available, 320 companies and financial institutions have joined the inaugural cohort of the TNFD Adopters, with 185 of them intending to publish TNFD-aligned disclosures for their financial year 2024 or earlier, and 135 for their financial year 2025.[38]

③ Overview of key mandatory frameworks and regulations

Given the lack of sufficient on-the-ground progress from the food and agriculture sector, and the worsening crises posed by climate change and nature degradation, **policymakers in several countries are using existing voluntary standards to inform the development of new regulation.** European countries and the US are among those leading this trend, with more countries expected to follow suit. Much of this recent legislation focuses on mandatory due diligence and disclosure, such as the EU Directive on corporate sustainability due diligence (CSDD),[39] the EU Corporate Sustainability Reporting Directive (CSRD),[40] the EU Regulation on deforestation-free products (EUDR),[41] and mandatory Scope 1 and Scope 2 reporting from the Securities and Exchange Commission (SEC) in the US.[42] These **regulations demand greater levels of supply chain transparency and public reporting** on sustainability strategies from food and agriculture companies. They also carry **significant near-term costs for non-compliance.**

Eija Hietavuo, VP Corporate Affairs, Tetra Pak, said:

"Transforming our complex food systems requires systems thinking and collaboration between stakeholders across the entire value chain. This includes a holistic approach from policymakers to ensure that regulations and incentives really enable and accelerate the transition and reflect the inextricable links between healthy people and a healthy planet."

For example, **the EUDR came into force in June 2023** and will be in fully implemented by the end of December 2024. It prohibits several commodities and their derivative products from being placed on the EU market unless they are proven to be free of deforestation and forest degradation and imposes a due diligence mandate, with sample-based monitoring on companies to ensure products are deforestation-free.[43] **Companies unable to comply with this regulation will face penalties, including fines of up to 4% of annual European revenues,** making non-compliance potentially costly. As a hypothetical illustration, consider a large European coffee manufacturer generating €5 billion in annual revenues. Sourcing certified deforestation-free coffee will increase the cost of purchased coffee by between 1% and 6%,[44] leading to an estimated increase in costs to the business of approximately €10-65 million per year. This compares favourably with the €200 million penalty[xix] that they could face for non-compliance, even before considering other possible penalties such as product confiscation and public procurement bans.[45]

Whilst many of the legislative examples highlighted in this report are still in draft form (see Boxes 3, 4 and 5), the **direction of travel is clear – policymakers are increasingly willing to consider and introduce legislation** that forces food and agriculture companies to set, deliver and report against more ambitious climate and nature strategies. This is particularly true in the case of climate risk disclosure. Several governments, including those of the EU and UK, are using the TCFD recommendations and the ISSB Standards as the basis for mandatory climate disclosures (see Box 5 for more information).[46] Beyond this, it is **likely that the development of legislation will pick up pace as key technical questions are resolved** and science-based guidelines are developed for critical issues such as in-value-chain carbon removals and biodiversity target setting.

There is therefore a **strong case for forward-thinking companies to go beyond what is needed to comply with existing legislation.** Companies that are already working to deliver against voluntary targets and disclosures will find the introduction of new climate and nature related regulations far less disruptive to their business operations as they will be ahead of the game when it comes to the implementation of climate and nature solutions. These companies will have longer timeframes to adapt their procurement policies, invest in innovation and traceability solutions, develop reporting capabilities, diversify portfolios and work with partners across their supply chain to accelerate change. **For those that are lagging, there is a risk of business disruption** when regulations come into force and an additional risk of incurring penalties for non-compliance.

Boxes 3 and 4 provide a more detailed overview of existing and proposed legislation in Europe and the US. Box 5 outlines how the TCFD is informing new and proposed regulations. Finally, Box 6 highlights that agricultural methane reduction is a critical gap that is not addressed by current legislation.

xix A fine of 4% of their annual €5 billion revenue.

Box 3: Key examples of regulation in the EU and the UK (this list is not exhaustive)

Across the globe, the EU's market is the furthest along in establishing climate and nature-based regulation. The EU is progressing a package of sustainability directives and regulations that will have implications for EU businesses and investors, including the following:

- **Sustainable Finance Disclosure Regulation (SFDR)**: imposes mandatory Environmental, Social, and Governance (ESG) disclosure obligations for asset managers and other financial markets participants.
- **Directive on Corporate Sustainability Due Diligence (CSDD)**: sets new rules to ensure that businesses address adverse impacts of their actions on human rights and the environment, both in their domestic and global value chains. The draft law was agreed in December 2023 and will force companies to integrate due diligence requirements into their operations and corporate governance to mitigate negative impacts across their value chains. Companies will also be required to ensure that their business models are aligned with the Paris Agreement.[47] Companies that fail to comply will face fines of up to 5% of their net global revenue.[48]
- **Corporate Sustainability Reporting Directive (CSRD)**: requires in-scope companies to report on sustainability-related issues in line with the **European Sustainability Reporting Standards (ESRS)** which provides a detailed set of disclosure requirements, including requirements in accordance with the TCFD's recommended disclosures. While CSRD sets out the reporting requirements and obligations of companies, ESRS details the methodology and framework for companies to comply with CSRD.[49]
- The CSDD and CSRD are meant to be applied in tandem by businesses. CSDD defines what obligations of due diligence companies need to meet while CSRD defines how companies are required to report on these obligations.[50]
- **Directive on Empowering Consumers for the Green Transition (ECGT)**: bans a number of unsubstantiated environmental claims including 'claims based on emissions offsetting schemes that a product has neutral, reduced or positive impact on the environment'.[51] The directive received final approval from the European Parliament and Council in January 2024.[52] Member states have 24 months to implement the directive at the national level.
- **Directive on Green Claims**: proposed in March 2023, this directive aims to complement the ECGT by setting specific assessment criteria that companies would be required to meet in order to substantiate their environmental claims (e.g. required to adopt a full life-cycle perspective).[53] If passed into law, non-compliant businesses would face costly and disruptive fines and other penalties, including the confiscation of product and temporary market exclusions.[54]

Deforestation and land conversion

Moreover, significant regulatory developments have emerged on deforestation-linked products entering EU and UK markets. The EU is leading on demand-side deforestation measures and due diligence legislation, having passed a comprehensive **Regulation on deforestation-free products (EUDR)** which came into force in June 2023. The regulation prohibits designated products that contain, have been fed with, or have been made using certain commodities (beef cattle, cocoa, coffee, palm oil, rubber, soya and wood) from being placed on the EU market if they were produced on land that was subject to deforestation or forest degradation after 2020. It also imposes a due diligence mandate with sample-based monitoring on companies to ensure products are deforestation-free.[55]

Box 3 continued: Key examples of regulation in the EU and the UK (this list is not exhaustive)

As of 29 June 2023, operators and traders have 18 months to implement the new rules while micro and small enterprises will be given a longer adaptation period.[xx] [56] Companies unable to meet the requirements of this regulation will face penalties, including a fine of up to 4% of annual European revenues, making non-compliance potentially very costly.

The UK Government announced at COP28 (December 2023) a new legislation to ban the import of products which have been produced on land linked to illegal deforestation.[57] Introduced through the **UK Environment Act**, the legislation covers fewer commodities than the EUDR (namely beef cattle, cocoa, leather, palm oil and soya).[58] Also, unlike the EU, the UK defines legality based on the laws of the country of origin. The regulation is now undergoing secondary legislation to define its scope and reach. Businesses with over £50 million in global annual turnover that use over 500 tonnes of regulated commodities per year will be required to exercise due diligence in their supply chains and report on it annually. Companies failing to comply will face 'unlimited variable monetary penalties'.[59]

These regulatory measures will impact most food and agriculture companies operating in the EU and the UK. The main points of consideration for businesses addressing deforestation and conversion in value chains are:

- All corporates should adopt cut-off dates no later than 2020 for zero-deforestation, as voluntary standards and the EUDR are aligned on this.
- The EU legislation will force 'laggard' corporates with no pre-existing experience of compliance and verification to comply, which will help to level the playing field and improve sector-wide traceability.
- The EU legislation creates a higher standard of zero-deforestation assurance and verification for companies to adopt, compared to the UK's no-illegal-deforestation approach. Corporates should develop one system with the dual aims of regulatory compliance and net-zero monitoring and measuring.[60]

Note that there are currently no regulatory standards aimed at tackling conversion of other critical, carbon sequestering ecosystems such as peatlands, wetlands and savannahs. Valuing these natural landscapes appropriately by including them in nature protection and traceability policies is an urgent priority for agri-food companies to meet their climate commitments and to drive agri-food financing into nature-based solutions in these landscapes. The SBTN's draft guidance on land targets includes zero-conversion of critical high-carbon stock ecosystems as a key nature-related target that companies should adopt.

Carbon pricing and adjustment mechanisms

With the progress and development of mandatory carbon disclosure, the advancement of carbon pricing is also on the rise. Globally, over 40 countries have an Emissions Trading Scheme (ETS) implemented or scheduled, including over 70 carbon pricing initiatives.[61] A significant emerging scheme is the EU's **Carbon Border Adjustment Mechanism (CBAM)** which will complement the **EU Emissions Trading Scheme (EU ETS)**. The CBAM will place a price on the carbon emitted during the production of certain carbon intensive goods entering the EU market, and in doing so intends to prevent 'carbon leakage' towards countries that have less stringent climate and environmental policies than those of the EU. The regulation will first apply to fertilizers as well as iron, steel, and electricity generation, but could expand further in the future. Although the AFOLU sector is excluded from current ETS around the globe, this could change and discussions are emerging, in the EU,[62] New Zealand,[63] the UK[64] and the US[65] for instance, to price AFOLU emissions and include removals from agriculture and forestry in regulated carbon markets.

xx Adaptation period timeline unspecified as of December 2023.

Box 3 continued: Key examples of regulation in the EU and the UK (this list is not exhaustive)

Carbon removals

Finally, the European Commission is the furthest advanced on the issue of carbon removals, proposing to create an **EU carbon removal certification framework**. The EU aims to scale up carbon removal activities – including carbon farming and other nature-based solutions – and fight greenwashing by empowering businesses to show their progress in this field. As a first step, the EU wants to establish a voluntary framework for certifying carbon removals developed in Europe.[66] This presents an opportunity for improved measurement of environmental impact, leading to more and better finance for carbon sinks in European ecosystems. The framework includes criteria for identifying, monitoring, verifying and reporting on high-quality carbon removals in the EU. Although the model will create opportunities in Europe, there is a risk that this framework will undermine investment in more productive carbon sinks, such as tropical forests.

Whilst the development of the European carbon removal framework is currently being debated, it remains important for food and agriculture companies to understand the potential for carbon removals throughout their supply chains, focusing action and investment in the regions where they can have the most impact. Companies should use the SBTi FLAG Guidance and the forthcoming GHG Protocol Land Sector and Removals Guidance in doing so.

Box 4: Key examples of regulation in the US (this list is not exhaustive)

In the US, the **Securities and Exchange Commission (SEC)** has passed legislation that will force companies to disclose in much greater detail to investors the climate-related risks to their business. The investor community increasingly recognizes the significant financial implications that climate, nature and related regulatory risks pose. As a result, with climate risks now commonly included in investment decision-making, there is growing demand from investors to see the immediate and long-term mitigation strategies of their investees.

This legislation will require companies to disclose information about direct GHG emissions (Scope 1) and indirect emissions from energy (Scope 2). Despite the decision to exclude Scope 3 emissions, these rules will nonetheless require companies to take a more rigorous approach to their data collection and reporting processes across their supply chain. At the same time, the state of California has already passed a bill that will require large companies to publicly disclose Scope 1 and 2 emissions by 2026 and Scope 3 emissions by 2027.[67]

Both the **Inflation Reduction Act (IRA)** and the **US Farm Bill** – the renewal of which is under negotiation - aim to support farmers in scaling up the adoption of climate-smart, sustainable agricultural practices. Given that agricultural production represents a significant portion of most food and agriculture companies' emissions and nature impacts, these bills provide important incentives for companies and farmers to act. For instance, the IRA will provide approximately an additional US$17 billion to the existing US$60 billion of funding for conservation programmes included within the US Farm Bill, to help farmers improve elements such as soil health, water quality, air quality and wildlife habitat.[68]

A bipartisan group of US lawmakers announced in December 2023 the reintroduction of the **Fostering Overseas Rule of Law and Environmentally Sound Trade (FOREST) Act** (which was first introduced in 2021) to address illegal deforestation-linked commodities from entering the US market. It is modelled on the existing Lacey Act for illegal timber and wildlife.[69] If passed, the FOREST Act would enable a broad multi-agency effort led by Customs and Border Patrol, in consultation with the US Trade Representative, to enforce compliance. Companies that fail to comply would face penalties established in existing law (i.e. Tariff Act), including fines and seizures of shipments, with severity depending on the level of negligence. At the state level, the Colorado legislature signed into law a similar procurement ban on purchases of some commodities linked to deforestation.[70]

Box 5: How the Task Force on Climate-related Financial Disclosures (TCFD) and International Sustainability Standards Board's (ISSB) Disclosure Standards have been used to inform legislation

The TCFD and the ISSB's IFRS Sustainability Disclosure Standards have been used to inform existing legislation on financial disclosures in many jurisdictions including Brazil, Canada, the EU, Japan, New Zealand, Singapore, Switzerland and the UK amongst others.[71]

The TCFD sets out 11 disclosure recommendations, which are categorized around four thematic areas:

- **Governance:** the board's oversight of climate-related risks and opportunities, and senior management's role in assessing and managing climate-related risks and opportunities;
- **Strategy:** the actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy and financial planning where such information is material;
- **Risk management:** how the organization identifies, assesses and manages climate-related risks;
- **Metrics and targets:** the metrics and targets (including GHG emissions across Scopes 1, 2 and 3) used to assess and manage relevant climate-related risks and opportunities where such information is material.[72]

Many countries have now adopted official reporting requirements that are aligned with the TCFD's 11 disclosure recommendations (and the ISSB Disclosure Standards) making it mandatory for large entities such as banks, insurers, publicly listed companies, and large private companies to disclose their climate-related financial risks, and imposing penalties on those that fail to do so. Some countries even go beyond the TCFD's 11 recommended disclosures. For example, the EU's CSRD extends the reporting requirements beyond those of the TCFD by i) broadening the scope of sustainability disclosures to include nature and social impacts, and ii) by adopting a double materiality approach, requiring corporations not only to disclose financial risks and opportunities related to climate, but also the businesses' impact on the environment and society.[73]

More countries, including China, have committed to, or are already proposing climate-related disclosure legislation for review in the near future.[74]

In 2024, the TCFD will cease to exist as an entity as it will be taken over by the ISSB which already incorporates the TCFD's 11 recommended disclosures into its inaugural sustainability disclosure standards IFRS S1 - 'General Requirements for Disclosure of Sustainability-related Financial Information' and IFRS S2 – 'Climate-related Disclosures' (see Box 1).

Box 6: Methane is a gap in existing policy discussions but momentum is building

Methane emissions account for around 20% of total GHG emissions,[75] and the agriculture sector is responsible for over 40% of this.[xxi] [76] Methane emissions are responsible for 30% of the global temperature rise to date.[77] Due to its short-term but potent warming potential, reducing methane emissions is critical in the near term to prevent breaching the 1.5˚C threshold and to avoid climate tipping points.[78] However, there is currently a notable lack of proposed legislation to address methane emissions reductions in the AFOLU sector.

At COP26, under co-leadership by the EU and the US, efforts were formalized in the **Global Methane Pledge (GMP)** aiming to reduce methane emissions by 30% by 2030. Actions in the pledge are voluntary and aim to contribute to a collective effort to reduce global methane emissions, which could avoid over 0.2˚C warming by 2050.[79] The pledge aims to catalyze global action and strengthen support for existing initiatives that are advancing technical innovation and policy agendas.[80] COP28 renewed momentum for the pledge, bringing the total number of signatory countries to 155, representing over 50% of global methane emissions.[81] However, most existing national policies, regulations and commitments focus mainly on fossil energy-related methane emissions.[82]

Only a handful of governments like those of New Zealand[83] and the EU[84] are considering setting targets and policies specific to agricultural methane emissions reductions. In other cases, governments are teaming up with companies and philanthropic organizations to create incentives and funding for the development and adoption of innovations to reduce emissions on farms.[xxii] [85] Although it is not a signatory to the GMP, China – the largest producer of methane emissions in the world[86] – reaffirmed in November 2023 its joint commitment with the US to take action on methane emissions reduction.[87] Around the same time, China released its Methane Emission Control Action Plan which covers the energy, agriculture and waste sectors.[88] While it does not set explicit reduction targets, it calls for control of enteric fermentation from livestock and methane emissions from rice cultivation.[89]

Despite limited legislation, forward thinking food and agriculture companies should nevertheless set targets for methane emissions reduction of 30% by 2030, in line with the GMP and the latest SBTi FLAG Guidance, invest in technologies and innovations to support farmers to adopt methane-reducing measures, and advocate for governments to mandate methane emissions reductions across the sector.

xxi This excludes methane emissions from the decomposition of organic waste.

xxii For instance, the state of California in the US is investing over US$370 million to reduce methane emissions from its livestock and dairy sector. (Source: https://www.gov.ca.gov/2022/06/08/at-summit-of-the-americas-governor-newsom-outlines-californias-world-leading-efforts-to-cut-methane-pollution/)
Furthermore, multiple public, private, and philanthropic partners including the Governments of Ireland, New Zealand and the United States, Danone, the Bezos Earth Fund, and the Bill & Melinda Gates Foundation announced at COP28 a US$200 million agricultural methane mitigation funding initiative – the Enteric Fermentation Research & Development Accelerator – launched by the Global Methane Hub. (Source: https://www.globalmethanehub.org/2023/12/02/enteric-fermentation-research-development-accelerator-a-200m-agricultural-methane-mitigation-funding-initiative/)
In addition, the Dairy Methane Action Alliance was announced at COP28 by the Environmental Defense Fund and joined by Bel Group, Danone, General Mills, Kraft Heinz, Lactalis USA, and Nestlé. The signatory companies commit to develop and publish an action plan by the end of 2024 to reduce methane emissions within their dairy value chains. Companies also committed to account for and publicly disclose these emissions annually. (Source: https://www.edf.org/article/global-food-companies-join-edf-for-groundbreaking-step-on-dairy-methane)

④ What food and agriculture companies should do

In preparation for expected and future legislation, food and agriculture companies should utilize existing and emerging voluntary standards to develop and deliver climate and nature strategies. To be credible, these strategies must:

1. assess and measure Scope 1, 2 and 3 emissions and nature-related impacts and dependencies;
2. leverage existing voluntary frameworks to set science-based climate and nature targets, which also support a just transition for the sector (and include critical intermediate milestones);[90]
3. pull on all levers available to a company, including its product and portfolio mix, sourcing agreements, advertising spend, research and development pipeline and the development of new partnerships;
4. be fully costed;
5. be tracked and publicly reported; and
6. include policy advocacy on key issues that need support from governments.

In some cases, the development of climate and nature strategies will require key gaps in existing voluntary standards to be resolved in order to support companies taking decisive action at scale. Leaders across the AFOLU sector are already working collaboratively to resolve many of these critical questions and food and agriculture businesses should, where appropriate, support the swift resolution of outstanding technical questions by sharing data and expertise and collaborating on testing opportunities.

As the landscape of voluntary frameworks evolves and companies work to develop credible sustainability strategies, there is an increasing focus on the policy reform needed to accelerate implementation of climate and nature solutions. **The food and agriculture sector needs support from policymakers to reward fast-moving and ambitious companies and level the playing field by penalizing laggard companies for inaction and free-riding.** It is therefore in the interests of forward-thinking companies to engage with policymakers and other value chain actors to support and shape development of ambitious and long-term legislative agendas on key issues across the sector. This will provide companies with the regulatory clarity needed to make ambitious, longer-term, strategic decisions more confidently and work with diverse stakeholders to implement solutions at scale.

More immediately, there are **several requests that food and agriculture businesses can make of governments and clear opportunities for public-private collaboration.** First, alongside their own investment in data and

monitoring, businesses should advocate for policymakers to invest together with them in better data collection and monitoring capabilities.[xxiii] Second, they should encourage the integration of data and insights across ministries (e.g. health, agriculture and trade ministries) to avoid isolated decision making and enable better, more holistic policy decisions.[91] Third, businesses should ask policymakers to provide better direct incentives that reward leading companies and create demand signals to support change,[92] using mechanisms like public procurement incentives.[xxiv] [xxv] [93]

Beyond the immediate term, there are **critical sector-wide issues that require deeper engagement and collaboration across the food and agriculture sector** to develop a clear vision and unified set of demands for policymakers. Some of these areas include: i) introducing regulatory mechanisms for ending land use change;[94] ii) reforming agricultural subsidies to de-risk and incentivize the transition to productive and regenerative agricultural practices;[95] and iii) harmonizing standards and regulations across jurisdictions to lower the complexity and costs associated with legal compliance in different countries. Progress on these sector-wide issues will **require long-term and concerted collaboration.**

Rob Cameron, Global Head of ESG Engagement, Nestlé, said:

"The harmonization of voluntary and regulatory frameworks is essential to accelerating action on climate and nature and enhancing the resilience of food systems. This report is a welcome and vital contribution to this effort."

Luke Pritchard, Deputy Director, Nature Based Solutions, We Mean Business Coalition, said:

"The frameworks are now in place for companies to establish ambitious targets to decarbonize our food system, conserve and restore nature, and support the communities and farmers in the landscapes where they source food. As this new research shows, companies that move now to transition to more sustainable production will become more competitive, bolster their long-term financial outlook, and be better prepared to comply with emerging legislation. But companies can't do this alone – to stay within our planetary boundaries they must also become staunch advocates of reforming the hundreds of billions of dollars in annual public subsidies that drive destructive agricultural practices."

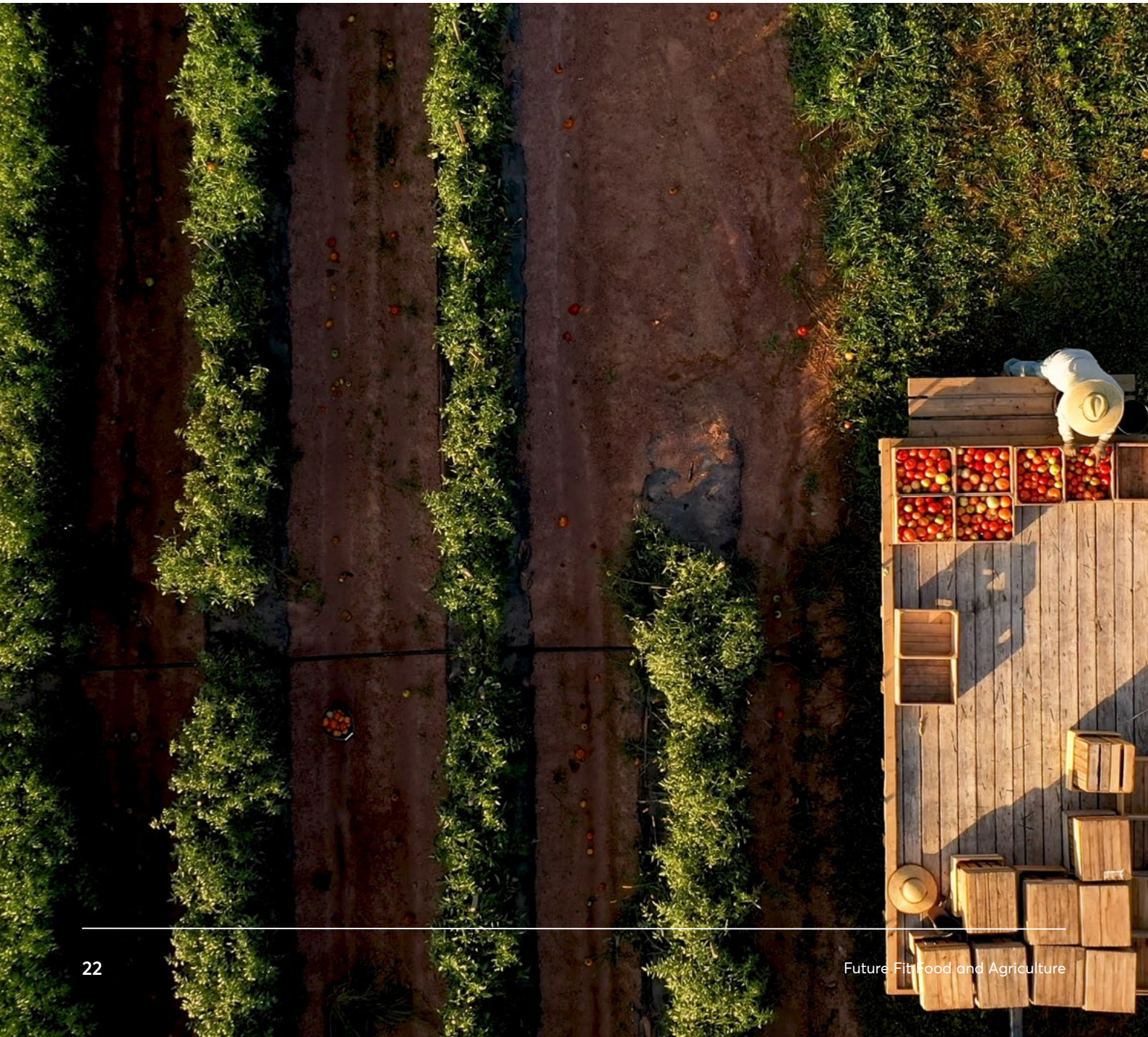
xxiii An example of this happening already is the USDA investment into improved GHG monitoring, reporting and verification for agriculture and forestry in the USA. (Source: https://www.nrcs.usda.gov/sites/default/files/2023-07/nrcs-ira-mmrv-factsheet-23.pdf)

xxiv For example, the US FOREST Act (see Box 5) proposes to reward companies which have robust deforestation monitoring systems through public procurement processes (Source: US FOREST Act https://www.schatz.senate.gov/imo/media/doc/forest_act_bill_text.pdf)

xxv For example, Denmark has included policy targeted at increasing sustainable food consumption through public procurement for a number of decades now, leading to uptake both within public institutions governed by these policies and in broader society. More recently, in October 2023 the government launched the Danish Action Plan for Plant-based Foods which includes goals to reduce the GHG emissions of public procurement as well as increased procurement requirement for organic and plant-based foods.

⑤ Summary

As existing and emerging voluntary frameworks are published and strengthened in 2024 and 2025, **food and agriculture companies have a window of opportunity to get ahead in preparing for forthcoming climate and nature legislation.** Beyond this, the food and agriculture sector has a critical role to play in achieving the 1.5°C target set by the Paris Agreement and the nature targets established by the Kunming-Montreal Global Biodiversity Framework. Therefore, ambitious companies with global value chains can and should play a role in supporting the harmonization of national legislation with existing voluntary frameworks. This can be done by working with governments and supporting them to take a long-term approach to developing legislative roadmaps. These roadmaps will provide companies with the clarity they need to act confidently at scale. There is no time to lose – delays today will lead to additional, more disruptive costs tomorrow.



6 References

1 Food and Agriculture Organization of the United Nations (FAO). (2023). *The State of Food and Agriculture 2023 – Revealing the true cost of food to transform agrifood systems.* FAO, Rome, Italy. https://doi.org/10.4060/cc7724en

Ruggeri Laderchi, C., Lotze-Campen, H., DeClerck, F., Bodirsky, B.L., Collignon, Q., Crawford, M.S., Dietz, S., Fesenfeld, L., Hunecke, C., Leip, D., Lord, S., Lowder, S., Nagenborg, S., Pilditch, T., Popp, A., Wedl, I., Branca, F., Fan, S., Fanzo, J., Ghosh, J., Harriss White, B., Ishii, N., Kyte, R., Mathai, W., Chomba, S., Nordhagen, S., Nugent, R., Swinnen, J., Torero, M., Laborde Debouquet, D., Karfakis, P., Voegele, J., Sethi, G., Winters, P., Edenhofer, O., Kanbur, R., Songwe, V., (2024). The Economics of the Food System Transformation. Global Policy Report. Food System Economics Commission (FSEC). https://foodsystemeconomics.org/policy/global-policy-report/

2 FAO, IFAD, UNICEF, WFP, WHO. (2023). *The State of Food Security and Nutrition in the World 2023. Urbanization, agrifood systems transformation and healthy diets across the rural–urban continuum.* FAO, Rome, Italy. https://doi.org/10.4060/cc3017en

3 Van Dijk, M., Morley, T., Rau, M. L., & Saghai, Y. (2021). A meta-analysis of projected global food demand and population at risk of hunger for the period 2010–2050. *Nature Food 2*(7), 494–501. https://doi.org/10.1038/s43016-021-00322-9

Benton, T. G., & Harwatt, H. (2022). *Sustainable agriculture and food systems: Comparing contrasting and contested versions.* Royal Institute of International Affairs, London, UK. https://doi.org/10.55317/9781784135263

4 Crippa, M., Solazzo, E., Guizzardi, D., Monforti-Ferrario, F., Tubiello, F.N., & Leip, A. (2021). Food systems are responsible for a third of global anthropogenic GHG emissions. *Nature Food 2*(3): 198-209. https://doi.org/10.1038/s43016-021-00225-9

5 Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). (2019). *Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services.* [Díaz, S., Settele, J., Brondízio, E. S., Ngo, H. T., Guèze, M., Agard, J., Arneth, A., Balvanera, P., Brauman, K. A., Butchart, S. H. M., Chan, K. M. A., Garibaldi, L. A., Ichii, K., Liu, J., Subramanian, S. M., Midgley, G. F., Miloslavich, P., Molnár, Z., Obura, D., Pfaff, A., … Zayas, C. N. (Eds.)]. IPBES secretariat, Bonn, Germany. https://doi.org/10.5281/zenodo.3553579

Pendrill, F., Gardner, T. A., Meyfroidt, P., Persson, U. M., Adams, J., Azevedo, T., Bastos Lima, M. G., Baumann, M., Curtis, P. G., De Sy, V., Garrett, R., Godar, J., Dow Goldman, E., Hansen, M. C., Heilmayr, R., Herold, M., Kuemmerle, T., Lathuillière, M. J., Ribeiro, V., … West, C. (2022). Disentangling the numbers behind agriculture-driven tropical deforestation. *Science 377*(6611). https://doi.org/10.1126/science.abm9267

Ritchie, H. (2019, November 11). Half of the world's habitable land is used for agriculture. Our World in Data. https://ourworldindata.org/global-land-for-agriculture

6 Benton, T. G., Bieg, C., Harwatt, H., Pudasaini, R., … Wellesley, L. (2021). *Food system impacts on biodiversity loss. Three levers for food system transformation in support of nature.* Chatham House, London, UK. https://www.chathamhouse.org/sites/default/files/2021-02/2021-02-03-food-system-biodiversity-loss-benton-et-al_0.pdf

7 FAO. (2021). *The state of the world's land and water resources for food and agriculture – Systems at breaking point. Synthesis report 2021.* FAO, Rome, Italy. https://doi.org/10.4060/cb7654en

Willett, W., Rockström, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T., Tilman, D., DeClerck, F., Wood, A., Jonell, M., Clark, M., Gordon, L. J., Fanzo, J., Hawkes, C., Zurayk, R., Rivera, J. A., De Vries, W., Majele Sibanda, L., … Murray, C. J. L. (2019). Food in the Anthropocene: The EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet, 393*(10170), 447–492. https://doi.org/10.1016/s0140-6736(18)31788-4

Ritchie, H., Rosado, P., & Roser, M. (2023). Environmental Impacts of Food Production. Our World In Data. https://ourworldindata.org/environmental-impacts-of-food

8 Roe, S., Streck, C., Beach, R., Busch, J., Chapman, M., Daioglou, V., Deppermann.A., Doelman, J., Emmet-Booth, J., Engelmann, J., Fricko, O., Frischmann, C., Funk, J., Grassi, G., Griscom, B., Havlik, P., Hanssen, S., Humpenöder, F., Landholm, D., … Lawrence, D. (2021). Land-based measures to mitigate climate change: Potential and feasibility by country. Wiley Online Library. https://onlinelibrary.wiley.com/doi/full/10.1111/gcb.15873

9 The Food and Land Use (FOLU) Coalition. (2021). Why Nature? Why Now? https://whynature.foodandlandusecoalition.org/

10 NatureFood. (2024). Food systems at COP28. Nature Food 5, 1-1. https://doi.org/10.1038/s43016-024-00923-0

11 Nature Positive for Climate Action. (n.d.). Climate Champions. Retrieved 10 January 2024, from https://climatechampions.unfccc.int/system/nature-positive-for-climate-action/

12 Task Force on Climate-related Financial Disclosures. (n.d.). Climate change presents financial risk to the global economy. https://www.fsb-tcfd.org/

13 Anderson, CM., Bicalho, T., Wallace, E., Letts, T., and Stevenson, M. (2022). *Forest, Land and Agriculture Science-Based Target-Setting Guidance.* World Wildlife Fund, Washington, DC. https://sciencebasedtargets.org/resources/files/SBTiFLAGGuidance.pdf

14 Greenhouse Gas Protocol. (2023, December 18). *Land Sector and Removals Guidance.* Greenhouse Gas Protocol, Washington, DC, USA. https://ghgprotocol.org/land-sector-and-removals-guidance

15 International Financial Reporting Standards (IFRS). (n.d.) International Sustainability Standards Board. https://www.ifrs.org/groups/international-sustainability-standards-board/

IFRS. (2023). IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information. https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s1-general-requirements/

IFRS. (2023). IFRS S2 Climate-related Disclosures. https://www.ifrs.org/issued-standards/ifrs-sustainability-standards-navigator/ifrs-s2-climate-related-disclosures/

16 IFRS. (2023). ISSB and TCFD. https://www.ifrs.org/sustainability/tcfd/

17 Unit, B. (2023, December 18). Kunming-Montreal Global Biodiversity Framework. Secretariat of the Convention on Biological Diversity. https://www.cbd.int/gbf

18 Nature Positive Initiative (NPI). (n.d.) A Global Goal for Nature. Nature Positive by 2030. https://www.naturepositive.org/

19 International, W. W. F. (n.d.). Nature Positive. Nature Deal. Retrieved 12 February 2024, from https://www.naturepositive.org

20 NPI. (2023, November 27). *The Definition of Nature Positive.* https://4783129.fs1.hubspotusercontent-na1.net/hubfs/4783129/The%20Definition%20of%20Nature%20Positive.pdf

21 Science Based Targets Network. (n.d.) The first science-based targets for nature. https://sciencebasedtargetsnetwork.org/how-it-works/the-first-science-based-targets-for-nature/

22 Taskforce on Nature-Related Financial Disclosures (TFND). (n.d.) Getting started with the TNFD Recommendations. https://tnfd.global/recommendations-of-the-tnfd/getting-started-with-tnfd/

23 Science Based Targets. (2022, October 13). The SBTi's FLAG Guidance: A groundbreaking moment for addressing land-related emissions. https://sciencebasedtargets.org/blog/the-sbtis-flag-guidance-a-groundbreaking-moment-for-addressing-land-related-emissions

24 World Benchmarking Alliance. (2023, October). 2023 Food and Agriculture Benchmark. https://www.worldbenchmarkingalliance.org/publication/food-agriculture/

25 Anderson, CM., Bicalho, T., Wallace, E., Letts, T., & Stevenson, M. (2022). *Forest, Land and Agriculture Science-Based Target-Setting Guidance.* World Wildlife Fund, Washington, DC. https://sciencebasedtargets.org/resources/files/SBTiFLAGGuidance.pdf

26 Costa, C., Wollenberg, E., Benitez, M., Newman, R., Gardner, N., & Bellone, F. (2022). Roadmap for achieving net-zero emissions in global food systems by 2050. *Scientific Reports 12*(1): 15064. https://doi.org/10.1038/s41598-022-18601-1

27 Science Based Targets. (2022). Op. cit.

28 World Economic Forum. (WEF). (2023). *Emissions Measurement in Supply Chains: Business Realities and Challenges* [White paper]. WEF, Geneva, Switzerland. https://www3.weforum.org/docs/WEF_Emissions_Measurement_in_Supply_Chains_2023.pdf

World Economic Forum (WEF). (2021). *Net-Zero Challenge: The supply chain opportunity.* Insight Report. WEF, Geneva, Switzerland. https://www3.weforum.org/docs/WEF_Net_Zero_Challenge_The_Supply_Chain_Opportunity_2021.pdf

Systemiq. (2023) *Delivering Net Zero in the Food Sector* [White paper]. Systemiq, London, UK. https://www.systemiq.earth/wp-content/uploads/2023/06/Food-white-paper.pdf

WBCSD. (2024). *Scope 3 action agenda for the agrifood sector: Tackling land-based emissions and removals.* https://www.wbcsd.org/contentwbc/download/17897/249081/1

29 Kurth, T., Subei, B., Plötner, P., & Krämer. S. (2023). The Case for Regenerative Agriculture in Germany – and Beyond. Boston Consulting Group, Boston, USA. https://www.bcg.com/publications/2023/regenerative-agriculture-benefits-germany-beyond

Coller, J. (2022). Why The Food Sector Must Respond To The COP26 Challenge. Forbes. https://www.forbes.com/sites/forbesbusinesscouncil/2022/03/04/why-the-food-sector-must-respond-to-the-cop26-challenge/

30 Kim, M., & McCarl, B. (2009). Uncertainty Discounting for Land-Based Carbon Sequestration. *Journal of Agricultural and Applied Economics, 41*(1), 1–11. https://doi.org/10.1017/S1074070800002510

31 Rade, A. (2023, May 25). Frameworks explained: What is the TCFD? *Sustain Life.* https://www.sustain.life/blog/frameworks-explained-tcfd

32 IFRS. (n.d.). Op. cit.

33 IFRS. (n.d.). IFRS Foundation welcomes culmination of TCFD work and transfer of TCFD monitoring responsibilities to ISSB from 2024. https://www.ifrs.org/news-and-events/news/2023/07/foundation-welcomes-tcfd-responsibilities-from-2024/

IFRS. (n.d.) Making the transition from TCFD to ISSB. https://www.ifrs.org/sustainability/knowledge-hub/making-the-transition-from-tcfd-to-issb/

34 IFRS. (2023, May 4). Consultation now open: The ISSB seeks feedback on its priorities for the next two years. https://www.ifrs.org/news-and-events/news/2023/05/issb-seeks-feedback-on-its-priorities-for-the-next-two-years/

IFRS. (2022, December 14). ISSB describes the concept of sustainability and its articulation with financial value creation, and announces plans to advance work on natural ecosystems and just transition. https://www.ifrs.org/news-and-events/news/2022/12/issb-describes-the-concept-of-sustainability/

IFRS. (2023, August 4). ISSB to develop guidance on nature, social aspects of IFRS S-2 disclosures. https://www.ipe.com/issb-to-develop-guidance-on-nature-social-aspects-of-ifrs-s-2-disclosures/10068177.article

35 IFRS. (2023, September 19). ISSB congratulates Task Force on Nature-related Financial Disclosures on finalised recommendations. https://www.ifrs.org/news-and-events/news/2023/09/issb-congratulates-tnfd-on-finalised-recommendations/

36 Transition Plan Taskforce. (2023). Disclosure Framework. Transition Plan Taskforce, London, UK. https://transitiontaskforce.net/wp-content/uploads/2023/10/TPT_Disclosure-framework-2023.pdf

37 IFRS. (2023, September 19). Op. cit.

38 Taskforce on Nature-related Financial Disclosures (TNFD). (n.d.). TNFD Adopters. https://tnfd.global/engage/tnfd-adopters/

Taskforce on Nature-related Financial Disclosures (TNFD). (n.d.). TNFD Early Adopters. https://tnfd.global/engage/inaugural-tnfd-early-adopters/

39 Corporate sustainability due diligence—European Commission. (2022, February 23). https://commission.europa.eu/business-economy-euro/doing-business-eu/corporate-sustainability-due-diligence_en

40 Corporate sustainability reporting—European Commission. (n.d.). Retrieved 12 February 2024, from https://finance.ec.europa.eu/capital-markets-union-and-financial-markets/company-reporting-and-auditing/company-reporting/corporate-sustainability-reporting_en

41 EUR-Lex. Regulation - 2023/1115 - EN - EUR-LEX. (2023). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32023R1115&qid=1687867231461

42 US Securities and Exchange Commission. (2024, March 6). 'SEC Adopts Rules to Enhance and Standardize Climate-Related Disclosures for Investors' [Press release]. https://www.sec.gov/news/press-release/2024-31

43 EUR-Lex. Regulation - 2023/1115 - EN - EUR-LEX. (2023). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX-%3A32023R1115&qid=1687867231461

44 Fairtrade International. (n.d.). Fairtrade Minimum Price and Premium Information. https://www.fairtrade.net/standard/minimum-price-info

Rainforest Alliance. (2023, December 11). How Much Does Rainforest Alliance Certification Cost? https://www.rainforest-alliance.org/business/certification/how-much-does-rainforest-alliance-certification-cost/

45 EUR-Lex. Regulation - 2023/1115 - EN - EUR-LEX. (2023). Op. cit.

46 Reuters. (2021, June 5). G7 backs making climate risk disclosure mandatory. https://www.reuters.com/business/environment/g7-backs-making-climate-risk-disclosure-mandatory-2021-06-05/

Temple-West, P. (2023, November 30). Global tangle of climate disclosure rules risks causing 'reporting fatigue'. Financial Times. https://www.ft.com/content/5ae57e78-ae29-42ea-837b-aaa1133819d2

Marsh. (2021, November 9). Reporting climate change risk: Preparing for compulsory disclosure. https://www.marsh.com/uk/services/climate-change-and-sustainability/insights/reporting-climate-change-risk-preparing-for-compulsory-disclosure.html

47 European Parliament. (2023, December 14). Corporate due diligence rules agreed to safeguard human rights and environment [Press release]. https://www.europarl.europa.eu/news/en/press-room/20231205IPR15689/corporate-due-diligence-rules-agreed-to-safeguard-human-rights-and-environment

48 Ibid.

49 Anthesis. (2023, August 29). What is the Difference Between CSRD and ESRS? https://www.anthesisgroup.com/csrd-vs-esrs/

50 Smith-Roberts, A. (2022, May 3). Insights. Everything you need to know about the EU CSDD & EU CSRD. Levin Sources. https://www.levinsources.com/knowledge-centre/insights/eu-csdd-eu-csrd-mining

51 European Parliament. (2023, September, 19). EU to ban greenwashing and improve consumer information on product durability [Press release]. https://www.europarl.europa.eu/news/en/press-room/20230918IPR05412/eu-to-ban-greenwashing-and-improve-consumer-information-on-product-durability

52 Arbinolo, R. (2024, January 17). New EU law empowers consumers against corporate greenwashing. European Environmental Bureau. https://eeb.org/new-eu-law-empowers-consumers-against-corporate-greenwashing/

53 Ragonnaud, G. (2023). 'Green claims' directive Protecting consumers from greenwashing. European Parliamentary Research Service. https://www.europarl.europa.eu/RegData/etudes/BRIE/2023/753958/EPRS_BRI(2023)753958_EN.pdf

54 Deloitte. (2023, April 24). Understanding the proposed EU Green Claims Directive. https://www2.deloitte.com/uk/en/blog/emea-centre-for-regulatory-strategy/2023/understanding-the-proposed-eu-green-claims-directive.html

Shearman & Sterling. (2023, April 24). EU proposes new rules to combat greenwashing. https://www.shearman.com/en/perspectives/2023/04/eu-proposes-new-rules-to-combat-greenwashing

55 EUR-Lex. Regulation - 2023/1115 - EN - EUR-LEX. (2023). Op. cit.

56 European Commission. (n.d.). Regulation on Deforestation-free products. https://environment.ec.europa.eu/topics/forests/deforestation/regulation-deforestation-free-products_en

57 DEFRA, Natural England, & Barclay, S. (2023, December 9). Supermarket essentials will no longer be linked to illegal deforestation. UK Government. https://www.gov.uk/government/news/supermarket-essentials-will-no-longer-be-linked-to-illegal-deforestation

58 Department for Environment, Food and Rural Affairs (DEFRA). (2023). *Environmental Improvement Plan 2023.* UK Government, London, UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1168372/environmental-improvement-plan-2023.pdf

59 DEFRA et al. (2023). Op. cit. https://www.gov.uk/government/news/supermarket-essentials-will-no-longer-be-linked-to-illegal-deforestation

60 The National Archives. (2021, November 2). Glasgow Leaders' Declaration on Forest and Land Use. United Nations Climate Change Conference, Glasgow, UK. https://webarchive.nationalarchives.gov.uk/ukgwa/20230418175226/https://ukcop26.org/glasgow-leaders-declaration-on-forests-and-land-use/

61 World Bank. (n.d.). Carbon Pricing Dashboard. https://carbonpricingdashboard.worldbank.org/

62 Directorate-General for Climate Action (2023, November 13). Study on options for mitigating climate change in agriculture by putting a price on emissions and rewarding carbon farming. European Commission. https://climate.ec.europa.eu/news-your-voice/news/looking-how-mitigate-emissions-agriculture-2023-11-13_en

Hancock, A (2023, November 5). EU farmers should pay for their carbon emissions, says Denmark. Financial Times. https://www.ft.com/content/0fa6edec-267f-4652-8bc5-486d60e4049e

63 Ministry for the Environment, New Zealand. (2022). *Towards a productive, sustainable and inclusive economy: Aotearoa New Zealand's first emissions reduction plan. Chapter 13: Agriculture.* Ministry for the Environment, Wellington, New Zealand. https://environment.

govt.nz/publications/aotearoa-new-zealands-first-emissions-reduction-plan/agriculture/

64 UK Government. (2023). *Developing the UK Emissions Trading Scheme: Main Response.* UK Government, London, UK. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1166812/uk-emissions-trading-scheme-consultation-government-response.pdf

65 US Department of Agriculture. (2023, October, 23). USDA Releases Assessment on Agriculture and Forestry in Carbon Markets. https://www.usda.gov/media/press-releases/2023/10/23/usda-releases-assessment-agriculture-and-forestry-carbon-markets

US Department of Agriculture. (2023, July 12). Biden-Harris Administration Announces New Investments to Improve Measurement, Monitoring, Reporting and Verification of Greenhouse Gas Emissions through President Biden's Investing in America Agenda [Press release]. https://www.usda.gov/media/press-releases/2023/07/12/biden-harris-administration-announces-new-investments-improve

66 European Commission. (2023). Carbon Removal Certification. https://climate.ec.europa.eu/eu-action/sustainable-carbon-cycles/carbon-removal-certification_en

67 US Securities and Exchange Commission. (2024, March 6). 'SEC Adopts Rules to Enhance and Standardize Climate-Related Disclosures for Investors' [Press release]. https://www.sec.gov/news/press-release/2024-31

68 Congressional Research Service. (2023). *Agricultural Conservation and the Next Farm Bill.* Congressional Research Service, Washington, DC, USA. https://crsreports.congress.gov/product/pdf/R/R47478

69 McCarthy, J. (2022, April 21). What Is the FOREST Act? Everything to Know About the US Bill to Fight Deforestation. Global Citizen. https://www.globalcitizen.org/en/content/what-is-the-forest-act/

70 State of Colorado. (2022, April 22). D 2022 016. Executive Order. Amending and Restating Executive Order D 2019 016 Concerning the Greening of State Government. https://drive.google.com/file/d/1ip_uhAXPAJYmZ9zGysJLR0ZlFJO8ynlA/view

71 Financial Stability Board (FSB). (2021). *2021 Status Report: Task Force on Climate-related Financial Disclosures.* FSB, Basel, Switzerland. https://www.fsb.org/2021/10/2021-status-report-task-force-on-climate-related-financial-disclosures/

Wu, E., & Uddin, Z. (2022, April 21). As TCFD Comes of Age, Regulators Take a Varied Approach. MSCI. https://www.msci.com/www/blog-posts/as-tcfd-comes-of-age-regulators/03140250988

IFRS. (2023, October 20). Brazil adopts ISSB global baseline, as IFRS Foundation Trustees meet in Latin America. https://www.ifrs.org/news-and-events/news/2023/10/brazil-adopts-issb-global-baseline/

72 Task Force on Climate-Related Financial Disclosures (TFCD). (2017). *Recommendations of the Task Force on Climate-related Financial Disclosures.* TFCD, New York, USA. https://www.fsb-tcfd.org/recommendations/

73 Wu et al. (2022). Op. cit.

74 Nauman, B. (2021, June 4). Chinese central bank governor backs push for climate risk disclosure. Financial Times. https://www.ft.com/content/12915a18-0136-4232-a0f6-33b6c6889bec

Reuters. (2021). Op. cit.

75 Jones, M.W., Peters, G.P., Gasser, T. Andrew, R., Schwingshackl, C., Gütschow, J., Houghton, R. A., Friedlingstein. P., Pontgratz. J. & Le Quéré. C. (2023). National contributions to climate change due to historical emissions of carbon dioxide, methane, and nitrous oxide since 1850. *Scientific Data 10*(1): 155. https://doi.org/10.1038/s41597-023-02041-1

Ritchie, H., Rosado, P., & Roser, M. (2020). Greenhouse gas emissions. Our World In Data. https://ourworldindata.org/greenhouse-gas-emissions

76 Ritchie, H., Rosado, P., & Roser, M. (2020). Sector by sector: where do greenhouse gases come from? Our World In Data. https://ourworldindata.org/emissions-by-sector

Global Methane Pledge. (n.d.). Food and Agriculture Pathway. https://www.globalmethanepledge.org/annual-report/food-and-agriculture-pathway

77 IEA. (2022). Methane and climate change. https://www.iea.org/reports/global-methane-tracker-2022/methane-and-climate-change

78 Intergovernmental Panel on Climate Change (IPCC). (2022). *Climate Change 2022. Mitigation of Climate Change.* IPCC, Geneva, Switzerland. https://www.ipcc.ch/report/sixth-assessment-report-working-group-3/

Carrington, D. (2023, March 6). Revealed: 1,000 super-emitting methane leaks risk triggering climate tipping points. The Guard-

ian. https://www.theguardian.com/environment/2023/mar/06/revealed-1000-super-emitting-methane-leaks-risk-triggering-climate-tipping-points

79 Global Methane Pledge. (2023). Fast action on methane to keep a 1.5°C future within reach. https://www.globalmethanepledge.org/

80 Ibid.

81 Ibid.

US Department of State. (2023, December 4). Highlights from 2023 Global Methane Pledge Ministerial. https://www.state.gov/highlights-from-2023-global-methane-pledge-ministerial/

European Commission. (2023, December 4). 2023 Global Methane Pledge Ministerial: decisive action to curb emissions. https://energy.ec.europa.eu/news/2023-global-methane-pledge-ministerial-decisive-action-curb-emissions-2023-12-04_en

82 COP28. (2023, December 2). Oil & Gas Decarbonization Charter launched to accelerate climate action. https://www.cop28.com/en/news/2023/12/Oil-Gas-Decarbonization-Charter-launched-to--accelerate-climate-action

83 Ministry for the Environment, New Zealand. (2023, December 19). Greenhouse gas emissions targets and reporting. https://environment.govt.nz/what-government-is-doing/areas-of-work/climate-change/emissions-reduction-targets/greenhouse-gas-emissions-targets-and-reporting/

Ministry for the Environment, New Zealand. (2022). Op. cit.

Ministry for the Environment, New Zealand. (2022). *Aotearoa New Zealand's Methane Emissions Reduction Action Plan.* Ministry for the Environment, Wellington, New Zealand. https://www.mfat.govt.nz/assets/Climate-Change-Programme-images/Aotearoa-New-Zealands-Methane-Emissions-Reduction-Plan-Summary-Version.pdf

Rykers, E. (2023, December 15). How New Zealand is reducing methane emissions from farming. BBC. https://www.bbc.com/future/article/20231214-how-new-zealand-is-reducing-methane-emissions-from-farming

84 European Commission. (n.d.). Methane emissions. https://energy.ec.europa.eu/topics/oil-gas-and-coal/methane-emissions_en

European Union. (n.d.). European Union Methane Action Plan. https://www.ccacoalition.org/sites/default/files/resources//European%20Union%20Methane%20Action%20Plan.pdf

85 Global Methane Pledge. (n.d.). Op. cit.

US Department of State. (2023). Op. cit.

European Commission. (2023). Op. cit.

86 Our World in Data. (n.d.). Data Page: Methane emissions, part of the following publication: Ritchie, H., Rosado, P., & Roser, M. (2023). CO2 and Greenhouse Gas Emissions. Data adapted from Jones, M. W., Peter, G. P., Gasser. T., Andrew, R. M., Schwingshackl, C., Gütschow, J., Houghton, R. A., Friedlingstein, P., Pontgratz, J. & Le Quéré. C. (2023). – with major processing by Our World in Data. National contributions to climate change due to historical emissions of carbon dioxide, methane and nitrous oxide [original data]. https://ourworldindata.org/grapher/methane-emissions

87 US Department of State. (2023, November 14). Sunnylands Statement on Enhancing Cooperation to Address the Climate Crisis. https://www.state.gov/sunnylands-statement-on-enhancing-cooperation-to-address-the-climate-crisis/

88 Stanway, D., Volcovici, V., & Wang, E. (2023, November 7). China unveils action plan to reduce methane emissions. Reuters. https://www.reuters.com/world/china/china-unveils-action-plan-reduce-methane-emissions-2023-11-07/

89 Carbon Brief. (2023, November 23). Q&A: What does China's new methane plan mean for its climate goals? https://www.carbonbrief.org/qa-what-does-chinas-new-methane-plan-mean-for-its-climate-goals/

90 We Mean Business Coalition, CDP, CERES, & EDF. (2022). *Climate Transition Action Plans: Activate your journey to climate leadership.* We Mean Business Coalition, New York, USA. https://www.wemeanbusinesscoalition.org/wp-content/uploads/2022/10/WMBC-Climate-Transition-Action-Plans.pdf

91 Delreux, T., & Earsom, J. (2023). Missed opportunities: the impact of internal compartmentalisation on EU diplomacy across the international regime complex on climate change. *Journal of European Public Policy.* https://doi.org/10.1080/13501763.2023.2217849

92 Systemiq. (2023). *The Breakthrough effect: How to trigger a cascade of tipping points to accelerate the net zero transition.* Systemiq, London, UK. https://www.systemiq.earth/wp-content/uploads/2023/01/The-Breakthrough-Effect.pdf

93 FAO, Alliance of Bioversity International and CIAT and Editora da UFRGS. (2021). Public food procurement for sustainable food

systems and healthy diets - Volume 2. FAO, Bioversity International, Rome, Italy. https://doi.org/10.4060/cb7969en

94 FOLU. (2021). Accelerating the 10 Critical Transitions: Positive Tipping Points for Food and Land Use Systems Transformation. https://www.foodandlandusecoalition.org/accelerating-the-10-critical-transitions-positive-tipping-points-for-food-and-land-use-systems-transformation/

Flynn, D., O'Connor, S., & Rossé, M. (2019). Prosperous Forests. FOLU, London, UK. https://www.foodandlandusecoalition.org/knowledge-hub/prosperous-forests/

95 Ewer, T., Smith, T., Cook, S., Jones, S., DeClerck, F. & Ding, H. (2023). Aligning regenerative agricultural practices with outcomes to deliver for people, nature and climate. FOLU, London, UK. https://www.foodandlandusecoalition.org/knowledge-hub/re-genag-people-nature-climate

Ding H., Markandya, A., Feltran-Barbieri, R., Calmon, M., Cervera, M., Duraisami, M., Singh, R., Warman, J., & Anderson, W. (2021). *Repurposing Agricultural Subsidies to Restore Degraded Farmland and Grow Rural Prosperity.* World Resources Institute, Washington DC, USA. https://www.wri.org/research/farm-restoration-subsidies

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