

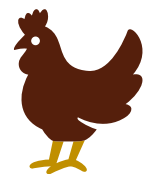


Ministry of Agriculture, Nature and  
Food Quality of the Netherlands



# Agriculture, nature and food: valuable and connected

The Netherlands as a leader  
in circular agriculture





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## Foreword

Dutch farming, horticulture and fisheries are continually innovating, making our country a global leader in these sectors. I am greatly impressed by the many talented people, by the breadth of ideas and by this amazing innovatory power. These qualities also attract much admiration internationally.

A leading position, such as we currently hold, goes hand in hand with responsibility for the future of farming, horticulture and fisheries. After all, no matter how good our results may be right now, the way in which we produce our food is shifting ever more out of balance. We are taking more than the planet can give, and this is not sustainable.

So how do we continue? In recent months, I have discussed this question in depth with many different people in society. I found that all these people were willing, often with passion and great commitment, to consider the future in a very open manner. We also talked about values in agriculture, our food production and our natural environment, the various interests at play and the role played by the state, as well as who is expected to define and implement our course going forward.

This vision has been developed by the Ministry of Agriculture, Nature and Food Quality (LNV), but this would not have been possible without the many conversations and discussions held with stakeholders, or without consultation with the ministers of, among others, Health, Welfare & Sport, Infrastructure & Water Management, Education, Culture & Science, Foreign Affairs and Economic Affairs & Climate Policy. The results of these discussions have been included in this vision.

We consistently concluded that the only way for us to secure the future of our food supplies is to make the transition to circular agriculture. After all, we must prevent soil, water and raw materials from becoming exhausted and the temperature on our planet from rising to unacceptable levels. Circular agriculture provides an inevitable and conclusive solution to these issues. It is also a transition in which we have gained some practical experience, and which is supported by society. It provides the foundation on which I aim to build.



In this vision, you will find an outline of the transition to circular agriculture and what it will require of us. It is up to all of us to find ways of putting this into practice.

After the transition, farmers, growers and fishermen will remain at the basis of our food system. It presents them in particular with a major challenge and will demand a great deal from them. Many of them are prepared and motivated to accept the challenge. I also see this reflected in the media and in opinion research, such as “*De Staat van de Boer*” (The State of the Farmer) in the *Trouw* newspaper. These people deserve our support and sympathy in this regard.

This government’s motto is “Confidence in the future”. I have great confidence that we can work towards circular agriculture, and that we can set our course together with farmers, growers and fishermen, other entrepreneurs and civil society organisations.



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Carola Schouten  
*minister of Agriculture, Nature and Food Quality*



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# 1. WHAT IS THE CURRENT SITUATION?



Farming, horticulture and fisheries contribute significantly to the prosperity of the Netherlands. These sectors are constantly innovating, making them global leaders. The stakeholders in these sectors are closely interlinked: the farmers, growers and fishermen as primary producers, the many suppliers, the banks, the supply and processing companies, the exporters and the trade companies that bring these products into the kitchens of Dutch households, the catering sector and the large-scale users, such as company restaurants.

These supply chains from producer to consumer function very efficiently at low costs, and they are supported by world-class scientific research. Most professionals in these supply chains have been trained in one of the specific senior secondary vocational programmes or higher professional programmes. Thanks to this tightly knit education and research system, new insights and technologies can quickly be applied and the Netherlands consistently maintains its advantage in both knowledge and production.

Characteristic for these sectors are also an emphasis on cutting costs and increasing production, resulting in upscaling. In the market, this is accompanied by small and sometimes even negative margins, a problem that many agricultural entrepreneurs have to deal with. This makes the sector vulnerable in economic terms, as revealed by the major fluctuations in the incomes of farmers and growers and large income differences between and within the sectors. By Dutch standards, some farmers receive low work incomes and a relatively low yield on their equity capital.

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Cost reductions and production increases also lead to pressure on the living environment. In the Netherlands, this has come at the expense of biodiversity, the environment, the quality of drinking water and the attractiveness of the landscape. Over time, these factors, as well as urbanisation and the reduction of the agricultural working population, have led to a considerable divide between farmers and citizens. The latter have little knowledge about the origins of their food. As a result, farmers and growers do not always feel valued and appreciated for the work they do providing people's daily food and drink.



In the fishing sector as well, fishermen deserve to be valued for their entrepreneurship and the products they bring to market. Fishing has traditionally formed the economic basis of many villages and towns and is linked in cultural-historical terms with its surroundings. However, less and less space seems to be available for fisheries.

In the North Sea, for example, space is increasingly being allocated to generation of sustainable energy, and nature conservation measures put limitations on fishing activities. The discussions in Europe about pulse fishing and the landing obligation (or discards ban) are making the entrepreneurial climate uncertain for fishermen.

There are therefore plenty of reasons for considering a structural change to the primary sector's position in society. Thankfully, there are already many people and businesses that are putting changes into practice. The dairy farming and dairy products industry have already formulated a desired outcome for closing mineral cycles more effectively, producing more cattle feed locally and putting more cattle out to pasture. A growing number of farmers, acting either individually or at the regional level, are increasing biodiversity on their land. The livestock farming and transport sectors are taking ever more measures to improve animal welfare. New technologies contribute to improvements in food safety and to reducing environmental pressures. The plant-breeding sector is already engaged in adapting crops to the changing climate and to the demand for more sustainable production.

Precision agriculture enables very sparing use of auxiliary materials. The fishing industry has introduced pioneering innovations (such as pulse fishing) that reduce costs while also benefiting biodiversity.

This change is also not restricted to isolated initiatives: there are numerous fast-growing partnerships, such as the Delta Plan for Restoring Biodiversity, the Delta Plan for Agricultural Water Management, the MSC quality mark to make fisheries sustainable, initiatives on meadow milk and new forms of poultry farming, *Stichting Boer Bewust*, the Skylark Foundation (*Stichting Veldleeuwerik*), the Better Life Label (*Beter Leven Keurmerk*) and many more. Farming, horticulture and fishing are undergoing many changes and aim to meet the demands being made of them by society, nature, the soil, water and the ecosystem. However, at the same time, they are trapped inside the current production system, which is not future-proof. How can they free themselves? What are the challenges?

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## 2. THE CHALLENGES WE FACE

Farming, horticulture and fisheries are essential sectors. Farmers, growers and fishermen feed the people. How this is done – globally – today, is not sustainable. Our planet can no longer sustain the burden of the current production methods and consumer behaviour. The United Nations have issued Sustainable Development Goals that are intended to solve this problem in fundamental ways. The Netherlands has contributed strongly to the formulation of these goals and fully supports them.

The good news is that the Dutch farming, horticulture and fisheries sectors are uniquely placed to play a leading role in bringing about the necessary changes. This is thanks to the well-developed entrepreneurship, our experience with efficient and technologically advanced production, our excellent research and education institutions and the strong willingness to work together.

Emissions of greenhouse gases will need to be drastically reduced all over the world. The government has concrete goals for the Dutch farming and horticulture sectors and for land use. Companies and organisations in the agricultural sector are already engaged in joint discussions to reduce greenhouse gas emissions as part of a Climate Agreement process; together, the aim is to achieve an emissions reduction of at least 3,5 megatons of CO<sub>2</sub> equivalents by 2030. Climate-friendly processes are the new standard, and the Netherlands can play a leading role in this. The first step is to implement the commitments set out in the Climate Agreement.

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Additionally, it is necessary to make more careful use, both in the Netherlands and worldwide, of raw materials, resources and the natural environment. The Dutch agrifood sector is strongly dependent on the import of raw materials and basic commodities from other parts of the world. These resources are not always extracted and produced in a sustainable manner. This needs to change.



At the same time, we must put an end to the wastage that occurs in various parts of the food chain, from primary production to the waste-bins in Dutch kitchens. Wastage is unnecessary and harmful. It does not do justice to the value of nature and to the people who have created the food, it leads to unnecessary costs and it destroys valuable materials that can still play a role in the food cycle.

The thousands of entrepreneurs in farming, horticulture and fisheries who work hard to bring us our food often do this under difficult economic circumstances. Individual producers tend to have a weak position in regard to their large buyers. They incur many risks, ranging from uncertain weather and animal and plant diseases to a volatile market. Farmers, growers and fishermen are hard-working entrepreneurs and they deserve a solid and stable position in the supply chain. They should have a good income and the prospect of being able to pass their business on to the next generation.

Consumers who know where their food comes from, and therefore have respect for producer and product, can contribute to this process. This will help to reduce waste and to achieve a fairer price for the producers. Short supply chains bring farmers and citizens closer together. A healthy living environment in which farmers and citizens happily co-exist remains an important issue as well.

Nature is of value to us all, and to agriculture in particular. It can no longer be that nature and agriculture are seen as opposites and that agriculture puts pressure on biodiversity. Nature and agriculture belong together, and this relationship must become stronger and more organic than is currently the case. Agriculture holds an important key to further improvement of natural value in the Netherlands, but the sector can only achieve this if the entire system and all its participants, from farmer to citizen, cooperate.



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# 3. TOWARDS CIRCULAR AGRICULTURE



The Dutch farming and horticulture sectors have an excellent track record in efficient food production. This is an ideal starting point for becoming the leader in sustainable use of raw materials and the leader in circular agriculture. Furthermore, it is also in line with the circular economy objectives of the government.

Our current system of agriculture is a supply chain, consisting of actors who each aim to gain the greatest economic benefit. Each party uses the raw materials at its disposal and processes these at the lowest costs and with the highest yield. However, individual parties still insufficiently consider the system as a whole. Regulation is also still mostly focused on parts of the system. This is a serious flaw, because the system contains many leaks, wastages, inefficiencies and other undesirable effects. The leaching of minerals from the soil and non-productive use of the large waste flows from production are examples of this. This is untenable, because we only have one planet, with a limited supply of renewable raw materials. Furthermore, this style of production damages the ecosystem by putting pressure on biodiversity, contaminating soil, water and air and changing the planet into a greenhouse that, in the long term, will render large areas unliveable and unproductive.

Things need to change. Instead of constantly reducing the cost of products, we need to focus on constantly reducing the use of raw materials through a more efficient use within cycles. This shift is possible.



Fisheries are experiencing a similar pattern on a global scale, where individual entrepreneurs are powerless and therefore unable to contribute to sustainable management of natural capital, which can lead to overfishing.

Things need to change. Instead of constantly reducing the cost of products, we need to focus on constantly reducing the use of raw materials through a more efficient use within cycles.

This shift is possible. It requires us to change the current system by working towards circular agriculture as the ecologically and economically vital, prevalent production method. This production method must be based on the economic strength of collaboration between parties in the agricultural sector and on support and trust from civil society organisations. Food safety naturally remains the key priority.

The current supply chain – with a beginning, an end and leaks within the chain – needs to be transformed into a system with minimal unnecessary losses. This will make farming, horticulture and fisheries part of a circular food system.

The government’s goal is for cycles of raw materials and resources to be closed at the lowest possible level, either nationally or internationally, by 2030 and for the Netherlands to be a leader in circular agriculture. In order to realise this perspective, the government has formulated three supplementary goals for a strong, sustainable food system:

		
1	2	3
<p>The <b>economic position of farmers, growers and fishermen</b> in the supply chain should be such that they are able to earn a good income in circular agriculture, can innovate and can maintain and pass on healthy businesses.</p>	<p>We need to <b>appreciate food</b> more. This goes for individual consumers, large-scale users and the catering industry. Wastage should be avoided. The distance between primary producers and citizens must become smaller.</p>	<p>The Netherlands must retain a leading role in the <b>innovation of production methods</b>, both nationally and in global food markets. With our knowledge and products, we can be an example for other countries when it comes to efficient production of food in circular processes, thus preventing and repairing damage to the ecosystem (water, soil, air).</p>

<sup>1</sup> This vision takes 2030 as its target date. However, concrete agreements on many issues have already been made which have different deadlines. These agreements will remain valid. An example of this is the Water Framework Directive, which has a target date of 2027.

It is clear that the transition to circular agriculture is far-reaching and cannot be implemented overnight, and which requires many people to accept major changes: from funding investments to everyday practice in companies and consumer behaviour in kitchens.

Luckily, this process of change is already evident in many different places. The pioneers who are already engaged in change will from now on receive strong support for the innovations, experiments and circular investments they have implemented in recent years. These pioneers can be found everywhere, both in agricultural businesses and in internationally operating industries, showing us the way forward and serving as an inspiration to others.

The current supply chain needs to be transformed into a system with minimal unnecessary losses. This will make farming, horticulture and fisheries part of a circular food system.

In this chapter, we set out the transition from chain agriculture to circular agriculture in general terms. To this end, we will describe the characteristics of circular agriculture in Section 3.1 and in the following sections define the three framework conditions for the intended transition.

### 3.1 The characteristics of circular agriculture

In a circular agriculture system, arable farming, livestock farming and horticulture primarily use raw materials from each other’s supply chains and waste flows from the food industry and food supply chains. These circular chains can be structured in various ways: within a company, a region, the Netherlands or across national borders. The motto is: do it locally if you can, and regionally or internationally if you have to. Residues from the agricultural sector and the food supply chain (crop residues, food residues, process waste, manure, compost) are re-used or re-processed into new (auxiliary) products. Circular enterprises use as little energy as possible, and the energy they do use is renewable as much as possible.

Cattle are fed primarily with grass, feed crops or crop residues from the farm where they are kept or from the immediate vicinity, as well as with residues from the food industry. This will strengthen land dependency – the link between business operations and the land available for agriculture – and allow entrepreneurs to take better account of the cultural-historical value of the landscape.

Soil management works towards applying processed animal manure while steadily reducing artificial fertilisers. That way arable land and pastures receive high-quality organic fertiliser based on crop residues or manure. This will ensure that the currently still significant role for artificial fertiliser keeps diminishing. Putting an end to the use of artificial fertiliser based on scarce fossil raw materials (phosphate, potassium, natural gas) will also further reduce greenhouse gas emissions from the production of artificial fertiliser.

The soil forms the basis for circular agriculture. Soil management is a reciprocal process: human activity removes minerals and water from the soil for production and feeds the soil with organic materials, water and nutrients to maintain growing power.

Good soil quality requires a balanced and responsible use of fertiliser and plant protection products, sophisticated farming plans and processing with machines that are geared to the cultivation capacity of the soil. As a result, not only will the soil contribute to higher yields, it can also serve as a buffer for extreme weather conditions. Soil that contains a high level of organic matter can absorb water much more efficiently and is more resistant to drought. Moreover, such soil can retain more nitrogen and minerals, hosts a more diverse range of soil life and contributes to healthy crops.

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The soil strategy recently submitted to the House of Representatives<sup>2</sup> already pointed to the importance of good soil quality for various social tasks. This strategy is therefore one of the key components for circular agriculture. Aspects that have a major effect on the functioning of soil are management of organic substances and soil fertility, management of soil structure and management of soil life and resilience. Soil management is therefore also crucial to (fresh) water management, especially to prevent damage from drought or flooding.



### Livestock farming

In the circular approach, livestock farming makes an important contribution to efficient use of raw materials. The government's goal for the period up to 2030 is to reduce the size of nutrient cycles in the cattle feed sector and to close the loop at the lowest possible level. In addition, the government aims, also in the livestock sector, to prevent losses of food, waste flows, carbon, energy and water to the greatest extent possible. The aforementioned period will see a transition that results in livestock farmers increasingly using feed that they have grown themselves or have purchased from preferably local or regional producers. They will also use increasing amounts of waste products and by-products from the human food industry in their cattle feed.

The transition to circular agriculture and increasing sustainability will put great demands on the adaptability of this sector, but experience has already been gained in some areas. Various pioneering enterprises in pig and poultry farming have already made the leap to greater sustainability on a larger scale. In this context, they have developed a revenue model in collaboration with chain partners. The animal feed industry is also taking initiatives to acquire new animal feeds from sources close by. The knowledge gained from these initiatives can be widely applied.

Another aspect of the increasing sustainability of livestock farming is the transition to integrated, sustainable and low-emission animal accommodation and rearing systems. These will improve the living environment for humans and animals and reduce or prevent the emission of greenhouse gases, ammonia, offensive odours and particulates. The accommodation gives the animals room to express their natural behaviour and is combined with good husbandry practices based on their specific needs. The design of stalls and barns, stall configuration and feed practices also give explicit attention to the prevention of diseases. These factors, combined with good husbandry, will enable the use of antibiotics to be further reduced. With regard to dairy farming, outdoor grazing remains the guiding principle, as access to pastures is highly valued in society for reasons including animal welfare and landscape.

<sup>2</sup> Parliamentary Paper 30 015, No. 54.



## Crop farming

For crop farming, circular agriculture entails attuning cultivation to the capacity of the soil with increasing precision and with application of sophisticated farming plans, customised fertilisation and prevention of diseases, pests and weeds. Precision agriculture with the help of modern plant breeding, sensor technology and robotics will be a supporting factor in this process. Promising new initiatives are being introduced that involve strip cropping, agroforestry and permaculture.

Wherever pesticides are used, this is done in line with the principles of integrated crop protection, virtually without emissions into the environment and without residues. Plant breeding, prevention, good soil and water management, the use of biological pest control methods and the use of low-risk substances form part of an integrated approach. In principle, weed control is conducted using mechanical or ecological techniques; the use of chemical agents is seen as a last resort, and only as a precision intervention.



## Horticulture

The Dutch horticulture sector already has many characteristics of a circular system, although more far-reaching steps can be taken in areas such as improvement of water quality and sustainable energy supplies.

In a circular greenhouse, food crops and ornamentals are cultivated without emissions into the soil, water and air, as little water as possible is used and production is as climate-neutral as possible. Geothermal heat and waste heat from other sectors are used where possible. Carbon dioxide (fertiliser for plants) is extracted from the air or captured by industry and re-used in the greenhouse.

Close collaboration in the supply chains and regions (greenports), the possibility of production in closed systems close to the consumer and a strong innovative capability all form a good basis for meeting social challenges. Increasing attention will be given to using this knowledge abroad, for instance for feeding megacities.



## Nature and agriculture

In the context of this vision on circular agriculture, it is appropriate to emphasise the relationship between nature and agriculture. However, the government would like to point out that nature policy involves much more than this. Hence, this vision must be seen as a supplement to existing and still-valid visions such as the Government Nature Vision, the 'goal for nature and large water bodies' (*Natuurambitie Grote Wateren*) and the visions and goals of the Dutch provinces.

At the same time, attention for the relationship between nature and agriculture remains an urgent issue, as it is precisely in this relationship that the greatest gains for biodiversity can currently be made. Biodiversity in natural areas seems to have been gradually recovering in recent years. At the moment the biggest task for achieving a healthy ecological system in the Netherlands is to be found in the agricultural sector. For instance on issues such as population decline among insects and among grassland and farmland birds.

The circular approach and the goal of significantly reducing emissions of harmful substances into the environment are crucial to a better connection between nature and agriculture. Conversely, nature is of crucial importance to the goal of circular agriculture. Optimum use of the biodiversity in the soil and on and around farms helps to close cycles. After all, in nature itself, everything is part of a circular process. A careful combination of nature and business operations can therefore strongly increase natural value. In addition to all the efforts to protect natural areas, agriculture holds the key to further improvement of natural values in the Netherlands.

Government aims to have made ecosystems in nature conservation areas, on agricultural land and in bodies of water richer and more diverse by 2030: agriculture uses biodiversity for, among other things, pollination, soil fertility and an increasing resistance to diseases and pests, and at the same time creates habitats for a variety of animal species.

One approach that fits in well with circular agriculture is nature-inclusive agriculture; in fact, these concepts overlap to some extent. Nature-inclusive agriculture assumes that it is possible to improve nature *by means of* agriculture and for using nature *for* agriculture. In both nature-inclusive agriculture and circular agriculture key objectives are a careful use of natural resources, sustainable management of the soil and minimising emissions. While the emphasis in circular agriculture is on closing cycles of minerals and raw materials, nature-inclusive agriculture focuses on responsible use of nature and natural processes. Combining the two approaches leads to stronger biodiversity, which in turn benefits business operations. This results in fewer losses to the environment and creates better conditions for specific species linked to the agricultural area, including grassland and farmland birds.

A great deal is already happening in nature-inclusive agriculture in the form of initiatives and experiments. These are in line with the government's aim of making agriculture more nature-inclusive. As part of the coalition agreement, for example, consultations will be conducted with farmers in the direct vicinity of Natura 2000 areas to see whether agricultural nature management can contribute to less intensive land use and thus to climate goals and nature restoration. In return, the government will give compensation to the parties involved, making use of the options offered by the Common Agricultural Policy (CAP). Other options include encouraging functional agrobiodiversity, agricultural nature management, organic farming, caring for field margins and landscape elements and forms of agriculture that seek combinations with trees and multi-annual crops (agroforestry).



All these approaches benefit both nature and agriculture. This ambition will be developed further in the coming period in collaboration with societal stakeholders such as nature and agriculture organisations, the Dutch provinces and the scientific community.

Nature-inclusive agriculture can be organised at the local level, but it is more powerful if the approach is regional, because then it could also lead to development of a nature-inclusive farming landscape with a high amenity value (and a basis for local products) and higher value for the natural environment and natural areas in the region.



### Regional scale

The circular principle in the interrelated livestock farming, arable farming and horticulture sectors will often not be limited to a single company, but will extend to multiple companies in a small or large region. Entrepreneurs can shape this collaboration themselves. For example, a livestock farmer could work together with colleague arable farmers in the region by making agreements about production of feed for the livestock in their region and production of high-quality organic fertiliser. In this way, farmers can develop their own plans and more effectively close the nutrient cycle.

This kind of collaboration at the regional level can also be achieved more widely. Regional partnerships can consult with municipalities, water authorities, nature managers, suppliers and the retail trade. A region can distinguish itself by producing typical products and tastes produced by 'its' sector. Areas such as Betuwe and Vechtdal have been doing this for a long time. The characteristics and properties of soil, water and landscape can vary widely per region, so these will strongly influence the way in which collaboration can best be achieved at the regional level.

In view of the importance of a regional approach, the intergovernmental programme known as the Inter-Administrative Programme (IAP) has created the basis for collaboration between the national government, municipalities, provinces and water authorities. The initiative should come from within regions, as that is where government is already seeing initiatives being formed for area-specific approaches to tasks that transcend agriculture, nature and food. These initiatives can be assigned funds from the coalition-agreement envelopes and funds derived from the 'Living Countryside' section of the IAP. The government is responding to this development with the Regional Portfolio, enabling circular-agriculture initiatives to arise, which then serve as an example for other regions.



### Fisheries

The fishing industry is faced with similar challenges, focused on increasing the sustainability of the sector and the prevention of wastage. Sustainable fisheries requires nature and the economy to be, and remain, in balance with each other. It is more

selective, ensures less contact with the seabed, has less undesired bycatch and fewer emissions. Healthy fish stocks are and remain the basis and ensure that fishermen can earn a decent living, both now and in future generations. To this end, it is important that the interest of the sector is aligned with other interests, such as those of nature, recreation, clean water and sustainable energy.

Future possibilities for fishing in the North Sea and in coastal and inland waters will be limited by the closure of fishing grounds. This is because space is also needed for the realisation of the Natura 2000 goals and the construction of wind farms. The introduction of the landing obligation and Brexit also play a role. All of these elements are generating uncertainty.

However, opportunities are also arising through combinations of wind farms with nature and new possibilities for breeding crustaceans and shellfish, seaweeds and algae using aquaculture. Innovations, the strengthening of existing and new partnerships and new revenue models all make important contributions to making fisheries ever more sustainable.

This sector needs to contribute to the reduction in greenhouse gases as well. Not only by saving as much energy as possible, which will simultaneously lead to lower costs, but also by switching to renewable energy sources wherever possible.

When it comes to wastage, the challenge is to limit bycatch and, when it nonetheless occurs, to put this to the most valuable use possible. Innovation could make this possible, leading to better utilisation of residual fish waste and by increasing the added value of, for instance, pharmaceutical applications. Ongoing development of quality marks and certification of sustainable fisheries will ensure that consumers increasingly buy and eat sustainable fish. As a result, they will also come to value fish as an important part of daily nutrition.

In order to make sustainable fisheries a reality, government action is required. Authorities can use regional and global agreements to help the fishing industry in organising itself in a sustainable manner and to prevent overfishing.





## 3.2 Agricultural entrepreneurship

Circular agriculture will feature a high level of diversity in agricultural businesses and partnerships. Some entrepreneurs may focus on food production for the local market and seek partners for this, while others may see opportunities for exporting to the global market and use their international contacts to achieve this; many entrepreneurs will combine both approaches. Some entrepreneurs will see upscaling their business as the solution, while others may see a multifunctional approach as the way forward. If circular agriculture is to succeed, it is important to look at the range of possible agricultural practices with an open mind. This will be a transition in which entrepreneurs are encouraged to share their knowledge and experience with each other.

We are already seeing more and more businesses in the food chain offering sustainable products or services, or making extra efforts in other ways to meet the demands of society. They produce with animal welfare or environmental standards that go beyond the regulatory requirements. However, due to market processes, they often do not receive cost-covering remuneration for their efforts.

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We are already seeing more and more businesses in the food chain offering sustainable products or services, or making extra efforts in other ways to meet the demands of society.

Special attention must be devoted to the continuity of businesses and the opportunities for young people to take over a business. The shift to circular agriculture requires, more than ever, a long-term perspective. Young entrepreneurs who are innovative and who will play a key role in realising the circular aspect should receive a reliable income, with sufficient space in their business operations to be able to invest in new processes. Entrepreneurs must be able to organise themselves more easily in existing or new partnerships or to join forces with market players who work with suitable contracts and private-law agreements.

The shift from lowest possible cost price to minimum possible use of raw materials will require banks to look at their financing role differently. In order to facilitate circular agriculture, their role as lender must fit this new situation seamlessly.

Farmers and growers will not be able to realise the new revenue models by themselves, nor are they the only parties that have an interest in this. It is up to the entire supply chain, the government and consumers to make this possible. The government recently sent a letter to the House of Representatives<sup>3</sup> about the actions needed to realise new revenue models. The new Common Agricultural Policy (CAP) can also be a powerful instrument for strengthening and accelerating the intended changes in the Netherlands. The government's input into the negotiations on the new CAP focus on rewarding public goods, including care for nature and management of natural resources. This is in line with its ambitions regarding circular agriculture.

## 3.3 Valuing food

Consumers also have a role to play in circular agriculture. It is important that they know that food production has a major impact on our living environment. This requires a shift in thinking, as until now the majority of consumers still choose low price and high convenience, whilst at the same time many people are making higher demands of their living environment and of the farmers and growers who work in it.

The publication of the joint agenda of the *Taskforce Circular Economy in Food* marks an important step in the fight against food waste. The aspiration to drastically reduce the amount of food that is wasted in the Netherlands, deserves to come to fruition. Too often still wonky fruit and vegetables are rejected by the supermarkets, even though there are no doubts about their nutritional value. We should put an end to food waste in the catering industry and by consumers. Food losses in production should also be reduced, and residues should be used as animal feed.

Although most people will continue to buy their food from supermarkets, it is still possible to enhance the profile of farmers and growers in the vicinity of a town or city. Buying from farmers and growers, at regional markets and from urban farms, can bring producers and consumers closer together and help people to appreciate food and the work of the farmer more. A wide range of initiatives in this area deserves support and cooperation from government authorities.

At the same time, there is a trend in the Netherlands towards organic and local produce. There is a growing appreciation for local products and for typically Dutch food. This is a welcome development. However, small-scale producers, who often work to promote sustainability and animal welfare and who are close to their customers, find themselves confronted with obstacles. For example, they are regularly faced with regulations that are based on large-scale production systems. This often makes it impossible for them to meet the costs and/or the administrative burden that go with these regulations. To remove these obstacles, the government will develop appropriate legislation and regulations to create

<sup>3</sup> Parliamentary Paper 28625 No. 257.

more leeway for production of small-scale, locally produced products. The basic principle is to consider specific circumstances in the production process without compromising food safety.

With its food policy the government commits itself to increasing sustainable food production and consumption. The letter to parliament<sup>4</sup> on this subject, for example, lists concrete initiatives to help make the healthy and sustainable choice the easy choice for consumers, and to bring farmers and citizens closer together.

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Consumers also have a role to play in circular agriculture. It is important that they know that food production has a major impact on our living environment.



<sup>4</sup> Parliamentary Paper 31 532 No. 193.

### 3.4 Innovative global player

The international dimension plays a major role in developing circular agriculture. Markets are international and circular systems can extend across national borders as well.

With regard to the import of raw materials from abroad, producers, consumers and civil society organisations have already drawn up sustainability criteria for the most sensitive products. In some cases, the Dutch industry has entered into covenants stating that it will exclusively use these certified sustainable, circularity-based products. Thanks to the strong Dutch position in these supply chains, we can exert an influence on the sustainability of cultivation in other parts of the world, and thus have a favourable leverage effect on international environmental and nature-related goals and on biodiversity. At the same time, we are continuing our efforts to process the waste flows associated with these imports in a circular manner. In this respect, raw materials do not differ from end products that are imported into our country and consumed in large quantities.

The Netherlands often plays a leading role within the EU. The government will therefore also actively contribute to revisions in European legislation that support the goals of this vision, such as the revision of the Common Agricultural Policy (CAP). Other examples are increasing the sustainability of pesticide use and the guidelines on unfair trading practices in the relationship between companies in the food chain. A clear transition in the Netherlands towards circular agriculture will increase the interest from other Member States in such a strategy.

The transition to circular agriculture will require and stimulate many innovations. This will give impetus to agri-innovation in the Netherlands, which in turn will benefit our position on the global market. In the Netherlands there is close collaboration between scientific and practical research and positive experience with applying new knowledge in the business sector. This means that innovations quickly find their way to market, both in the Netherlands and abroad. The collaboration between public and private parties is shaped to a great extent in the Dutch Top Sectors policy.

The people who will be implementing the transition to circular agriculture – the farmers, growers and other professionals in the agricultural sector – are already actively working in the agricultural sector or are being trained now and in the near future. Education will play an important role for this latter group. The Ministry of Agriculture, Nature and Food Quality will align its efforts in the areas of innovation, training and knowledge dissemination with the process of change towards circular agriculture.

The goal of the Dutch government is to utilise the strengths of the Netherlands to banish hunger from the world in one generation and to establish a healthy basis for feeding nine billion people in a sustainable manner by 2050. The focus lies on supporting people who

are vulnerable to malnutrition, on strengthening economic perspectives for farmers and rural entrepreneurs and on making food systems more sustainable.

Circular agriculture will be an important strategy for achieving this goal. Hundreds of millions of small-scale farmers are faced with low productivity and insufficient market opportunities. Making agriculture climate-resistant is essential for many developing countries. Local production systems get the most out of the limited resources available, whereby cycles may indeed be highly efficient, but also so extensive that productivity is too low to run an economically viable business operation. The challenge lies in intensifying these cycles in a sustainable manner, instead of applying linear industrial production systems with too many auxiliary goods and reorganisation of the land at the expense of nature. The knowledge that the Netherlands acquires in circular agriculture can help developing countries to improve their arable and livestock farming. Furthermore, the Netherlands can bring its expertise and innovations to help tackle specific problems such as salinisation, drought and erosion.

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# 4. FROM VISION TO IMPLEMENTATION



The vision outlined in this memorandum is the result of conversations with many stakeholders. Circular agriculture was also a central theme at the “climate platform” (*Klimaattafel*) on agriculture and land use. On the basis of these discussions, the government is confident that there is a solid basis for circular agriculture in the sector and in society as a whole.

The government relies on society’s capacity to make the transition to circular agriculture. It invites everyone in the business community, civil society organisations and other governments to get involved, to contribute ideas and to take initiatives.

The Dutch government also has a role to play. It will stand alongside the farmers, growers and fishermen. It will be proactive and will facilitate where necessary. It will take the lead when needed, but in many situations it will be up to the various stakeholders to do this themselves. If the transition stagnates or moves too slowly, the government will apply legislation and regulations on the basis of its public responsibility.

In the coming years, it will be important to focus the actions of government, entrepreneurs and civil society organisations towards measurable goals and results. On this basis, entrepreneurs can invest in sustainable revenue models and coalitions can be formed, making the Netherlands a leader in circular agriculture by 2030. The first step is for the government and stakeholders in society to make agreements in mid-2019 about the results that need to be achieved in the coming years, how these will be measured and what effort this requires from each party. For certain tasks, agreements at sectoral level will provide the appropriate scale. The government will, as it did in developing this vision, once again actively liaise with stakeholders in order to jointly concretise the goals and to make agreements about the ways in which these goals will be achieved.

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The government relies on society’s capacity to make the transition to circular agriculture.

Most agreements will build on the many already existing initiatives. The final blueprint will expressly not be a single all-embracing document that includes all themes and domains. The intention is to make agreements that supplement existing sustainability plans and previously made agreements, such as sectoral and regional implementation and action programmes. When doing so, we will need to take into account the diversity of producers: from pioneers to those who are unable or unwilling to make the desired changes, from existing businesses to newcomers and from young to old.

Improved legislation and regulations, knowledge and innovation and financial instruments will be assessed in relation to the agreed goals and in terms of consistency, and will be adjusted where necessary. Currently, regulations often get in the way of innovations. The aim must be to manage in line with goals and to offer as much freedom as possible as to how these goals are achieved.

The government invites everyone in the business community, civil society organisations and other governments to get involved, to contribute ideas and to take initiatives.



## 4.1 Vision as benchmark

This vision is not a blueprint, but it is not without obligation either. It applies to national government policy, and the government wishes it to function as a benchmark that will also help other decision-makers make their own choices.

In summary, according to what factors can policy intentions, plans, proposals and the like be assessed?

1. do they help to close cycles, to reduce emissions and to reduce biomass wastage throughout the food system?
2. with regard to fisheries, do they contribute to sustainable fish stock management without damaging the natural environment?
3. do they strengthen the socio-economic position of the farmer in the supply chain?
4. do they contribute to the climate task for agriculture and land use?
5. do they enhance the appeal and vitality of the countryside and contribute to a thriving regional economy?
6. do they benefit ecosystems (water, soil, air), biodiversity and the natural value of the farming landscape?
7. has animal welfare been considered?
8. do they contribute to the recognition of the value of food and to strengthening the relationship between farmers and citizens?
9. do they strengthen the position of the Netherlands as a developer and exporter of integrated solutions for climate-smart and ecologically sustainable food systems?

In addition to these assessment criteria, food safety and quality are always applied as baseline conditions.



## 4.2 Trust, accountability and respect

The key to success lies in creating links between all parties who play a role in the transition to circular agriculture. The government is certainly not the only party that will determine the outcome. These links will come about if we, motivated by trust in and respect for each other, make ourselves accountable for our actions. We need to create space for the ambitions and strengths of farmers, growers, fishermen and their organisations, for other parties in the market and for students, lecturers and researchers. In this way, the future can be shaped and supported by society as a whole.

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The key to success lies in creating links between all parties who play a role in the transition to circular agriculture.



Photography: Olivier Middendorp | Fisherman: Biem van der Vis | Farmer: Anja van Beek



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