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Scaling regenerative agriculture in the Netherlands

Point of view 2024



Introduction

- Pressure on environmental boundaries affects the productivity of agricultural systems, which has negative consequences for food security and prices. This downward spiral highlights the growing importance of **reshaping our** food systems.
- As opposed to intensive farming and its related challenges, regenerative agriculture helps meet society's changing needs with regards to limiting impact on the planet and people.
- In this point of view, we aim to address: .
 - What is regenerative agriculture, and what are its benefits and risks – specifically for the Netherlands (NL)?
 - What are the opportunities and challenges for food-agri _ players in scaling regenerative agriculture in NL? How can they collaborate?

- This document forms a **starting point** for conversations • around regenerative agriculture, and is open for iteration.
- We base this research on the North-Western European • context, and believe we need to create a food system where we apply the most relevant means of food production specific to this local context.
- Together, we can **specify opportunities** for value creation and . capture, to make **better strategic choices** for your business.



Ouestions? Contact Tina Scheele (TiScheele@deloitte.nl) or Arthur de Wilde (AdeWilde@deloitte.nl).





Executive summary

Pressure is rising; change is needed

quality, biodiversity loss pressures on supply

and climate change **aggravates**

and vast amounts of freshwater usage in NL.



The transition **needs to be enabled** by the entire value chain

is falling behind compared to global regenerative initiatives are willing, but lack perspective on how to

agcuire **capital**, **new** models and commercial knowledge

Each player in the **value** Farmers have various chain has distinctive financing options to agriculture, we need to **roles** and **opportunities** find investment and



Solutions are readily available

reduce GHG emissions (-38%),



in the Netherlands creating opportunities for all involved

Failing to invest in poses numerous **risks** for value chain parties

polarize competitor models in winners and losers.

Deloitte can help you We do so through our to **assess** the **threat**, proven **regenerative** strategize, create new agriculture framework business models.

Economics of regenerative practices can outperform conventional

Economic benefits of

additional support

Economic benefits could period can take **8+ years**

show in **4 years** and payback

Our Current Food System

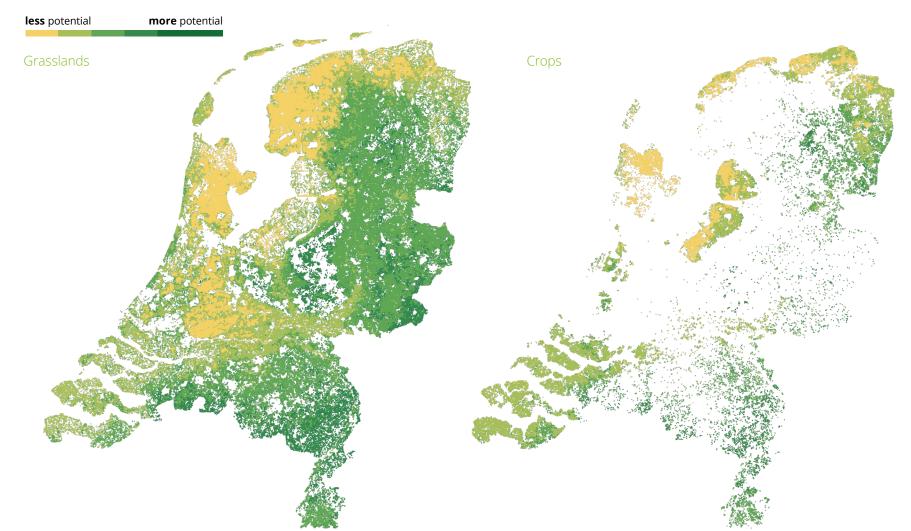
The amount of food we produce and the way in which we do so is under pressure.

Analyzing indicators of regenerative agriculture potential (soil type, organic matter, bulk density, nitrogen deposition, Soil PH), we pinpoint the biggest opportunity in the eastern and southern regions of the Netherlands.

This is where we suggest to start with the transition to regenerative practices.

Netherlands potential for Regenerative Agriculture

Netherlands potential

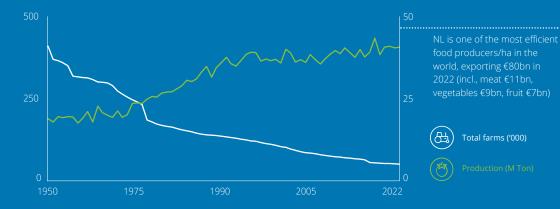


Our current food system

The Netherlands – a production powerhouse, exporting €80bn¹ of agricultural produce annually – has intensified its agricultural practices over the years, leading to a decline in soil quality and biodiversity.

Effect of intensification on NL soil quality

Intensification of Dutch agriculture over time



Domestic exports, excluding re-exports;

(2) Source: NRC (November 2023) 'Rapport: Europees beleid voor bodemverbetering faalt op alle fronten'; (3) Soil organic matter (i.e., organic material from plants, animals and microorganisms) is an important indicator of soil quality, as soil organic matter significantly improves the soil's capacity to store and supply essential nutrients, reduces soil erosion, improves water infiltration and water holding capacity, and increases the capacity to capture carbon in the soil; (4) Increasing soil organic matter in the soil is a natural way of capturing carbon in the soil, thereby lowering CO2 emissions. Source: CBS, RUI (Raad voor leefomgeving en infrastructury), Ecochain, EIP-AGRI, WUR, NRC, USDA.



Reduced soil fertility

- 10% reduction in yield occurs as a result of subsoil compaction caused by the use of heavy machinery
- 21.4% of forest and 18.5% of natural soils have poor or moderate acidity
- The Netherlands ranks highest in Europe for soil pollution caused by fertilizers.

Reduced water quality and storage

- 33% of forest and 37% of natural soils are strongly or moderately dried out
- The Netherlands has the poorest water quality among all EU member states. With only 1% of Dutch waters classified as 'good' according to the European Water Framework Directive (WFD) assessment in 2019

Reduced ability to store CO2

- Grasslands and wetlands emitted
 2.5% and 9.1% more GHG, respectively, in 2017 than in 2016
- The various fractions in organic matter are significantly reduced in agricultural and forest soils³; restoration is necessary for food production and CO₂ sequestration⁴

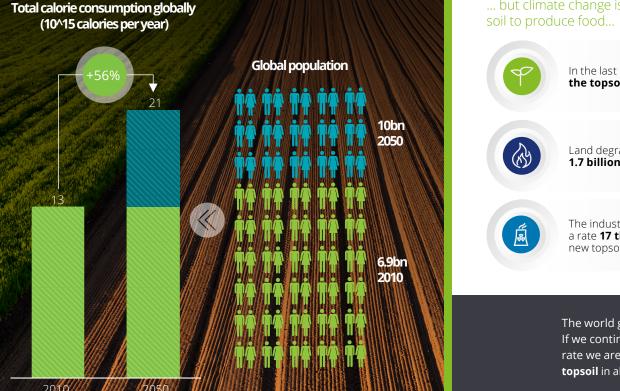
Reduced nutrients

• Fruits and vegetables used to be much richer in vitamins and minerals (e.g., 1950s broccoli had 130mg of calcium, versus 48mg today)

Biodiversity loss

- 46 out of 52 protected ecosystems are in moderate to poor condition
- On average, characteristic animal species decreased by 50% in agricultural and open natural areas

We will need 56% more food to feed nearly 10bn people globally in 2050...



Our current food system

Food demand is projected to rise through 2050, while climate change is intensifying pressures on food supply, resulting in negative outcomes for food security and food prices.

... but climate change is pressing on the ability of our soil to produce food...

In the last 100 years we **lost 1/3 of the topsoil** ground worldwide.

Land degradation currently affects **1.7 billion hectares** of land

The industrialised countries **lose soil** at a rate **17 times** higher than it takes to generate new topsoil ... as well as on the availability and quality of fresh water



70% of freshwater globally is used for agriculture (2,000-5,000 litres of water to produce a person's daily food)



Over the past 20 years, terrestrial water storage has dropped at a rate of **1cm per year**



Increased temperatures and more frequent floods and droughts due to climate change **deteriorate water guality**

The world grows **95%** of its **food on topsoil**. If we continue to degrade the soil at the rate we are now, the world **could run out of topsoil** in about **60 years**. Agriculture is the largest **user of freshwater** worldwide, but the long-term availability of water is of growing concern due to **increased food demand** and **climate change**.

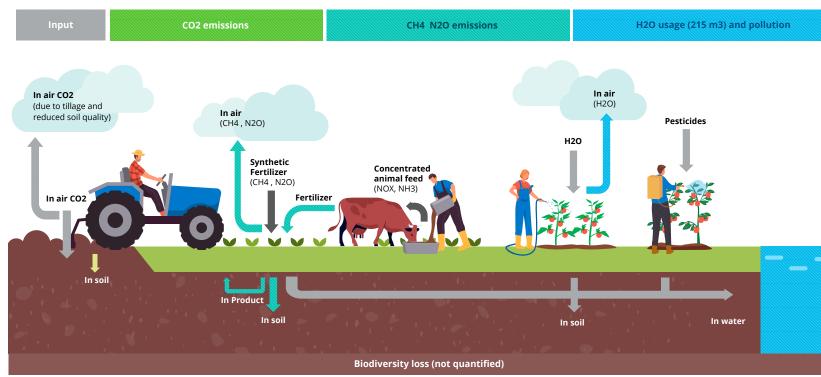
Note: Calorie consumption is expected to grow faster than global population (percentage-wise) from 2010-2050, since expected growth of income per capita would result in growing calorie consumption per capitaSource: FAO, Swiss Environment Technology AG, UN, IPCC

Scaling regenerative agriculture in the Netherlands

Our current food system

The Dutch agriculture sector annually accounts for 28 Mton CO2-equivalent GHG emissions, water usage (215M m3) and pollution. Mainly due to natural fermentation by livestock, use of synthetic fertilizers, land-use changes and use of fossil fuels.

Environmental impact of agri-food sector in the Netherlands (2021)



Source: CBS; Note: (1) scope 1 and 2 emissions; (2) In total, agriculture in the Netherlands in 2021 had a GHG footprint of 28 Mton, 9 Mton for natural gas use, 9 Mton for fermentation by livestock, 3 Mton for manure, 4 Mton for stables and manure storage, 1 Mton for vehicles, and 2 Mton for others.



There are readily available solutions to tackle the growing problems and turn the tide.



The transition to regenerative agriculture can provide a solution to food supply & demand, soil quality, nutrient reduction, biodiversity loss and GHG emission challenges.

Key principles



Soil health as entry point for ecological, economic and social benefits

Integrate nature and agriculture with focus on circular economy and biodiversity conservation



No solution fits all, implementation is dependent on unique farm conditions (nature and location)

Soil dynamics should

on earth

be treated as one of the

most **complex systems**

Key benefits





Increased capacity to capture and retain water, improving water quality



Increased capacity to **capture and** sequester carbon



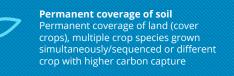


Improved **resilience** to extreme climate, and **stable yields**



Regenerative agriculture encompasses a variety of practices aimed at restoring and enhancing the health of agricultural ecosystems. Some key regenerative agriculture practices include permanent soil coverage, planned grazing, reduced tillage and reduced chemical use.

Highlighted regenerative farming practices¹





Planned grazing Managed grazing practices for livestock, to restore grasslands, prevent overgrazing, and enhance soil fertility.

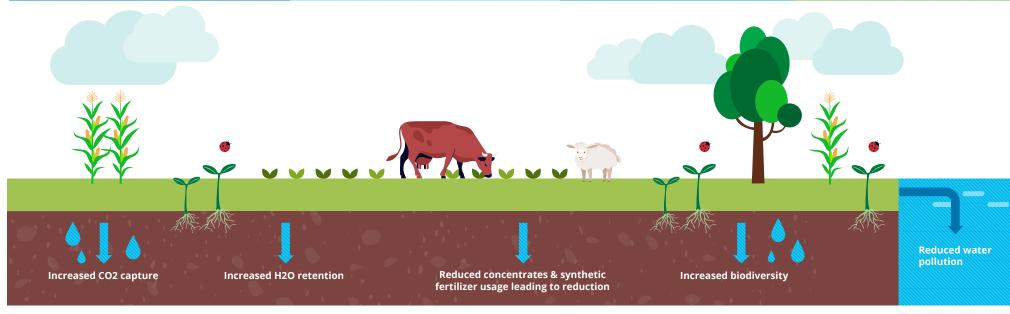


Reduced tillage Direct seeding and/or minimal mechanical soil disturbance through non-turning soil cultivation



Reduced chemical usage

Minimization or elimination of biocidal chemicals. Using naturally derived chemical alternatives where necessary



Source: (1) Regenerative practices shown here are not exhaustive; other practices include agroforestry (integration of trees and crops on the same land), diversified crop rotation, and composting; Source: Rodale institute; Expert interviews

There is no universal definition for regenerative agriculture. This case study focuses on regenerative agriculture practices, which include reduced tillage, permanent soil cover, agroforestry, reduced chemical usage, and planned grazing.

Regenerative agriculture practices

P	Cropland	d	E	Grasslan	d
Agr	roforestry	Integration of trees and shrubs into the cropland, to increase biodiversity and reduce water evaporation		Agroforestry	Integration of trees and shrubs into the grassland, to increase biodiversity and reduce water evaporation
رکم کرچک Cor	mposting	Collecting and recycling organic matter, such as leaves and food scraps, and using the compost as fertiliser	(\varnothing)	Inter-seeding	Planting of other grasses, vegetables and herbs on the grassland, leading to reduced food concentrates usage
	estock egration	Integrating livestock with selected crops, allowing cattle to graze on cropland to fertilise and prevent pests		Planned grazing	Farmers decide where and for how long the animals
Rec	duced tillage	Direct seeding and/or minimal mechanical soil disturbance through non-turning soil cultivation		Reduced	graze a particular patch of land Minimisation or elimination of biocidal chemicals, using
কিই । ি	rmanent /erage of soil	Permanent coverage of land (cover crops) – multiple crop species grown simultaneously, or temporal sequences		chemical usage	naturally derived chemical alternatives where necessary
- X 1	duced emical usage	Minimisation or elimination of biocidal chemicals, using naturally derived chemical alternatives where necessary			
	versified crop	Growing different crops in succession on a piece of land, to avoid exhausting the soil		Included in our 'Case for Regenerative Agriculture'	Fundamental as prerequisite Not included in our for other practices case study
Inte	ercropping	Growing different crops simultaneously on the same piece of land, either in strips or side by side			

Source: Rodale institute; NRDC; USDA; BCG and NABU; Expert interviews

In Northwest Europe, the selected regenerative agriculture practices can reduce GHG emissions significantly (-38%) while also limiting water use (-3%), (nitrate) decrease pollution costs (-70%), and reverse biodiversity loss.

						1 Silver	1 general
nvironmental be	enefits overview					Impact (-%)	per hectare (-%)
						Grassland	Cropland
	 Reduced tilling lowers soil decomposition, which improves carbon stock when combined with practices that increase belowground biomass, such as cover cropping and crop rotations 						
GHG (CO ₂ eq)	 Reduced tilling increases nitrogen fixation through legumes, which are a renewable source of nitrogen, reducing the need for nitrogen inputs (fertiliser) 					~40%4	~40%
	Cover crop roots capture nitrogen that would otherwise leach out into soil						
	• Reduced livestock concentrates needed, due to more varied diet from enriched grasslands ¹					~20%	N/A
Ammonia (NH₃)	• Less (synthetic) fertiliser is needed as healthy soil will subtract nitrogen on its own ²					N/A	~10%
Use	 Increased organic matter improves the soil's water-holding capacity; tillage disrupts transport pathways, and reduces both infiltration and water-holding capacity³ 					~20%	<5%
Water Pollution	• Reduced use of fertilisers and pesticides (facilitated by the other regenerative agriculture practices) results in less pollution of ground water					~20%	~80%
	 Reduced use of pesticides prevents degradation of biodiversity 						
Biodiversity loss	• Intercropping and cover cropping promote biodiversity that benefits biological pest control and pollination						
	 Reduced tillage increases organic matter in the soil, increasing below-ground biodiversity 	-	-	-	-	Not quantified	

 A changed diet of more silage maize and concentrated food with 10% less protein has no negative effect on milk production and health of cows (Chowdhury et al. (2023) "Feeding lower-protein diets (...) improves nitrogen use efficiency in dairy cows");
 Assumed this only impacts cropland;
 Estimate based on average 3% increase in water-holding capacity; 4) This figure considers reduction in GHG emissions from the soil only (not considering livestock GHG emissions) – when incorporating emissions from cows on grassland, the GHG reduction accounts for 9% of total GHG emissions. Sources: World Resource Institute "Regenerative agriculture: Good for Soil Health, but Limited Potential to Mitigate Climate Change", KE Giller et al, 2021, "Regenerative agriculture: An agronomic perspective", BCG and NABU (2023) "The Case for Regenerative agriculture in Germany – and beyond", UNFCCC, De Groene Amsterdammer, CBS, WUR

NB: the figures for GHG, water use & pollution, and biodiversity loss are based on data from Germany. However, data is validated for the Dutch context, and appears to be coherent at first sight.

For the Netherlands specifically, a 100% transition to regenerative agriculture could potentially achieve up to 40% of our NL GHG emission goals in agriculture, whilst improving soil health water quality and biodiveristy at both crop and dairy farms.

Impact ba on full swi	sed	Impact NL	Climate ambition Netherlands			
to regenerative		(yearly)	NL ambition	% reached with regenerative agriculture		
GHG (CO ₂ eq)		- 3-4 Mton	• 55% reduction compared to 1990 levels in 2030 (228 Mt to 100 Mt)	• 4% of ambition (compared to 1990), 8% of total reduction emissions target		
		- 5-4 Miton	• For the agriculture sector, reduction of 9 Mt of GHG by 2030	 ~30-40% of ambition of agriculture target 		
Ammonia	(NH₃)	- 22 kton	• 39 kton reduction by 2030	• 55% of ambition		
	Use	- 16m m³	• N/A	• N/A		
Water	Pollution	EUR 200M	 Reduce nutrients and pesticides by 50% by 2023 compared to 2013 in water in agricultural areas 	• >100% of ambition		
Biodiversi	ty loss	Decreased	• N/A	• N/A		

NB: the figures for GHG, water usage & pollution, and biodiversity loss are based on data from Germany. However, data is validated for the Dutch context, and appears to be coherent at first sight.

Note: Mton = megaton; (1) Currently, the total GHG emissions in the Netherlands is 152 Mt, so the estimated impact of -4.4 Mt would be ~8% of the total reduction required to achieve the 2030 ambition of 100 Mt.Source: Rijksoverheid (Klimaatakkoord 2022), WUR, CBS, RIVM, BCG and NABU

The reality of farmer economics of moving to regenerative practices.

Economic benefits of regenerative farming could incentivise farmers. The benefits for crop farmers include avoided yield loss, additional income from carbon credits, and reduced fertiliser and crop-protection costs.

					Cereal and oil see
		Yield	 Avoided yield loss during droughts, and yield uplift due to higher water retention, less evaporation and recovered groundwater⁴ 		+34%
	Revenues	Price	Excluding impact of potential price premium due to improved quality of produce		
		Other	• Carbon credit income due to improved soil carbon capture ³		+17%
F		• Synthetic fer	rtiliser and crop-protection reduction due to fixed nitrogen in soil and better soil quality		+75%
Farmer profits	lnput costs	Additional se	eed cost for cover cropping (e.g., legumes and herbs) and undersown cropping		-22%
		• Additional bi	iofertiliser cost dependent on availability of manure and biomass within farm system		-27%
		Reduced tilla	age and seed preparation decrease machine costs and fuel consumption ⁴		+35%

(1) Figures based on analysis done on German farming conditions and including implementation of better soil structure, cover cropping, soil nutrient balancing, undersown cropping, minimal soil-disturbing mulch system and biofertilizer,

(2) Based on analysis of winter wheat 50%, barley 30%, rapeseed 20%;

(3) Diminishing returns over time expected; assumed net profit of 38 €/ha until 2035; and excluding potential income from nitrogen reduction;

(4) Asset depreciation not considered, assumption based on machinery lease; Sources: KTBL calculator; FAO (Advances in Conservation Agriculture; Volume 2); 2030 Carbon certificate consensus range; Bloomberg; Princeton; World Bank Group; CDP; Seed producer price average; Bavarian ministry of agriculture Contribution margin calculator; agrarheute.com; Chiemgau-agrar.de; The Case for Regenerative Agriculture in Germany and Beyond – BCG and NABU NB: this impact is based on data from Germany, which is assumed to be similar across North-West Europe.

There is a chance that the impact is less in the Netherlands compared to Germany, due to the richness of NL soil and greater water availability.

For cereal crop farmers, regenerative practices could outperform conventional methods by ~€250/ha after 6–10 years. For dairy farmers, lower yields will result in lower profits, if current ways remain unchanged.

Farmer profit conventional and regenerative (in €/ha, (6–10 years), excl. income from subsidies and price impact)¹

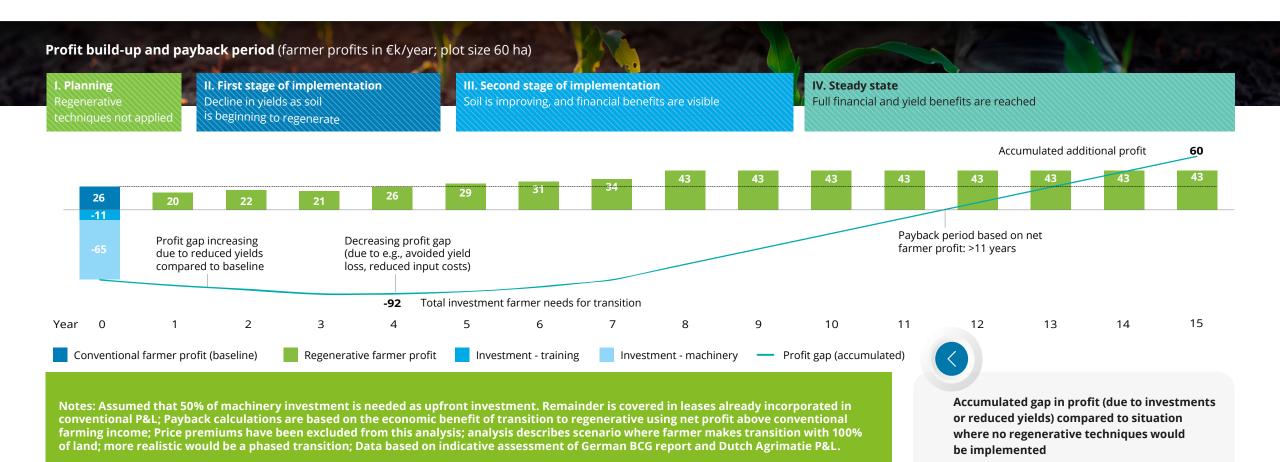


(1) Figures based on analysis of German farming conditions, applicability to Dutch farming conditions (resource and nutrient requirements) to be validated at a later stage; (2) Income from normal operations, based on five-year avg. baseline '18–22, excluding crop rotation;

(2) Income from normal operations, based on five year avg. baseline 13 (3) Based on analysis of winter wheat 50%, barley 30%, rapeseed 20%;

(4) Calculated as avoided loss in a drought year due to improved resistance of soil, excluding (negative) effect of intercropping; (5) Average income from normal business operations dairy farms of 100–250, 250–500 and >500 cows; '15–'19; Sources: Wageningen economic research, The Case for Regenerative agriculture; Deloitte analysis, De Natuurverdubbelaars

However, the benefits of regenerative farming take time to materialise, with an expected payback period of >11 years for an average Dutch crop farmer's initial investment.



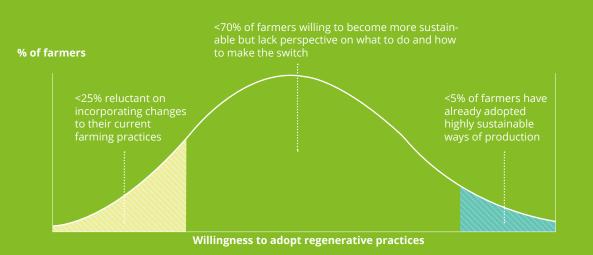
The move to regenerative agriculture

Despite the expected benefits, accelerating change is challenging.

The move to regenerative agriculture

Some farmers have already made the step towards regenerative agriculture. Many others are willing, but lack perspective on how to make the switch.

Willingness to adopt regenerative practices by Dutch farmers





Sources: Eurostat, WUR (2023) 'Melkveehouders over verduurzaming in de melkveehouderij'

The move to regenerative agriculture

To scale regenerative agriculture, capital, increased awareness and knowledge, and a viable commercialisation pathway are needed.

Prerequisites for transition to regenerative agriculture



Financing the transition

- Farmers need to find necessary upfront investment capital and transition capital to transition to regenerative farming (yield in the early years might be lower than normal)
- Financial institutions to engage in **longer-running loans** for farmers
- Insurance companies to play a role in **insuring against yield loss** in transition years
- Government to supply subsidies for granted ecosystem services
- Viability for grassland dependent on **price premiums** or **government subsidies**



Farmer enablement

- Improved willingness by farmers to embrace new practices, through increased knowledge of benefits and cultural change
- **Improved awareness** regarding the environmental impact of food products of consumers
- **Build-up of specific knowledge** about unique situations of different farms, products and local contexts, enabling effective implementation
- Ecosystem of regenerative agriculture input providers (e.g., equipment, seed, biofertilisers, monitoring)



Viable commercial model

- Processors and producers to engage in long-term farmer contracting, to provide volume stability
- Public and private entities to collaborate on **lower accreditation cost** for **regenerative organic certified** products
- Business models in which a premium is captured for regenerative products
- Valorise **carbon sequestration** through carbon credits
- Develop standardised definition and transparency on regenerative agriculture in NL and beyond
- Certification of regenerative agriculture standard products

Key influencing stakeholders:		
Companies	Companies	Companies
Government	Government	Government
Researchers	Researchers	Researchers
	학과, 그는 것,	이 가슴이 지하면 가슴을 다 못하는 것 같아요. 이 것을 가지 않는 것 같아요. 것은 것 같아요. 이 가슴 가슴이 있는 것 같아요. 이 가슴 감소 있는 것

Opportunities in regenerative agriculture

Each ecosystem player has distinct opportunities and roles, to support – and benefit from – the transition.



Financing options for the move to regenerative agriculture

Fortunately, farmers have various financing options to fund upfront investment and provide capital to transition to regenerative agriculture; however, the scale of these specified offerings is still too limited.



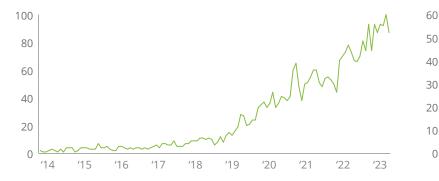
Scaling regenerative agriculture in the Netherlands

The move to regenerative agriculture

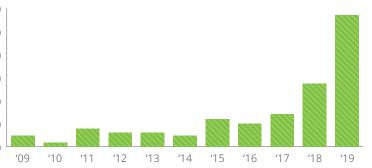
New insights and initiatives are arising, as regenerative agriculture has recently received considerable attention across the food value chain. There is urgency to act now; NL is falling behind the EU and global movement.

Public, research and institutional attention has grown over time

Public searches of "regenerative agriculture"¹



Scientific publications using term RA



NL investments

The **Dutch government** announced its intention to **invest** €129 million in Re-Ge-NL.

This is a programme with **strong focus** on research and **regenerative practices.**

Currently, coordinated initiatives from the **food value chain are lacking.**

Dutch farmers

At this moment in NL, **only a small number of crop farmers are practising regenerative agriculture at scale.**

They are doing so through a **diversified revenue model,** capturing a premium on products, running educational programmes and supplying to surrounding markets.

(1) Numbers represent interest relative to the highest point on the chart where a value of 100 is the peak popularity and a value of 50 means the term is half as popular; Sources: Google Trends; Newton et al. (2020), Sources: metnatuurmee, WUR

Launched regulatory initiatives and measures



EU **Farm to Fork strategy** (2020) aims to reduce **use of pesticides** (50%) and **fertilizer** (20%).



The 'Quatre promille' initiative aims to demonstrate that agriculture, and in particular agricultural soils, can play a crucial role in food security and climate change.



Common Agricultural Policy (CAP): Under CAP, there are **funding opportunities** and **incentives** for farmers to adopt sustainable and regenerative agriculture practices.

Opportunities and risks

How we can scale regenerative agriculture together.

Risk of doing nothing

Failing to invest in regenerative agriculture poses numerous risks for value chain parties; not being able to comply with lowering scope 3 emissions, losing market competitiveness, and decline in long-term viability.

Financial institutions

• Lost **business**, with farmers switching to other providers

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- Missing out on **sustainability benefits** of transitioned customer base/farmers
- Missed **learning opportunity** and **ability to scale** (sustainability financing, carbon banking) when applied to other segments
- Not meeting evolving investor/ stakeholder expectations on social responsibility
- Lower impact on long-term viability, as environmental impact becomes more prominent

Reduced demand for traditional products & services, losing competitive market share and position:

Input providers

• **Fertilisers:** Decrease/ban of synthetic fertilisers

- Feed producers: decrease in synthetic ingredients, circular feed models, lower concentrated feed intake
- **Pesticides:** Strong decrease in synthetic pesticides
- Seed: Changing needs (farmers apply seed saving; different crop portfolio, 'sustainable' seeds)
- Agri machinery: low demand for traditional machinery on fields
- Missed revenue opportunity in growing
 market for sustainable agricultural inputs
- Falling behind in innovation, leading to **risking market relevance**

- Losing **competitive differentiation**, and potential **market share loss**
- Negative impact on sourcing and supplier relationships

Processors / FMCG

- Risk of supply chain disruptions and higher input costs/lower yields
- Losing progressive farmer base
- Failure to meet growing market segment potentially missing out on sales and revenue
- Missed revenue opportunity in growing market for sustainable sourced products
- Not being able to meet regulatory challenges and compliance issues (Scope 3 emissions)
- Lower **impact on long-term viability,** as environmental impact becomes more prominent

• Losing competitive differentiation, and potential market share loss

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Retailers / Distributors

- Negative impact on sourcing and supplier relationships
- Risk of supply chain disruptions and higher input costs/lower yields
- Missed revenue opportunity due to not meeting consumer preferences/ growing market segment
- Exposure to regulatory challenges and compliance issues (Scope 3 emissions)
- Lower **impact on long-term viability,** as environmental impact becomes more prominent

Opportunities within regenerative agriculture

Investing in regenerative agriculture will eventually polarize competitor models into winners and losers. Winners will start the transition now to secure their farmer base and establish commercial product differentiation.

Financial institutions



• Develop new, viable farmer loan products or financial packages to provide shortterm financial support for transitioning

- Set-up new business models with new revenue streams:
 - **Financial consulting and advisory** services to guide farmers in the transition (financial and risk mitigation)
 - Insurance products to address transition risk and changes
 - Carbon credit / biodiversity financing (verification and issuance)
 - Education resources and training
 - Partner up with AgriTech to jointly develop propositions (Financial funding models of machinery etc)
 - Green Financing programs to incentivize and attract conscious farmers

- Opportunity to innovate, differentiate and extend products/ services portfolio:
 - Fertilizers: organic fertilizers (e.g., from biogas installations, 'personalized' fertilizers)

Input providers

- Feed producers: regeneratively-grown and circular feed ingredients, focus on nutrients with potential shortages Pesticides: Organic pesticides/herbacides, enabling farmers to locally 'brew'
- **Seed:** preference for heirloom, open-pollination and GMO-free seeds, different plant mix (cover crop/intercrop)
- Agrimachinery: new types of machines (low-tillage, smaller tyres, different harvesting) and new leasing models
- Services: farmer education, soil and biodiversity measuring, CO2 tokenization / monetization / certification
- Develop new business models with new revenue streams (e.g., farm data management, advisory, circularity)
- Take a **orchestrating role** in the chain, connecting up & down stream players
- Start farmer transition now to lock in regenerative farmer base

• Start farmer transition now to **lock in** regenerative farmer base

Processors / FMCG

- Forge exclusive sourcing agreements by partnering with farmers, gaining a competitive advantage
- Secure a consistent supply of produce, mitigate disruptions
- Achieve cost savings and potential reductions in input costs over time, enhancing profit margins
- Explore opportunities for **commercial product differentiation** with the potential for price premiums
- Build strong brand reputation and foster customer loyalty within specific customer segments
- Monetize farmer education and service to third parties

Distributors

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Retailers /

- Start farmer transition now to **lock in** regenerative farmer base
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How Deloitte can support your company

Our experts are keen to help your company define and enact on your Regenerative Agriculture response.

Assessing the threat of Regenerative Agriculture on your business

Clarity on where Regenerative Agriculture will threaten your business in the future is a pre—requisite to act. Deloitte can help your company to *assess and quantify the threats,* e.g. through reduced market demand for existing products, missing product differentiation, challenges on continuity of input supplies and regulatory pressures (scope 3, biodiversity, water etc.))2 Formulating a Regenerative Agriculture Framework

The different parts of your company need to be rallied behind the ambition of Regenerative Agriculture, the major levers and staging thereof as well as funding requirements and internal roles and responsibilities. Deloitte can take your company along our *holistic Regenerative Agriculture framework* to develop a plan and spur implementation, combining our Regenerative Agriculture expertise with your company specific circumstances.)3 Developing new growth models

Regenerative Agriculture opens new opportunities for companies to profit from in a still mostly unexplored terrain. Based on deep *sector expertise and innovation capabilities,* Deloitte can help translate regenerative agriculture trends into differentiating *value propositions and* fundamentally *new business models.* O4 Building Ecosystem

The agricultural transition required is too massive to achieve by a single company. Ecosystem collaborations across the value chain will be vital to accelerate the transition. Deloitte's existing *ecosystems in agriculture/food,* its deep *relationship with many players in the agriculture/food industry* and its *AgTech start-up platforms* enable Deloitte to quickly develop your ecosystem needs with you and connect your company to the right parties.

How Deloitte can support your company

Our proven Regenerative Agriculture framework helps companies to make major choices on the journey to Regenerative Agriculture.

What are our aspirations?

Where to play?





Vision and ambition

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- Define company's contribution towards scaling regenerative agriculture in the value chain
- Express environmental, financial, and socioeconomic objectives of regenerative agriculture efforts
- Align regenerative agriculture ambition with wider ambitions of the organization

Prioritized raw materials & regions

- Identify potential impact of regenerative agriculture efforts for different raw material-region combinations
- Prioritize raw material—region combinations based on potential impact and ease of implementation (e.g., economics, control of

KPIs

value chain etc.)

- Set the crops, raw materials in focus for regen ag
- Set detailed target variables (e.g. water reduction, soil health)
- Determine quantified targets are based on opportunity potential per ingredient region combination

Methodology, Tools & enablement

- Choose sustainable farming methods to implement innovative best practices and methods to secure a regenerative system
- Develop plans for farm construction, crop rotation, bio alternative products, fertilization and crop monitoring
- Set up supporting tooling & ensure farmer enablement
- Develop plans for farmer information, education and support

Financial model

- Set needed financing options
- Select pay strategy (performance/ results/hybrid)

Commercial model

- Detail out commercial model (across the value chain)
- Insets and offsets
- Customer value proposition and communication
- Identify and solve for blockers

Monitoring

- Establish monitoring tactics (e.g. self-report or sensors)
- Build data infrastructure & monitoring dashboard
- Decide on monitoring protocol (vCS, RothC etc.)

Ecosystem approach

- Align internal ecosystem, engaging with departments from operations to communications
- Ensure alignment of wider ecosystem / value chain players to ensure sustainable impact
- Formalize agreements

Governance

- Implement governance mechanism and framework to enable agile and effective program management
- Follow-through feedback loop to adapt farmer practices

Get in Touch

With our experience and expertise, we are committed to helping you navigate the future with confidence.

To navigate the future with confidence, organisations need to make and act on the right choices: clear, timely and inspirational choices that deliver growth in a dynamic, disrupted world. Our global capability in sustainable food systems, and especially our Regenerative Agriculture research and client work allows you to tap into a global network of Food & Agri experts to accelerate your journey with deep industry insights. Our partnerships with world class institutions and ecosystems across the food chain allow us to quickly identify systemic and science-backed solutions to your regenerative agriculture journey. And we offer a differentiating breadth of services has enabled us to support our clients on a full array of topics on their Regenerative Agriculture journey, from strategizing to implementation. Through commercial models, farmer enablement, monitoring and reporting to financing via carbon markets



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