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**The Hague**
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**Subject**
Farming in a changing climate
*Advisory letter on climate and agriculture*

Dear Ms. Wiersma,

Agriculture is vulnerable to climate change. The effects of a changing climate are already impacting the day-to-day activities of farmers and horticulturists, and these are projected to increase over time. Furthermore, while agriculture and horticulture is a key sector for food production, rural employment, and landscape management, current strategies and practices have significant adverse impacts on the climate, natural resources, and the environment. The sector has largely failed to mitigate its detrimental impact and remains inadequately equipped to address the challenges posed by a changing climate.

Given their pivotal role in managing natural resources, soil, and water, farmers are uniquely positioned to play a much larger part in addressing and combating climate change than they do at present. Farmers must have perspective to meet the demands of this role. The Netherlands Scientific Climate Council (WKR) contends that in the absence of a perspective for the sector and its farmers, progress towards climate-neutral and climate-resilient agriculture will be significantly impeded. However, many farmers lack this perspective, and the current policy framework provides insufficient certainty for investing in a sustainable future. A farmer's perspective includes more than just financial and economic considerations. It also involves clear and consistent policy extending to 2030, 2040, and 2050, enabling farmers to maintain autonomy, fostering a sense of appreciation and recognition, and equitable sharing of challenges and benefits across the food chain.

The WKR has explored the question of how the government can improve farmers' perspective, to achieve a climate-neutral and climate-resilient agricultural sector. You will find the answer to this question in our advisory report entitled "Farming in a changing climate", which we are pleased to submit for your consideration. Also relevant in this context is the Foresight Report entitled 'A sustainable basis for the livelihood of farmers and horticulturists' by the National Climate Platform (NKP), which you recently received.

The WKR is presenting the following five recommendations to the government which, together, can expand this broad perspective for farmers and the agricultural sector more than existing plans.

1. The WKR recommends that the government sets short- and long-term frameworks and goals for agriculture, particularly in relation to climate and the environment. These frameworks and goals provide clarity and an essential foundation for goal-based regulations.
2. The WKR recommends that the government works closely with farmers (and their representatives) when deciding on the future of agriculture. The process can be facilitated by inviting the various agricultural sectors to indicate how they intend to fulfil climate and environmental goals, and by integrating their input into subsequent discussions with other stakeholders. Rebuilding mutual trust among all parties involved is a fundamental prerequisite in this process.
3. The WKR recommends that the government implements specific policies to create an expanding and economically viable sales market for sustainably produced agricultural and horticultural products.
4. The WKR recommends that the government offers farmers both financial assistance and practical guidance to facilitate their switch to a business model compliant with the above-mentioned climate and environmental frameworks.
5. The WKR recommends that the government invests in initiatives designed to enhance cooperation between farmers and consumers, while also fostering partnerships within the farming community.

The Council is, of course, prepared to provide further clarification on the advisory report, if required.

Kind regards,
on behalf of the entire Council,

Prof. J.W. Erisman

Chair of the Netherlands Scientific Climate Council

Dr R.W. van den Brink

Secretary-Director of the Netherlands Scientific Climate Council

# Farming in a changing climate

Advisory letter on climate and agriculture

## Why this advisory report?

- The agricultural and horticultural sector is vulnerable to the impacts of climate change. The climate is becoming both drier and wetter, with extreme weather events expected to occur more frequently in the future. As a result, the sector is grappling with uncertainty and declining yields.
- The sector is contributing to climate change by emitting greenhouse gases such as methane, nitrous oxide, and carbon dioxide. The pace of emission reductions is insufficient to meet the climate goals.
- In the future, agriculture will remain a key driver in food supply, land and water management, adaptation and social cohesion, and rural employment. At present, farmers lack the perspective needed to fulfil this role effectively.

## How is perspective defined in relation to farmers?

To fulfil their role effectively, farmers must have perspective. Perspective comprises five distinct aspects:

**Financial and economic perspective**

**Clarity and consistent long-term policy**

**Greater autonomy**

**Appreciation and recognition**

**Fair distribution**

## Five recommendations for expanding perspectives:

Set clear short- and longterm frameworks and goals, particularly in relation to climate and the environment. These are essential for goal-oriented management.

Offer farmers both financial assistance and practical guidance to help them transition to a business model that is in keeping with the above-mentioned climate and environmental frameworks.

Involve farmers in decisions that affect the future of agriculture. Ask the various agricultural sectors to indicate how they propose to fulfil climate and environmental goals. Integrate their input into subsequent discussions with other stakeholders. Rebuild mutual trust among all parties involved.

Implement targeted policies to establish a growing and economically viable sales market for sustainably produced agricultural and horticultural products.

Invest in initiatives to foster collaboration within the farming community and strengthen partnerships between farmers and consumers.

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## Climate change places considerable stress on agriculture and horticulture

**The agricultural and horticultural sector[a] is vulnerable to the impacts of climate change.** As the climate continues to warm, extreme weather events, such as extended periods of drought and heavy rainfall, will become more common.[1] Rising sea levels have led to the salinisation of farmland, significantly limiting crop production, particularly in the western coastal regions.[2]

**Farmers and horticulturists[b] are already experiencing the impacts of climate change in their day-to-day activities.** The Dutch agricultural and horticultural sector tripled its total water consumption during the periods of drought in 2018, 2019, and 2020. In those years, the yields of crops such as starch potatoes, seed onions, and maize silage were reduced by 10 to 15%.[3] Operating costs are rising, partly due to the adoption of preventive measures (such as installing irrigation systems) or taking out insurance coverage against extreme weather events. Over the past year, a majority of arable farmers (61%) reported yield losses due to increasing extreme weather events, especially drought and intense precipitation.[4] The livestock sector is similarly affected, with animals enduring heat stress in housing facilities, fields, and while being transported during hot weather.[5] Climate change also increases the risk of outbreaks of diseases and zoonoses.[6]

**The agricultural sector itself is driving climate change by emitting greenhouse gases such as methane, nitrous oxide, and $CO_2$.** In 2023, the Netherlands' agricultural sector contributed 25 Mt (megatonnes) of $CO_2$ equivalents to the country's total greenhouse gas emissions. This accounts for 17% of the Netherlands' total emissions[7]; see also Facts and figures. While the 2023 emissions show substantial progress from the 33 Mt recorded in 1990, the government's goal of 17.9 Mt by 2030 remains out of reach.[7] Furthermore, agriculture continues to fall short compared to other sectors.[3] Achieving the national target of reducing methane emissions by 30% by 2030, relative to 2020 levels, to comply with the Global Methane Pledge, also appears unlikely.[7]

**Greenhouse gas emissions vary across subsectors (including animal husbandry, arable farming, and greenhouse horticulture) as well as between individual businesses, (depending on their management practices).** Dairy farming (methane emissions from cattle) and greenhouse horticulture ($CO_2$ emissions from natural gas consumption) are the largest contributors to agricultural greenhouse gas emissions. Each accounts for 32%, together comprising 64% of total agricultural emissions (see also Facts and figures).

**While the government has developed a range of solutions and measures to address the climate challenges facing agriculture[8], many uncertainties still remain (see also Facts and figures).** The uncertainty is most pronounced in areas where prior government policy has been reversed and no clear alternatives have yet been introduced. For instance, the goal of reducing greenhouse gas emissions from arable farming and animal husbandry was part of the National Rural Area Programme (NPLG). This programme was terminated in 2024, and a follow-up plan is yet unknown. In addition, the measures required to achieve the methane target have yet to be clarified.[7]

## The unique position of the agricultural sector

**Agriculture occupies a unique position in the Netherlands.** Members of the public and policymakers alike regard agriculture and farmers as integral to the Netherlands[8,9] and support the need for ensuring their future in the country.[10] The sector has played a vital role in shaping the landscape, culture, and social fabric for many centuries. With its traditions and community spirit, agriculture historically fostered robust social cohesion among people living in rural areas.[11]

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[a] From this point onward, the term 'agriculture' will be used to denote the agricultural and horticultural sector.
[b] From this point onward, the term 'farmers' will be used to denote both farmers and horticulturists.

Agriculture was, for centuries, the cornerstone of the Dutch economy.[12] Modernisation, productivity growth, and export development enabled Dutch agriculture to establish itself as a global leader in efficient production and technological advancements during the second half of the 20th century.[13]

**However, agriculture also has adverse impacts.** The focus on maximising production sidelined negative outcomes like contributions to climate change, environmental pollution, loss of biodiversity, degradation of the landscape, diseases, and disturbances to nearby communities.

**Efforts to reduce these adverse impacts began in the 1980s, and led to some successful outcomes.** Measures introduced in the 1990s, for example, led to a 35% reduction in nitrous oxide emissions by 2005.[14] There has also been a 67% reduction in ammonia emissions compared to 1990 levels.[15] Since 2005, however, the emissions of greenhouse gases (methane, nitrous oxide, and $CO_2$) and ammonia have remained largely unchanged.[14]

## Transitioning to sustainable agriculture

**In the upcoming years, agriculture will remain vital for food production, for social cohesion and employment in rural areas, and for land management[c] (clean water, natural resources, and climate adaptation).** There is a broad consensus among stakeholders in the sector – from financiers to arable farmers, from growers to farm advisers, from researchers to consultants and from administrators to farmers – that the agriculture and horticulture of the future must be sustainable.[16] Across Europe too, stakeholders in the sector are committed to advancing the transition to sustainable agriculture.[17] Key goals include improving environmental quality and biodiversity, achieving climate-neutrality and climate-resilience, producing healthy food, and promoting animal welfare. The NKP recently observed that there is widespread readiness, including among the farmers of tomorrow, to embrace a new narrative of this kind.[18]

**Given their pivotal role in managing natural resources, soil, and water, farmers are uniquely positioned to play a much larger part in addressing and combating climate change.** Current climate policy does not yet provide effective guidance to steer them in this direction. Farmers are pivotal to the Netherlands' efforts to become climate-neutral and climate-resilient. However, they can only fulfil their role if they have a clear perspective - either to adopt more sustainable practices or to be able to close their business. To put it another way, without a clear perspective for farmers and the sector, no progress can be expected towards climate-neutral, climate-resilient, and sustainable agriculture.[19, 20] At present, many farmers lack this perspective.

## The importance of a perspective for agriculture and horticulture in a changing climate

**Expanding the perspective for farmers has been a focal point of political discussions for several years.** In 2022, the then Minister of Agriculture, Nature and Food Quality, Henk Staghouwer, wrote a Letter to Parliament regarding support for the future perspective of agricultural business owners.[21] His successors, former Minister Piet Adema and the current Minister Femke Wiersma, express themselves in similar terms.[8,22] So, while the term 'perspective' is widely used, its precise meaning remains unclear. Accordingly, the WKR has conducted a more detailed analysis to identify the key parts of perspective.

[c] The agricultural sector oversees 43% of the total land area of the Netherlands; see Facts and figures.

## What is perspective?

**The findings of our analysis[d] demonstrate that farmers' perspective is shaped by five different aspects, and that there is a perceived shortfall in each of these areas.**

a) *Financial and economic perspective.* Discussions about perspective for agriculture and farmers often centre on financial and economic perspective.[20,23-28] For instance, that a farm generates enough income for the farmer to sustain themselves, both now and in the future. Farmers may see a rise in income through 'better' product prices or by generating revenue from nature conservation or ecosystem services.[24-27,29] Financial and economic perspective also involves providing adequate financial compensation for farmers who decide to close their busniness.[20,30]

b) *Clarity and consistent long-term policy.* The term 'perspective' is often used to indicate the absence of clear and consistent long-term policies, which prevents farmers from making investment decisions and pursuing business ventures.[20,25,28,31-33] Currently, adapting business operations or switching to circular or nature-inclusive agricultural practices[e] involves significant risks, which neither a farmer nor their successor would undertake lightly.[34] The uncertainty surrounding the policies and regulations affecting farmers, coupled with frequent policy changes, results, among other things, in delays in making decisions about adapting business operations.[35,36] Furthermore, uncertainty can trigger frustration and anxiety.[37]

c) *Greater autonomy.* Many farmers want more autonomy in managing their own businesses, as the current volume and complexity of regulations constrain their freedom to operate as entrepreneurs.[25,27,29,32] The regulatory burden also imposes substantial time and financial demands on farmers, as they are required to hire professionals with specialised expertise.

d) *Appreciation and recognition.* Farmers seek recognition and appreciation for the work they do.[9,24,29,31,32,38] However, some farmers feel undervalued and even mistrusted by both the public and the government, despite their own conviction that they are working diligently, doing their best, and have already made significant strides towards sustainable farming (for example, by reducing nitrogen emissions or minimising pesticide use).[29,32] Farmers also feel that there is insufficient empathy towards the social challenges in rural communities, including the decline in local services.[20]

e) *Fair distribution.* Farmers want the problems and benefits to be distributed fairly. For certain farmers, distribution feels disproportionate on specific issues, such as nitrogen reduction in comparison to other sectors[9], or in terms of who profits from their products and who is prepared to pay what.[9,24,31,38]

Together, these five aspects shape the perspective for farmers. Due to the diversity of farms, certain aspects may be more relevant or significant to some farmers than to others. The importance of perspective lies in its ability to support farmers in staying motivated and physically healthy, planning their business development, investing in their future[39,40], and ultimately helping to make the country climate-resilient and climate-neutral.

## Farmers and policymakers are seeking perspective

**The current political agenda primarily addresses issues that demand short-term solutions, with significantly less attention given to improving perspective across the board.** Examples include the situation of the 'PAS-melders' and the discontinuation of the European manure derogation. Furthermore, the emphasis is on achieving short-term compliance with European climate, nitrogen, environmental quality, and biodiversity goals. This is justified, given that these goals are essential for a healthy, climate-resilient society (including agriculture), and, from a national

[d] We reviewed both grey and academic literature on perspective of farmers. Furthermore, we interviewed nine professionals from the field (comprising farmers, farming advocacy groups, agricultural holdings, and a bank).

[e] The goal of circular agriculture is to close the nutrient and energy cycles within the agricultural system. The goal of nature-inclusive agricultural practices is to incorporate natural processes and ecosystems within the agricultural system.

standpoint, they are not yet within reach.[41] The WKR asserts that, in order to meet these goals, the sector must have sufficient perspective to ensure its sustainable development in the long term.

**Effective policy can both offer farmers perspective *and* support the attainment of climate and environmental goals.** Over the past few years, strategies have been mainly directed at expanding farmers' financial and economic perspective through innovation and the development of better revenue models. The current coalition agreement centres around goal-based regulations, which can facilitate greater autonomy. However, the call for perspective continues to feature prominently in public discourse. A range of policy initiatives, from legislation and regulations to sectoral discussions under the 'Agricultural Agreement' and the NPLG, have not been able to offer sufficient perspective. Moreover, while the 'Agricultural Agreement' process initially fostered greater rapprochement, trust was undermined by the way it was terminated in 2023.[42] Cooperation within the NPLG helped foster trust[43], yet its abrupt termination has provoked negative responses from both local authorities and farmers.

**Politicians from all sides appear to agree that the agricultural sector needs perspective, which it currently does not have.** This raises the question of how better and more effective policies targeting this perspective can be shaped, while empowering farmers to advance climate goals and enhance climate resilience.

## Five recommendations for expanding perspective

The WKR is presenting five recommendations to the government which, together, can expand the broad perspective for farmers and the agricultural sector. The priority is for central government, as the key player, to assume greater control. It needs to support farmers, supply chain partners, and other stakeholders with policies and instrument, helping them to evolve towards sustainable and climate-resilient agriculture.

**Recommendation 1.**
The WKR recommends that the government sets short- and long-term frameworks and goals for agriculture, particularly in relation to climate and the environment. These frameworks and goals provide clarity and an essential foundation for goal-based regulations.

**The farming sector requires certainty regarding the framework for food production, while farmers seek understanding of their businesses' short-term and long-term prospects.** Setting goals[f] and frameworks incrementally, while maintaining consistent progress towards them, provides clarity on who can invest in the future and how they can do so. Central government must take responsibility for establishing these frameworks and goals. The government's plan to implement goal-based regulations[g, 44] could bring this much-needed clarity and, in turn, provide the agricultural sector with perspective.[45]

*Frameworks for the period up to 2030*

**In the short term, up to 2030, European and national directives and legislation define the frameworks for climate, environmental quality, and biodiversity.** For instance, goals have been established in the national Climate Agreement (specifying an indicative emission goal for agriculture for 2030; see also Facts and figures), the Nitrogen Reduction and Nature

[f] Frameworks set the boundaries within which farmers and the agricultural sector can operate, addressing, for example, space, soil, and water usage (including the designation of specific areas for particular purposes). Goals outline the intended outcomes (such as emission targets for 2030 or quality goals for air, water, and natural resources).
[g] Goal-based regulation is a policy approach in which the government prioritises setting or advancing goals while intentionally refraining from dictating the tools or methods to achieve them.[44]

Improvement Act (specifying goals for 2025, 2030, and 2035), the Nitrates Directive (specifying goals for manure spreading), and the Water Framework Directive (specifying water quality goals for 2027). As detailed in the draft Climate Plan for 2025-2035 (under consultation in late 2024), climate goals will be set for each subsector (animal husbandry , arable farming, and greenhouse horticulture) and subsequently for individual businesses.[46] Establishing a vision for the food and agricultural system, as proposed in the WKR recommendations for the 2025-2035 Climate Plan, could prove useful in setting goals.[95]

*Frameworks for the period beyond 2030*

**The longer term outlook for climate frameworks beyond 2030 remains uncertain.** The long-term agricultural goals set out in the Climate Act must be made more tangible and firmly established. The WKR recommends that the government clarify its long-term position on three elements of climate policy:

A. Defining net greenhouse gas emission targets for the agricultural sector for 2040 and 2050, consistent with the Netherlands' commitment to achieving climate neutrality by 2050. What levels of methane, nitrous oxide, and $CO_2$ emissions are consistent with achieving climate neutrality in the Netherlands? What rules determine how these are allocated across businesses, regions, or sectors?
B. Establish which emissions can be offset by specific types and levels of carbon removal. In what ways is the Netherlands leveraging its limited capacity for carbon removal?[47]
C. Assess which areas are susceptible to the impact of climate change, both now and in the future, considering factors like salinisation, water storage, the availability of fresh water, and soil subsidence.

**Appendix A. Defining agricultural goals within a climate-neutral society for 2050 depends heavily on the contributions of other sectors, including industry or mobility.** The level of remaining emissions from agriculture affects the permissible remaining emissions in other sectors. Careful decision-making is essential to ensure a fair and balanced distribution. As yet, the draft 2025-2035 Climate Plan does not include an indicative 2040 goal for animal husbandry and arable farming, unlike other sectors.[46,48,49]

The WKR also recommends that the following factors be considered when setting climate goals for 2040 and 2050. Since methane has a relatively short atmospheric lifetime, cutting the emissions of this gas can rapidly mitigate temperature rise. Accordingly, special emphasis should be placed on cutting methane emissions. When setting goals, also bear in mind that technical and management measures to reduce methane and nitrous oxide emissions in agriculture are still evolving, so their effectiveness and potential side effects remain uncertain; see also Facts and Figures. These goals must also accommodate trends in the food transition, including reduced dairy and meat consumption[50] and the emergence of innovative production methods, such as cultured meat and vertical farming.

**Appendix B. Decisions must also be made regarding the offsetting of agricultural emissions.** The Netherlands has limited[51,52] potential for $CO_2$ sequestration, so a substantial share of emissions would need to be offset elsewhere in Europe. According to the draft 2025-2035 Climate Plan[46], $CO_2$ removal (CDR) in the Netherlands by 2050 is mainly expected to offset remaining emissions from agriculture and land use, along with remaining emissions from the use of fossil raw materials in other sectors (transport and industry). The Netherlands could advocate at EU level for the specific allocation of CDR to farmers, ensuring that this capacity is not diverted to other sectors.

**Appendix C. Several studies have detailed the effects of a changing climate on agriculture[2,53] and have identified the most suitable areas for farming in the Netherlands.[32,54-56]** As part of its revision of the National Climate Adaptation Strategy (NAS), the government is currently working on climate adaptation goals (which also encompass the agricultural sector). The Netherlands'

vulnerability to climate change, coupled with its varied functions and land uses, creates multiple dilemmas and requires key strategic decisions both today and in the future. For the revision of the NAS, the WKR will provide further recommendations on this matter in a separate advisory report (2025).

**The responsibility for defining these frameworks lies with the government.** The WKR recommends factoring in societal and international developments while taking steps to engage with societal groups, the scientific community, and knowledge institutions. The frameworks are essential for shaping the approach to goal-based regulations.

*Goal-based regulations*

**The government's plan to introduce goal-based regulations is consistent with the goal of giving perspective to farmers and the agricultural sector, but it does face certain legal and practical hurdles.** Farmers need to understand that a great deal of resource-based regulations is enshrined in European and national legislation, making it difficult to repeal.[57] If goal-based regulations is adopted, both systems (goal-based and measure-based regulations) will operate in parallel for a while. Moreover, the transition to goal-based regulations is unlikely to be finalised in the immediate future.[57] If we are to achieve the 2030 climate and environmental goals we cannot wait for goal--based regulations to be fully implemented. Ongoing agricultural challenges associated with climate, nitrogen, environmental quality, and biodiversity, demand immediate action and will only worsen over time if the sector's transition towards structural sustainability is delayed.

**Goal-based regulations provides no assurance that goals will actually be achieved.** To ensure the effectiveness and success of goal-based regulations , specific conditions must be satisfied.

**First and foremost, clear goals must be defined at the business and/or local area level.** These goals are derived from the frameworks recommended for this purpose. They pertain to greenhouse gas emissions (methane, $CO_2$, nitrous oxide) and nutrients (nitrogen, nitrate, and phosphate), alongside key issues such as biodiversity (pesticides, landscapes), animal welfare, water quality and quantity, soil quality, and spatial planning. Scientists have developed methodologies to translate national goals into measurable indicators at the farm and/or local area level, commonly referred to as key performance indicators (KPIs).[32,58-60] Political decisions are required to translate these goals, including whether all farmers should share the same burden or whether these should be differentiated by local area.[32] Each KPI should be assessed to determine whether collaboration among farms at local area or national levels could help achieve the goals with greater efficiency. For example, since the climate impact of greenhouse gas emissions is unrelated to their location, it could be advantageous for farmers to trade emission allowances amongst themselves.[58]

**Additionally, progress towards these goals must be quantifiable for entrepreneurs, allowing them to refine their strategies as needed.** As part of this process, it is essential for farmers to understand both the ecological and financial effects of the measures available to them. Work has been underway for some time in the Netherlands and at European level to create a KPI-system that helps farmers track their progress on sustainability goals.[61-63] The system can be implemented in the Netherlands to ensure that both governmental and commercial entities use the same terminology and definitions. Harmonising KPIs across countries provides significant advantages, allowing them to contribute effectively to EU policies, including the Common Agricultural Policy (CAP). As a frontrunner in KPI development, the Netherlands has the potential to play a pivotal international role in its further development and implementation.

**In conclusion, emission KPIs must be defined per hectare or per farm, not per production unit.** Prioritising a sustainable product does not necessarily guarantee a reduction in the farm's overall environmental impact or compliance with national goals.[64]

A prudent approach would be to initiate goal-based regulations on a voluntary basis in the short term and gradually transition towards a legally robust system that can be consistently implemented in the long term.

**Recommendation 2.**
The WKR recommends that the government works closely with farmers (and their representatives) when deciding on the future of agriculture. The process can be facilitated by inviting the various agricultural sectors to indicate how they intend to fulfil climate and environmental goals, and by integrating their input into subsequent discussions with other stakeholders. Rebuilding mutual trust among all parties involved is a fundamental prerequisite in this process.

**The transition to climate-neutral and climate-resilient farming demands close cooperation between farmers and the government.** A variety of societal challenges intersect at the farm level, demanding practical measures from farmers. Farmers' knowledge and expertise are pivotal in shaping and implementing these measures. Thus, the WKR recommends involving farmers in a process that fosters broad agreement on a vision for the future of Dutch agriculture, including how different subsectors will interpret the above-mentioned frameworks (while retaining scope for their own solutions and entrepreneurial freedom).

**In the current situation, rebuilding trust between the government and farmers is an indispensable first step[20,65] before collaborating on new plans and establishing support for policies.[66]** There can be no progress without trust, only resistance.[67] Rebuilding trust demands a renewed dialogue between the government and the sector, one that does not immediately focus on substantive issues or the challenges facing agriculture. Priority must first be given to addressing past policy failures and actively rebuilding mutual trust among the stakeholders.[68,69] Professional guidance can be instrumental in achieving these objectives.[70,71] With increasing trust, farmers and the government can decide which issues are most appropriate for the first in-depth discussions about the future of agriculture.

**There is agreement on several fronts, providing a foundation for further progress.** For instance, parties agreed on much of the material in the draft Agricultural Agreement, although some aspects of the plans remained insufficiently specific.[72,73] Within the NPLG key strategic decisions and meaningful plans were formulated at the provincial level. Furthermore, the sector appears to have reached a fairly broad consensus about the direction of agricultural development.[16] Building on this, the government can invite farmers to suggest their own strategies for short-term and long-term goal-based regulations within the aforementioned frameworks for climate and the environment. Furthermore, they are invited to specify the support they require from the government and supply chain partners. Past experiences show that actively involving farmers in the development of such plans enhances their engagement and perspective, while addressing their concerns and supporting their aspirations to define the future of agriculture themselves.[74-76] The WKR suggests starting this process by inviting farmers and their representatives to enter into dialogue with the government.

**Over the past few years, advocacy for farmers' interests has become increasingly fragmented, with multiple organisations focusing on special interests and voicing those specific concerns.** Therefore, bringing together the various farmers' organisations for initial discussions is likely to pose a significant challenge. This fragmentation makes it more challenging than before to adequately address all interests and to reach consensus. To bring the various parties involved to the table, it must be clear what they stand to gain from participating in the dialogue.[77] The WKR anticipates that the desire for greater clarity and autonomy for farmers, which goal-based

regulations seeks to achieve, could motivate them to participate. Indeed, farmers themselves have expressed their readiness to accept responsibility.[49] In addition, the looming threat of involuntary closures among farmers – stemming from insufficient progress and inadequate plans to address the manure and nitrogen crisis – may prompt stakeholders to develop alternative solutions, to avert a similar situation with the climate goals for 2040 and 2050.

**Establishing the frameworks for emissions, climate adaptation, and spatial planning demands dialogue and trust at provincial and regional levels.** The existing consultation structures, including those established within the NPLG and through regional or local partnerships, are well-suited to this process. Central government will need to determine how best to utilise these mechanisms to ensure farmers are effectively engaged in goal-based regulations .

**While it is crucial to first seek input from farmers[74], their ability to implement goal-based regulations within the frameworks depends on support from other stakeholders.** These other parties, such as supply chain partners and financial institutions, will ultimately play a crucial role in achieving a sustainable agricultural and food sector (see also Recommendation 3). Agriculture does not exist in isolation: its sustainability is intrinsically linked to other sectors and transitions. For instance, biobased materials are crucial for the future circular economy, biomass is integral to chemical processes, and plant-based proteins are essential for improving public health. The market for biobased products and food will dictate the agricultural sector's capacity to provide. The agricultural sector maintains production within the specified frameworks. Market operators secure both the sales and income potential for farmers.

**Alternative processes may be explored if the parties choose not to engage in the proposed consultation.** The government could begin by collaborating with those parties who are willing to cooperate[78] or, alternatively, by seeking to engage the larger middle group.[42] Given the urgency and the critical role of agriculture in achieving climate-neutrality and -resilience, in the worst case, the government may need to develop a plan that defines the future of Dutch agriculture within the frameworks for 2040 and 2050.

**Recommendation 3.**
The WKR recommends that the government implements specific policies to create an expanding and economically viable sales market for sustainably produced agricultural and horticultural products.

**Alone, farmers are unable to address the challenges or bear the risks.[67]** By offering farmers clarity on the goals they must meet in the short and longer term (recommendation 1), allowing them more freedom in how they achieve these goals (recommendation 1), and assigning them responsibility (recommendation 2), their perspective will expand, making the goals more achievable. Those involved in financing, supplying, producing, processing, and distributing within the supply chain also have a role and responsibility in achieving climate, environmental and nature conservation goals. The government can take a more assertive stance in this regard.

**The government can employ a range of normative and financial instruments to incentivise parties in the supply chain to become more sustainable.** Introducing a progressive blending mandate for sustainable components in conventional products (such as a set proportion of sustainably produced milk per litre of regular milk) appears to be an effective strategy for boosting demand for sustainable products.[79] A standard for the percentage of sustainably certified products available in shops would help expand the sales market for farmers producing sustainable goods. The government also has the option of using financial instruments to make sustainable products more affordable and/or increase the price of non-sustainable products.[80]

**Strengthening farmers' position within the supply chain has long been a topic of debate.**[81] The position of farmers can be enhanced by fostering supply chain cooperation, offering long-term contracts, and reaching risk-sharing arrangements.[67] Furthermore, the recently introduced European Corporate Sustainability Reporting Directive (CSRD) and Corporate Sustainability Due Diligence Directive (CSDDD) compel large companies to be transparent and take action regarding their environmental and social impact.[82,83] These directives are expected to prompt companies to enhance the sustainability of their operations, products, or their own supply chains. In addition to these directives, the growing societal demand for more environmentally friendly production[10] and improved animal welfare[84,85] compels companies, such as supermarkets, to modify their offerings and production processes. Although companies in the supply chain are taking steps towards sustainability, a stronger commitment from supply chain partners is needed.[29,85]

**Targeting supply chain partners with government policy can expand the perspective for farmers.** This would enable them to generate higher earnings from sustainably produced goods, while ensuring a fairer distribution of problems and benefits throughout the chain. When a more robust market for sustainable products emerges, farmers will be more inclined to invest in sustainability or transition to more sustainable operations, perhaps involving reduced emissions, nature-inclusive practices, or organic farming.

**Recommendation 4.**
The WKR recommends that the government offers farmers both financial assistance and practical guidance to facilitate their transition to a business model compliant with the above-mentioned climate and environmental frameworks.

**The transition to climate-neutral and climate-resilient agriculture will have a profound impact on farms.** They will all need to reduce their greenhouse gas emissions, and many will have to switch to more sustainable agricultural practices, such as nature-inclusive, circular, or organic farming. As a result of climate change, many farmers will have to modify their practices and some may even find it necessary to move their businesses to different locations. Some agricultural businesses will be forced to close if they are unable to reduce their emissions or adapt to the changing climate.

**Among the (much larger) group of farmers who will continue, there is a great willingness to pursue more sustainable practices, yet various barriers prevent them from doing so.**[86] One barrier is a lack of knowledge, another is the anticipated delays in obtaining licences. Additionally, difficulties in securing financing and risk coverage pose significant challenges.

**Furthermore, central government will provide a range of support schemes for farmers seeking to switch.** These include initiatives such as the 'Omschakelprogramma' (featuring the Sustainable Agriculture Investment Fund loan (IDL)), Lvvp, and Sbv[h].[87] Although these schemes primarily focus on reducing nitrogen emissions, they also contribute to the mitigation of greenhouse gases. The funds allocated to these schemes are limited, however, so few entrepreneurs are able to make use of them.[87,88]

**The WKR recommends that the government allocate considerably more resources to assist farmers in switching to climate-neutral and climate-resilient practices, including the provision of financial support and advisory services.** The KPI system, including climate indicators, can be

[h] Stands for the: Sustainable Agriculture Investment Fund, the National Relocation Scheme for Livestock Farms with Peak Load, and Grant modules for at-source measures for sustainable livestock housing and management

used to support this process. This enables a greater number of farmers to invest in sustainability or switching. It provides financial perspective while also ensuring long-term clarity.

**Providing perspective is just as important for farmers who decide to close their business.** This group benefits from various financial schemes, such as Lbv-plus, Lbv, and Rpgb, which are currently in place or in development by the national government[i].[87] The substantial financial burden of such programmes necessitates a prudent approach. It is also important to ensure that the expenses can be justified to the public. The decision to close is often a profound and life-changing milestone, impacting far more than just financial considerations. It involves factors such as preserving family heritage, feelings of deep connection to the land on which the farm stands, and grappling with uncertainties about viable future opportunities.[89] Personalised guidance, retraining programmes, or career counselling are needed to provide perspective to farmers who find themselves in this situation.

**Recommendation 5.**
The WKR recommends that the government invests in initiatives designed to enhance cooperation between farmers and consumers, while also fostering partnerships within the farming community.

**Over the course of time, modernisation and globalisation have progressively deepened the divide between rural and urban communities, as well as between farmers and consumers.**[90] This is in keeping with the perceived lack of recognition reported by some farmers. There are various steps the government can take to mitigate this disconnect, improving the perspective for farmers in the process.

**A variety of grassroots efforts focus on improving the relationship between farmers and consumers.** Some of these initiatives (including Rechtstreex and Ekomenu) aim to create alternative distribution systems for locally grown food and regional produce. Other initiatives, such as Land van Ons and Aardpeer, empower the public to play a direct part in shaping land use decisions.[90] Community Supported Agriculture (CSA) programmes foster cooperation between farmers and the public. For example, members of the community might collaborate with farmers through a cooperative, sharing responsibility for sustainably managing and operating a designated area. In another approach, consumers share risks with farmers by providing upfront payments. One well-known example is the Herenboeren initiative, where consumers collectively hire a 'personal' farmer to serve them directly. CSA strengthens the bond between farmers and consumers and gives farmers a greater sense of satisfaction. It also consumes fewer raw materials and emits fewer greenhouse gases than conventional agriculture.[91]

**Cooperation between farmers has the potential to generate beneficial effects.** Findings from the Wadden Island of Schiermonnikoog showed that when farmers in a local area work together and coordinate their efforts, progress toward climate, environmental, and nature conservation goals can be greatly enhanced.[74] For example, in the Frisian peat meadow area, a collective of dairy farmers has devised various business strategies that enhance sustainability (including lower greenhouse gas emissions per hectare) as well as a viable revenue model.[92] Moreover, driven by a growing awareness of climate and biodiversity challenges, farmers are reaching out to one another and establishing partnerships. Future Farmers and Caring Farmers are two notable examples.

[i] Stands for the: National termination scheme for livestock farming locations (Lbv), National termination scheme for livestock farming locations with peak loads (Lbv-plus), Lbv for smaller sectors and Provincial scheme for area-specific termination of livestock farming locations (Rpgb).

**Such initiatives often encounter barriers when put into practice.** This is because many existing funding mechanisms and schemes favour the dominant agroecosystem, while creating restrictive conditions and perpetuating an uneven playing field for sustainable initiatives and innovations.[93] For instance, existing zoning regulations frequently mandate a strict separation between agriculture and nature, potentially restricting the harvesting of produce from food forests located on designated conservation land.[94]

**To better support and connect these initiatives, the government should focus on eliminating barriers and risks.** The government can also provide a platform for sustainable initiatives, ensuring wider recognition and inspiring others.[18] In addition, as the Social and Economic Council of the Netherlands (SER)[67] points out, entrepreneurs pioneering new approaches depend on the government being adept at recognising and fostering system-transforming elements. Promising examples and effective pilot projects should grow and be scaled up instead of remaining confined to small-scale initiatives.

## In conclusion

In this letter, the WKR is presenting five recommendations to the government which, together, can expand the perspective for farmers, strengthen mutual trust, and make climate, environmental and nature conservation goals more attainable.

A fundamental principle for fostering trust and perspective in agriculture is that entrepreneurial activity within the sector demands clear frameworks, consistent policies, scope for autonomy in operational decision-making, and robust government support for business model transitions through expertise, funding, and regional infrastructure that strengthens rural communities. In this context, the WKR stresses that these foundational principles are relevant both to farmers who remain cautious about major transitions and to those who are further along the path to sustainability or reshaping their businesses through social innovation. With sufficient perspective, farmers will be better equipped to tackle the vital role that society demands of them in a rapidly changing climate.

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