SLM Partners Impact Report 2020

SLM

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1. EXECUTIVE SUMMARY

For over a decade, SLM Partners has pioneered investments in ecological farming and forestry systems. We oversee 465,232 hectares of land and manage US$210 million in assets across three continents. All our strategies seek to deliver market-rate financial returns by investing in real assets, while generating positive impacts on soil health, water, biodiversity and carbon storage, and building resilience to climate change and other risks.

SLM Partners integrates impact into the core of its investment strategies, from design to implementation. Our mission is to scale up ecological and regenerative land management approaches that are proven but not yet mainstream. We believe that we can only achieve truly sustainable financial returns if we are enhancing natural capital.

Our approach to impact measurement is rooted in the realities of the farms and forests that we invest in. We collect property-level data on outcomes that are specific to each strategy and apply third-party certifications where relevant. We then aggregate and present this data through globally-accepted impact reporting frameworks and metrics, such as the Global Impact Investing Network's IRIS+ and the UN Sustainable Development Goals. We align our work with relevant regulatory and financial sector initiatives that are increasingly bringing focus to sustainability risks and impact claims.

Through our investments, we seek to achieve impact across five major themes:

- Soils: reversing land degradation and building healthy soils
- Biodiversity: improving species diversity on farms and in forests
- Water: increasing water use efficiency and reducing pollution of waterways
- Climate: turning landscapes into carbon sinks and increasing resilience to climate extremes
- Society: revitalising rural communities while growing safe, healthy products for consumers

We are achieving these impacts through three distinct investment strategies around the world. In Australia, we manage a fund that has acquired 450,000 hectares of land for grass-fed beef cattle production. We are implementing holistic planned grazing to regenerate grasslands and improve animal welfare. More than one-third of the land is being managed to promote the regeneration of native woodland, which will sequester 4,508,731 tonnes of CO_2 over 25 years under a carbon project verified by the Australian Government's Clean Energy Regulator.

In Ireland, the SLM Silva Fund has acquired 1,243 hectares of semi-mature forest plantations. We are transitioning from a management regime based on clear-felling to a more sustainable form of forest management known as continuous cover forestry (CCF). This approach will store more carbon, improve species diversity, increase resilience to pests, diseases and storms, and deliver greater amenity value. Our forests sequestered 20,654 tonnes of CO_2 through biological growth in 2020.

In the USA, we manage separate accounts that are helping to scale up organic certified cropland for the production of grains. We partner with local farmers, acquire land near them and make this land available through long-term, flexible leases. We also manage one of the largest organic grain farms in the country directly. Well-managed organic farms support more biodiversity, have healthier soils, store more soil carbon, and support higher farmer incomes.

Looking forward, we plan to strengthen our impact measurement and reporting systems further, not only because it is increasingly expected by investors, regulators and wider society but because it will allow us to validate an investment philosophy that has always been at the core of our business.

KEY IMPACTS

Sustainable Land Management

465,232
hectares directly controlled

100%
of cropland organic certified or in transition to organic certification

100%
of cattle raised on natural grasslands using holistic planned grazing

67%
of forestland managed using continuous cover forestry (CCF)

Products Grown in 2020

1,027,850 kg
of pasture-raised beef (liveweight) grown on Australian properties

14,168 tonnes
of organic cereals and oilseeds harvested on US farms

22,955 m^3
of timber growth in Irish forests

GIIN IRIS+ Impact Categories

Agriculture
Food Security
Smallholder Agriculture
Sustainable Agriculture

Land
Natural Resources Conservation
Sustainable Land Management
Sustainable Forestry

Biodiversity & Ecosystems
Biodiversity & Ecosystem Conservation

Climate
Climate Mitigation
Climate Resilience and Adaptation

Energy
Clean Energy
Energy Access
Energy Efficiency

Water
Sustainable Water Resources Management
Water, Sanitation, and Hygiene (WASH)

Pollution
Pollution Prevention

Health
Access to Quality Health Care
Nutrition

Air
Clean Air

Waste
Waste Management

Employment

SDGs Impacted

Greenhouse Gas Emissions

• 1,376,977 Australian Carbon Credit Units (ACCUs) generated and sold from 2016 to 2020 because of native woodland regeneration on properties
• 20,654 tonnes of CO_2 equivalent (CO_2e) stored in acquired Irish forests in 2020
• Pilot project in the USA demonstrating the potential to sequester 1.45 tonnes of CO_2e per acre per year (or 3.6 tCO_2e/ha/year) in Illinois under organic cropping transition.

Biodiversity

• Less than 0.01% of the area (37 hectares) were managed with pesticides
• 158,412 hectares, totalling 34% of managed land, under ecological restoration or managed for biodiversity

Ecosystems Systems Provided

• Food - Freshwater - Regulation of climate - Regulation of water timing and flows - Erosion control - Disease mitigation - Maintenance of soil quality - Pest mitigation - Pollination - Habitat - Nutrient cycling - Primary production - Water cycling - Educational and inspirational values

Water

• All farming and forestry operations are rainfed without irrigation

Society

• 27.5 full-time equivalent (FTE) direct jobs created across all operations
• 3 local farmers given access to land in the US organic cropping strategy

[1] Each ACCU issued represents one tonne of carbon dioxide equivalent (tCO_2e) stored or avoided. ACCUs issued by Australian Government's Clean Energy Regulator

The Background

Our world is faced with major environmental challenges: degrading soils, depleting water reserves, shrinking biodiversity and, perhaps most urgently, climate change. Conventional farming and forestry systems are major contributors to these problems. But there are proven ecological land management approaches that can grow the food and fibre we need, while restoring soils, preserving water, adding biodiversity and absorbing carbon from the air. These systems are not just sustainable but regenerative. In many cases, they can also generate attractive, risk-adjusted economic returns.

Financial investors are showing a greater interest in real assets such as farmland and forestry. They see these sectors as a way to generate income in a low yield environment, and protect against inflation, while preserving and growing their capital.

The global finance industry is also strongly focused on climate change and other environmental issues through initiatives such as the Task Force on Climate-related Financial Disclosures (TCFD) and the EU's Sustainable Finance Disclosure Regulation (SFDR). There is increasing pressure on institutional investors, from regulators and beneficiaries, to contribute to the Paris Alignment process. Investors will need to show that their portfolios are aligned to climate goals by 2030, with a net zero carbon target by 2050. There is growing attention on the importance of biodiversity as well, as part of an over-arching goal to move towards a low-carbon, sustainable, resource-efficient and circular economy.

SLM Partners is an asset manager that uses institutional capital to scale up regenerative and ecological land management that help deliver these environmental goals. Since our establishment in 2009, we have invested in ecological farming and forestry systems that enhance natural capital and promote the transition to a low carbon economy, while delivering market-rate financial returns and reducing the risks of land-based investments. At the end of 2020, we had US$210 million in assets under management or capital commitments. We have developed and implemented three investment strategies across three continents focused on grass-fed beef, organic grains and continuous cover forestry (CCF).

This document is the first global impact report published by SLM Partners. It describes our impact measurement approach and presents the impacts we have made so far through our investment strategies. It also explains how we seek to enhance our impact measurement and reporting as we develop new strategies. Scaling regenerative land management systems that enhance natural capital has been the mission of SLM Partners from the onset. We look forward to continuing our journey with investors, farmers, foresters, and our other partners.

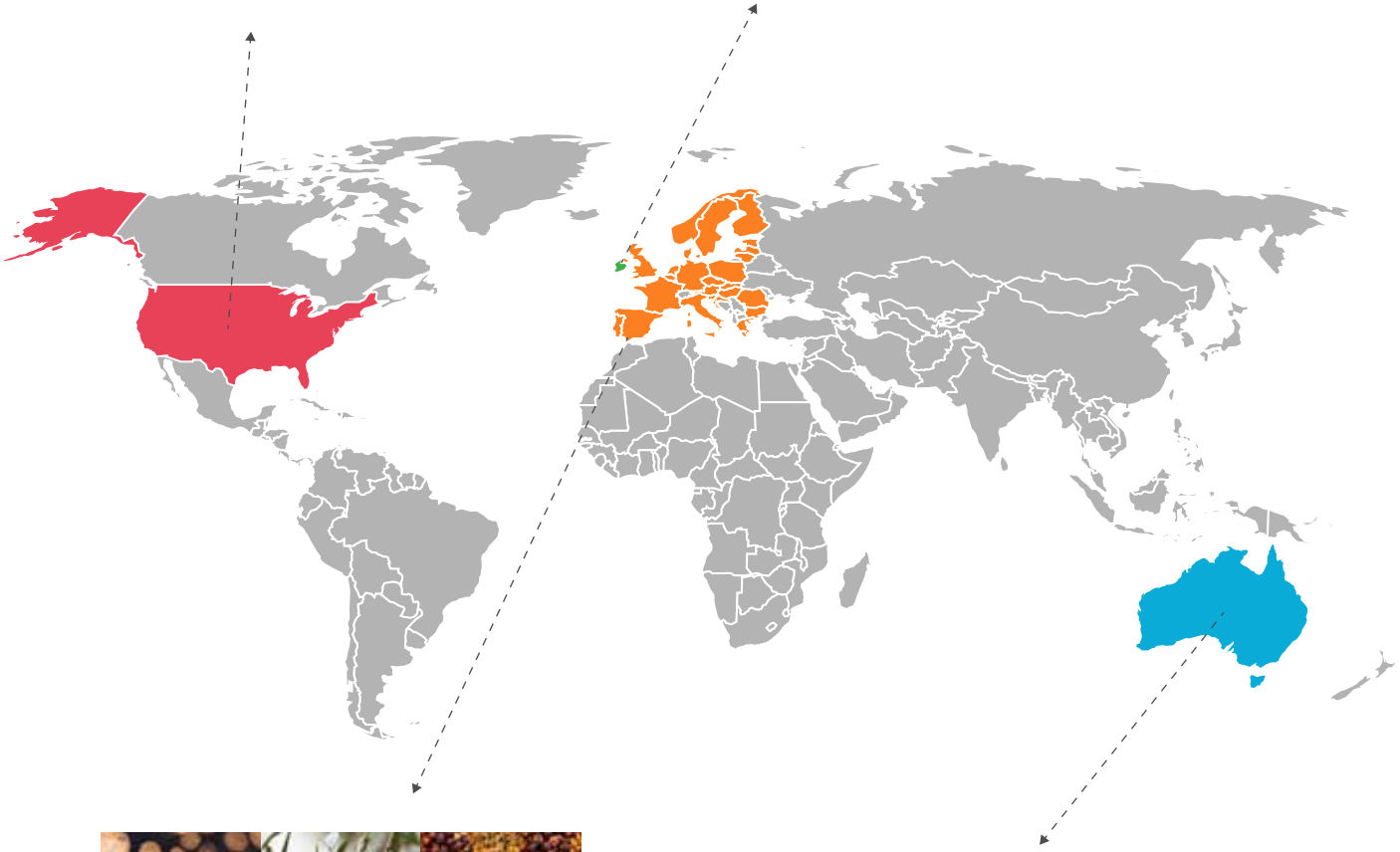
Geographical Coverage

USA

- Area: 13,960ha
- Strategy: Organic Grains
- AUM: US$115m
- SDG Impact:

Ireland

- Area: 1,243ha
- Strategy: Continous Cover Forestry + Afforestation
- AUM: US$35m
- SDG Impact:



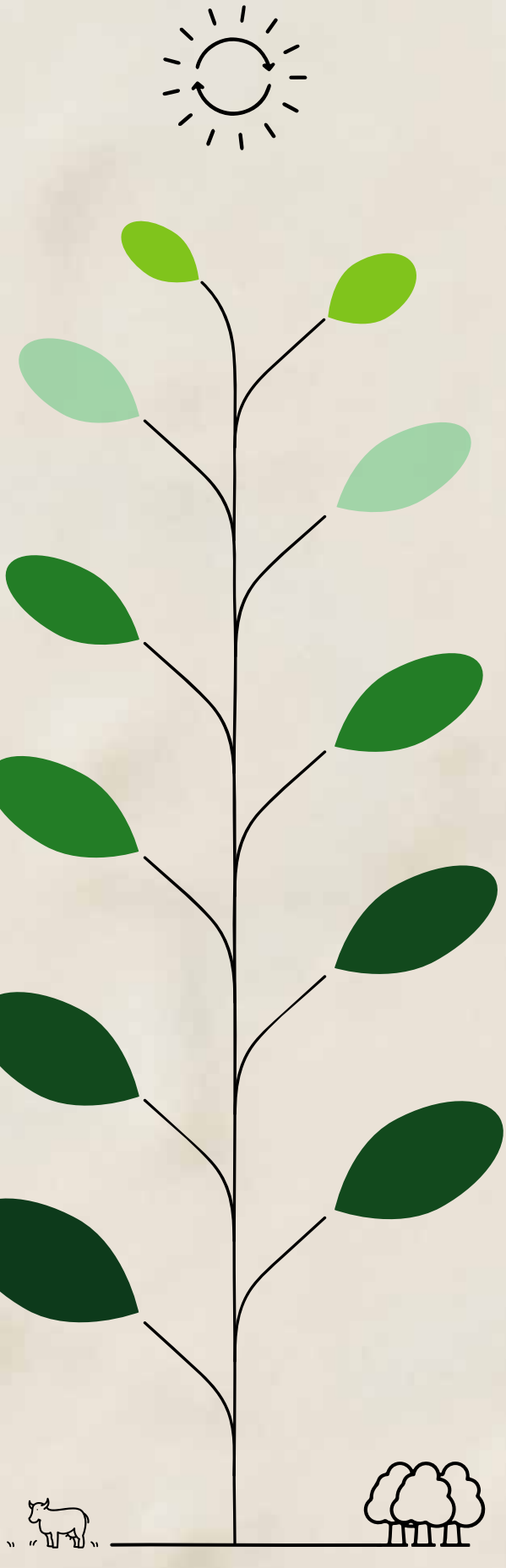
Pan-European (under development)

- Strategy: Diversified Tree Crops including Timber, Nuts, Olives, Cork
- SDG Impact:

Australia

- Area: 450,000ha
- Strategy: Grass-fed Beef, Holistic Grazing
- AUM: US$60m
- SDG Impact:

Timeline



2020

Establishment of US$75m separate account in US with institutional investor for organic farmland; development of a pan-European regenerative land management strategy

2019

Acquisition of 4 farms in US Midwest on behalf of investor separate account; start of management of 13,750ha organic farm in South Dakota; final close of SLM Silva Fund

2018

1st close of Irish forestry fund, SLM Silva Fund, anchored by European Investment Bank

2017

Team in New York starts to develop US organic farmland strategy

2016

JV with Irish forrest company, Purser Tarleton Russell Ltd, to develop sustainable Irish forestry fund

2013-2015

Acquisition of 15 propreties in Australia and deployment of capital on grazing infrastructure and cattle

2012

Establishent of SLM Australia Livestock Fund with AU$75 milion

2010

JV with Australian management partners to develop cattle fund

2009

Co-founders established SLM Partners in London

Our Investment Philosophy

Agriculture and forestry investing today

Farmland and forestry have emerged as an alternative asset class for investors looking to diversify their portfolios. While land-based investments tend have similar return profiles to other real assets, they fundamentally differ in their risk profile. Investments in agriculture and forestry are all about managing biological assets that rely on natural capital and a healthy surrounding environment. Ultimately, agriculture and forestry cannot be dissociated from nature.

However, many conventional food and timber production systems neglect this fundamental premise. They exploit, rather than work with, nature. This exposes them to many risks. They rely heavily on external inputs, which can be expensive and volatile, eroding margins. They degrade the natural capital – soils, water and biodiversity – on which they depend. Over-specialised landscapes with few species are more vulnerable to a changing climate and more susceptible to pests and diseases. Industrial farming and forestry systems generate negative environmental externalities – such as water pollution – that will be increasingly taxed or regulated. As consumers wake up to their environmental impacts, consumption trends are shifting, leaving traditional operators exposed.

Ecological farming and forestry: an attractive alternative

There is an alternative way to manage land that can minimise these risks, while increasing profitability. Ecological farming and forestry systems seek to build soil health, minimise external inputs and production costs, recycle nutrients and energy, embrace product diversity, and produce high value food, fibre and timber. These systems enhance natural capital by restoring biodiversity, improving water quality, reducing greenhouse gas (GHG) emissions and sequestering carbon in soils and trees. Aside from playing a key role in climate change mitigation, these production approaches increase resilience to extreme weather events and enhance climate change adaptation.

Ecological farming and forestry systems can be more profitable than conventional methods. They can achieve high and more consistent yields, while making the most of natural cycles and reducing input costs. The pursuit of organic farming and certified timber production can unlock additional value by targeting higher value markets. There are also increasing opportunities to monetise positive externalities, for example by generating and selling carbon credits. Nature-based climate solutions that increase the amount of carbon stored in soils and trees will play an important role in the battle against climate change.

Ecologically sensitive land management methods can be practised on a commercial scale, and they are firmly science-based. We have identified a number of proven systems that have investment merit. They include:

- **Holistic planned grazing systems for livestock**
- **Regenerative, organic and more biodiverse annual cropping systems**
- **Integrated tree crops and agroforestry systems for nuts, fruits, cork and other products**
- **Continuous cover forestry**

Investing for impact

All around the world, there are brilliant farmers and foresters who have developed profitable, high-impact systems according to these sustainable management principles. They need capital to expand this impact to more hectares. In developed countries, where we focus, investors can directly assist by acquiring or leasing land and placing it in the hands of these expert operators. Successful investment strategies involve long-term partnerships between investors and carefully-selected farmers and foresters, acting as stewards of the land with aligned incentives.

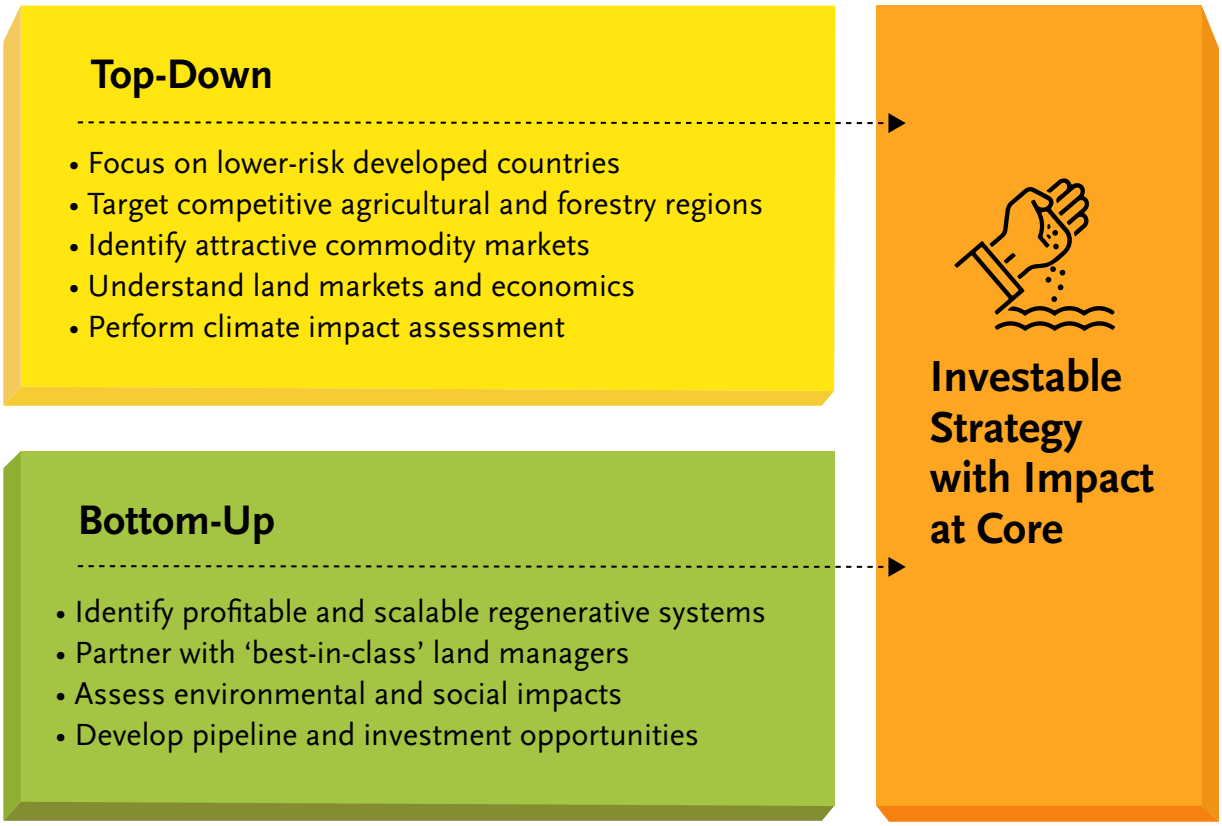
We believe that regenerative land management strategies can deliver superior risk-adjusted returns, while generating tangible positive environmental impacts at scale.

Strategy Development

SLM Partners integrates impact into the core of its investment strategies. Through a combination of top-down and bottom-up analysis, we design strategies that deliver positive environmental impacts within a robust financial context. We believe that we can only achieve truly sustainable financial returns when the underlying natural capital is also thriving.

Top-down analysis: As part of our pre-investment research, we select low-risk, stable geographies that possess competitive agricultural and forestry sectors. We identify specific products and markets that are aligned with our ecological land management philosophy but also have attractive supply-demand dynamics and good growth prospects. We then pick regions within selected geographies that offer a favourable combination of attractive land values and suitable soil and climatic conditions for growing our target products. We also assess climate change risk and understand how this can be mitigated by improved land health.

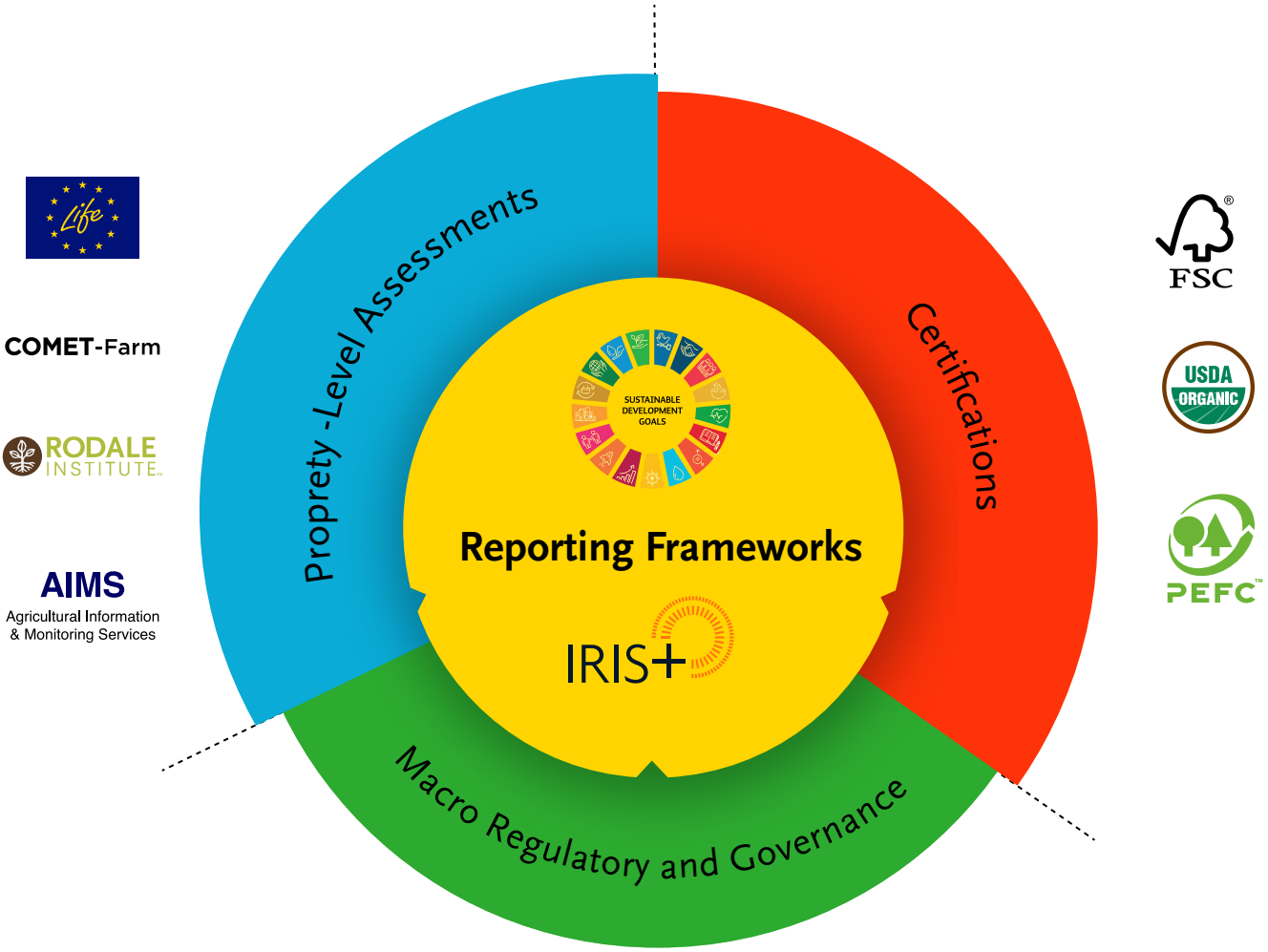
Bottom-up analysis: This part of our process happens concomitantly with the top-down analysis. Our starting point is identifying regenerative land management systems that deliver superior profits and clear environmental benefits and that can be scaled. We rely on the local knowledge of farmers and foresters who have a strong track record in managing such systems. We then select the best operators to partner with, thus reducing our execution risk. Local partners also play a key role in originating deals, finding off-market opportunities and assisting in due diligence when purchasing properties.



MEASURING IMPACT

SLM Partners has developed an impact measurement and reporting system that can be applied to different investment strategies across multiple regions. The starting point is identifying and gathering relevant impact data at the farm and forest level. Where possible, the collection of the data and related analysis is undertaken by external organisations. We also work with third party certification bodies where certification programmes are relevant. The next step is to converge and align this varied set of data with key impact and sustainability indicators within accepted reporting methodological and taxonomy standards. We also ensure that our impact reporting processes – and the underlying strategies – are consistent with high-level regulations and policy initiatives.

The following sections describe these four levels of impact measurement in more detail: Macro regulatory and governance; High-level reporting frameworks; Property-level assessments; and Third -party certification programmes.



European Parliament · EU BIODIVERSITY STRATEGY · TCFD Task Force on Climate-Related Financial Disclosures · GREEN DEAL · European Commission · Signatory of: PRI Principles for Responsible Investment

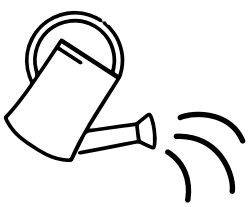
Macro Regulatory and Governance

At the most basic level, all our investments and operations follow the legal and regulatory requirements inherent to each local and national jurisdiction. This includes respecting local land, environmental and resource rights, adhering to labour and human rights legislation, and upholding high business and ethical standards.

At the sectoral level, the financial industry continues to undergo a gradual regulatory and governance overhaul with ever-increasing disclosure requirements for the sustainability of investments. On the one hand, there is now a large set of voluntary protocols, best management practices, recommended policies and processes related to Environmental, Social and Governance issues. On the other, regulation is quickly adopting higher transparency and accountability standards with regards to the delivery of sustainability outcomes and disclosure around climate related risks.

We see the adoption of some voluntary protocols and standards as a step in the right direction for asset managers. To us, this led us to adopt the principles for investments in farmland issued by UN Principles for Responsible Investing (UN PRI). For our forestry investments, we adhere to EU Sustainable Forest Management Standards, such as Forest Europe. In Europe, we also plan to make a strong contribution to the delivery of key initiatives under the EU Green Deal such as the Farm-to-Fork and Biodiversity strategies in our future investments.

On the regulatory front, we continue to monitor the progress of the Task Force for Climate-related Financial Disclosures (TCFD) and the EU Sustainable Finance Disclosure Regulation (SFDR). We will ensure that all our current and future investments are compliant with both important new regulations.



What is the EU SFDR?

The EU Sustainable Finance Disclosure Regulation (SFDR) is a new set of European Union rules introduced in March 2021. It requires disclosures on impact metrics focused on environmental, social and governance (ESG) that will help investors to evaluate the sustainability profile of investment products while promoting a level playing field for asset managers. The SFDR is underpinned by the UN Sustainable Development Goals (SDGs) and is aligned with EU objectives to promote the transition towards a climate-neutral, climate-resilient, more resource-efficient and circular economy.

Most financial institutions, including asset managers, will have to meet certain obligations at the company and product level. They will have to disclose policies demonstrating the integration of sustainability risks in the investment decision -making process, implement a sustainability due diligence policy and update their remuneration policy to ensure the integration of sustainability risks. Disclosures will need to be available on the company's website, on pre-contractual product documents such as prospectus, and on annual reports.

Impact managers pursuing sustainability or ESG strategies will have to adhere to further levels of disclosure. To ensure consistency with other EU initiatives, the SFDR has adopted the taxonomy regulation on sustainable finance and its six environmental objectives. The six objectives are climate change mitigation, climate change adaptation, the sustainable use and protection of water and marine resources, the transition to a circular economy, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems.

SLM Partners sees the EU SFDR as a forward-thinking regulatory effort that will have implications globally. The SFDR will give investors a transparent and robust framework to evaluate asset managers, helping to crack down on green washing. For asset managers focused on environmental and social impact, the SFDR provides a solid regulatory platform to demonstrate impact while bringing a necessary level of accountability for the delivery of outcomes.

High-level Reporting Frameworks

We incorporate two high-level frameworks into our reporting processes: the Global Impact Investing Network's (GIIN) IRIS+ and the UN Sustainable Development Goals (SDGs). This allows us to cater for a wider set of investors and other stakeholders.

The IRIS+ is the most widely accepted impact accounting system in the world. It is currently used by close to 6,500 organisations across all industries, enabling investors to make investment decisions based on the environmental and social impact performance of comparable companies and investment products. Overall, the IRIS+ covers more than 600 impact indicators classified under 16 impact categories, many of them relevant to our strategies.

The UN SDGs remain the main framework used by the public and private sector to communicate their sustainability goals and aspirations. The SDGs provide a clear roadmap and common language for the reporting of sustainability and impact outcomes at a high level. Yet, the SDGs are insufficiently granular for more targeted impact performance reporting. This also relates to the limited relevance and compatibility of the sub-targets and indicators with the realities of the private sector.

To address this reporting challenge, the IRIS+ has done extensive work to map and translate the SDGs into aligned IRIS+ metrics. This effort bridged the gap between the granularity of the IRIS+ indicators and the generic aspects of the SDGs for impact reporting purposes. As such, we can rely on a robust taxonomy exercise that aligns our selected IRIS+ metrics to the SDGs, enabling a more complete impact reporting picture of our investments.

On the following page we have presented a list of the 30 IRIS indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs. More details on the impact of each strategy can be found in the strategy profile section.

GIIN IRIS Metrics	Description	Type	Reporting Format	GIIN IRIS - Primary Impact Categories	GIIN IRIS Other Impact Categories	SDGs
Crop Type	Type of crop(s) produced by the organization during the reporting period.	Qualitative	Selection	Agriculture	Biodiversity & Ecosystems Employment Health Land	2, 6, 8, 9, 12, 15
Livestock/Fish Type	Type of livestock product(s) produced by the organization during the reporting period.	Qualitative	Selection			
Land Directly Controlled: Total	Area of land directly controlled by the organization during the reporting period.	Quantitative	ha			
Land Directly Controlled: Cultivated	Area of land directly controlled by the organization and under cultivation (i.e. minimum-till, seeding)	Quantitative	ha			
Land Directly Controlled: Sustainably Managed	Area of land directly controlled by the organization and under sustainable cultivation or sustainable stewardship.	Quantitative	ha			
Land Directly Controlled: Treated with Pesticides	Area of land directly controlled by the organization and treated with pesticides.	Quantitative	ha			
Biodiversity Assessment	Indicates whether the organization has undertaken biodiversity-related assessments to evaluate the biological diversity present on the land that is directly or indirectly controlled by the organization.	Qualitative	Yes/No	Biodiversity & Ecosystems	Biodiversity & Ecosystems	2, 6, 8, 15
Greenhouse Gas Emissions Strategy	Indicates whether the organization implements a strategy to reduce greenhouse gas (GHG) emissions.	Qualitative	Yes/No	Climate	Air / Energy / Land / Pollution	3, 8, 9, 12
Greenhouse Gas Emissions Avoided Due to Carbon Offsets Sold	Amount of greenhouse gas (GHG) emissions avoided through carbon credits sold during the reporting period.	Quantitative	Metric Tons of CO_2 equivalent			
Greenhouse Gas Emissions Sequestere	Amount of greenhouse gas (GHG) emissions sequestered by the organization during the reporting period.	Quantitative	Metric Tons of CO_2 equivalent			
Greenhouse Gas Emissions Mitigation Types	Indicates greenhouse gas emissions mitigation types applied by the organization during the eporting period.	Qualitative	Selection			
Forest Management Plan	Indicates whether the organization implements a forest management plan.	Qualitative	Yes/No	Land	Agriculture / Biodiversity & Ecosystems / Employment/ Climate / Water	2, 6, 12, 15
Type of Land Area	Describes the type(s) of land present on hectares directly or indirectly controlled by the organization. Report for hectares controlled at any point during the reporting period.	Qualitative	Selection			
Ecosystem Services Provided	Describes the ecosystem services provided by land directly or indirectly controlled by the organization, during the reporting period.	Qualitative	Selection			
Area of Trees Planted: Native Species	Area of land on which native species of trees were planted by the organization during the reporting period.	Quantitative	ha			
Area of Trees Planted: Total	Area of land on which trees were planted by the organization during the reporting period.	Quantitative	ha			
Ecological Restoration Management Area	Area of land under ecological restoration management during the reporting period.	Quantitative	ha			
Soil Conservation Practices	Indicates whether the organization implements best soil conservation practices to minimize soil erosion and avoid degradation of agricultural lands.	Qualitative	Description			
Soil Health Practices	Indicates which sustainable agriculture best practices the organization implements to maintain and enhance soil health of agricultural lands.	Qualitative	Description			

GIIN IRIS Metrics	Description	Type	Reporting Format	GIIN IRIS - Primary Impact Categories	GIIN IRIS Other Impact Categories	SDGs
Water Quality Practices	Indicates whether the organization employs management practices for water quality protection.	Qualitative	Yes/No	Water	Agriculture / Biodiversity & Ecosystems/ Climate / Land / Waste	6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION
Level of Water Stress	Level of baseline water stress on land directly or indirectly managed by the organization as of the end of the reporting period.	Qualitative	Selection			
Water Withdrawn	Volume of all water drawn from surface water, groundwater, seawater, or a third party for any use by the organization during the reporting period.	Quantitative	Cubic Meters (m^3)			
Water Type	Describes the type of water withdrawn, consumed, or discharged as a result of investments made by the organization during the reporting period.	Qualitative	Selection			
Total Assets	Value, at the end of the reporting period, of all of the organization's assets.	Quantitative	AUM: USDm	Cross–Category	Cross–Category	2 ZERO HUNGER; 3 GOOD HEALTH AND WELL-BEING; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION; 15 LIFE ON LAND
Environmental Impact Objectives	Describes the environmental impact objectives pursued by the organization.	Qualitative	Selection			
Climate Resilience Strategy	Indicates whether the organization implements a strategy to address the effects of climate change on the organization's operations.	Qualitative	Yes/No			
Product/Service Certifications	Describes third-party certifications for product /services sold by the organization that are valid as of the end of the reporting period.	Qualitative	Description			
Social and Environmental Targets	Describes the quantifiable social and environmental targets set by the organization.	Qualitative / Quantitative	Selection			
Social and Environmental Performance Reporting	Indicates whether the organization reports its social and environmental performance to relevant stakeholders.	Quantitative	Yes/No			
Jobs in Directly Supported/Financed Enterprises	Number of full-time equivalent employees working for enterprises financed or supported by the organization as of the end of the reporting period.	Quantitative	Full-time equivalent			

Property-level Assessments

To ensure an accurate analysis of what is happening in individual farms and parcels of forest, we have developed and apply bespoke impact measurement systems at the property level to assess outcomes that are relevant to individual land management strategies. These assessments supply the necessary data that underpins the IRIS+ impact indicators but also supplement reporting gaps not covered by the available metrics. Where possible, these property-level assessments are carried out by third parties and provide more detailed evidence of the impact from our activities.

More detail on property-level assessments can be found in the strategy profile sections.

Third-party certification programmes

Many of our products are sold through regulated and certified markets that require independent and external certification covering multiple ESG factors. This is the case for organic certified crops in the US. We are also in the process of choosing the most relevant certification scheme for our forestry products in Ireland, such as the programme for the Endorsement of Forest Certification (PEFC) or the Forest Stewardship Council (FSC). We rely on third party certification to verify practices and outcomes related to our farm and forest investments.

Photo: George Steinmetz

Aligning Impact Frameworks

The table below demonstrates our key impact areas based on the GIIN IRIS+ Impact Themes (horizontal axis) and the SDGs (vertical axis). Impact outcomes have been classified as either "major", where we have a direct positive influence, or "contributing", where our strategies still have a positive but a more indirect impact.

GIIN IRIS+ Impact Categories / SDGs	2 ZERO HUNGER	3 GOOD HEALTH AND WELL-BEING	6 CLEAN WATER AND SANITATION	8 DECENT WORK AND ECONOMIC GROWTH	9 DECENT WORK AND ECONOMIC GROWTH	12 RESPONSIBLE CONSUMPTION AND PRODUCTION	13 CLIMATE ACTION	15 LIFE ON LAND
Sustainable Agriculture	Major							
Food Security	Contributing					Contributing		
Clean Air				Contributing	Contributing			
Biodiversity & Ecosystems Conservation	Contributing		Contributing					Major
Climate Mitigation					Contributing		Major	
Climate Resilience and Adaptation					Contributing		Major	
Employment				Contributing				
Clean Energy				Contributing				
Energy Efficiency					Contributing			
Nutrition		Major						
Natural Resources Conservation	Contributing							
Sustainable Land Management	Major		Major		Contributing	Major	Major	Major
Sustainable Forestry			Contributing		Contributing		Major	Major
Pollution Prevention		Contributing	Contributing			Contributing		
Waste Management				Contributing	Contributing	Major		
Sustainable Water Resources Management			Major		Contributing	Major		

Soils

The Challenge

Land degradation is one of the most pressing, and lesser known, risks that humanity faces. Soils underpin the biogeochemical processes required to sustain the necessary expansion of food, timber and fibre production for a growing population, as well as providing ecosystem services, such as carbon sequestration, nutrient supply and water regulation, that are necessary for life on earth[1]. Ancient civilisations evolved, and subsequently failed, by exploiting soils for food and energy until reaching a breaking point[2].

According to the UN Food and Agriculture Organisation (FAO) most of the world's soil resources are currently in fair, poor or very poor condition with 33% of land being considered moderately to highly degraded[3]. This is caused by destructive land management practices in arable, grazing and forestry systems, which results in erosion, compaction, acidification, salinisation or loss of soil microbiology, and a rapid decline in soil health.

The Solution

The good news is that this process can be mitigated, and in many cases reversed, through the adoption of regenerative and ecological land management practices[4]. Integrating a number of context-specific regenerative crop and pasture management practices can help soils sequester atmospheric carbon and turn it into soil organic carbon (SOC), which is fundamental to sustain soil health and soil fertility[5]. The benefits of increased SOC range from improving soil structure and aeration[6] and enhancing water cycles[7], to restoring microbial functions that support agricultural and other terrestrial life systems.

For farmers and foresters, the practical benefits of improving soil health are also clear. Healthy soils have improved nutrient cycles[8], lower compaction[6] and abate soil-borne diseases[9], allowing for the reduction of external fertilisers and chemical inputs. Healthy soils can also mitigate the impact of droughts and floods because of improved water infiltration and water holding capacity[7], leading to higher yields[10] and more stable production. Ultimately, healthy soils allow for a substantial improvement in resource efficiency[6] while sustaining or improving agricultural and forestry output.

Our Impact

In Australia, SLM Partners has introduced holistic planned grazing across its properties with the aim of maintaining year-round ground cover, breaking soil capping, and allowing grasses to fully recovery after grazing. These practices, in conjunction with improvement manure distribution, help the natural re-establishment of deep-rooted perennial grasses, legumes and forbs (i.e. herbaceous flowering plants) that sustain soil microbiology and soil fertility.

In Ireland, we are transitioning forest properties towards CCF management and avoiding the clear-fell events that can cause soil compaction and erosion. Instead, we practice selective harvesting and confine machines to established roads and racks, so preserving forest soils and habitat. Further, the promotion of a mixture of broadleaves and conifers will reduce the acidification associated with conifer monocultures and increase biodiversity below ground through critical fungi associations in tree roots.

In the US, we are introducing organic cropping systems that adopt a more diverse and multifunctional rotation, integrating cover crops and using biological fertility such as manure and compost. These practices, along with the judicious use of tillage to control weeds and the removal of chemical inputs that kill soil microbiology, promotes soil health, minimises erosion and gradually increases levels of soil organic matter.

Biodiversity

The Challenge

Our planet depends on biodiversity to support critical biological processes, underpin ecological functions, drive environmental resilience and ultimately sustain life. Yet, the world is facing a dangerous and accelerating loss of biodiversity as natural habitats are displaced to make way for agriculture[11] , commercial forestry, and urbanisation. The global rate of species extinction is at least tens of times, and possibly hundreds of times, higher than the average rate over the past 10 million years[12]. It is estimated that the population sizes of mammals, birds, fish, amphibians and reptiles has declined 68% on average since 1970[13].

The production of food has been the primary cause of biodiversity loss globally in the last 50 years[12]. This is mostly driven by the conversion of natural habitat to agricultural production, the intensification of agricultural systems, and the proliferation of single-species forest plantations. The heavy reliance on synthetic fertilisers and pesticides undermines the biodiversity at the farm and forest level and can lead to nutrient and chemical runoff into waterways and ultimately into oceans[14]. This negatively impacts wildlife (i.e. mammals, birds and reptiles), insects, pollinators and aquatic life but also vital macro and microorganisms that live below the ground.

The Solution

To halt, and potentially reverse, biodiversity loss, a rehaul of land use is required[11]. This means not just protecting natural habitats but promoting biodiversity-friendly practices on agricultural and forest land as well. Of the 104 million km^2 of habitable land, 71% is devoted to agriculture, 37% to forest, 11% to shrub and grassland, and only 1% to urban and freshwater, each[15]. As such, promoting the restoration of biodiversity on agricultural land and managed forest sites is of the utmost importance.

This shift to nature-based and ecological management can take many forms, depending on regional contexts. It can involve the reduction or removal of chemical inputs (e.g. organic farming), a transition from monocultures to longer and diverse crop rotations or polycultures, the adoption of holistic planned grazing, the promotion of natural understory forest regeneration, and the inclusion of more resource efficient practices for nutrient management (e.g. composting). The benefits deriving from these practices range from reduced soil erosion and nutrient runoff[16], reduced pest and disease pressure on crops[17], large increases in the presence of macro and microorganisms on farms[18], greater wildlife and beneficial fungi in forests[19], enhanced soil microbial activity and the maintenance of diverse perennial grasses, legumes and forbs in natural grasslands[20].

Our Impact

In Australia, our adoption of holistic planned grazing in natural grasslands has promoted a shift from a few annual species to a diverse mix of perennial grasses, legumes and forbs. These species have deeper root systems, are more drought resistant, more productive and enhance the nutrient cycling critical for soil microbiology. Our systems are also chemical-free, which increase the presence of dung beetles and other beneficial insects.

In our forest properties in Ireland, the transition of conifer monocultures to CCF management allows more natural, diverse forests to evolve. This management approach greatly reduces habitat disturbance and introduces structural and age diversity contributing to enhanced biodiversity in the forest. The higher proportion of deadwood and biomass cycling also enhances the soil microbiology, beneficial fungal-tree interactions, and the creation of healthy insect and bird habitat. Given the forests will not be clear-felled, these benefits will be sustained in the environment permanently.

In the USA, our farms are either organic certified, or undergoing an organic transition, and therefore do not use pesticides, herbicides and synthetic fertilisers that are inherently damaging for insects, bees and soil microbiology. The introduction of diverse crop rotations and cover crops favours pollinator activity and kick-starts soil biological activity, leading to increases in beneficial bacteria, protozoa, fungi, earthworms and small arthropods. Organic farms also promote more bird diversity.

Water

The Challenge

Water is a critical input for all agricultural systems. The United Nation Food and Agriculture Organisation (UN FAO) estimates that agriculture irrigation accounts for 70% of water use worldwide. In some climatic contexts, irrigation is the only viable method to produce food. Left unchecked, and supported by poorly regulated water markets, water scarcity has become a real global issue with 3.2 billion people living in agricultural areas with high to very high-water shortages or scarcity[21]. This trend will be further exacerbated by climate change, with rainfall patterns becoming less reliable and extreme events more common[22].

Beyond the challenge of water scarcity, water quality has also become a broader societal issue. As mentioned in the biodiversity section, soil erosion and nutrient runoff has led to the eutrophication of water bodies, loss of freshwater biodiversity and creation of Coastal dead zones. Yet, the excess loading of fertilisers and chemicals into river and groundwater is also posing risks to drinking water quality even with conventional water treatment[22]. Many of these pollutants are also bioaccumulated through the food web and are toxic to living organisms, including humans and wildlife[23].

The Solution

Effective water management and water conservation practices are the cornerstone of regenerative and nature-based farming systems. The same practices that promote soil health such as maintaining year-round ground cover, minimal soil disturbance and proper crop rotation also help to regulate the flow of water on the landscape with improved water infiltration and retention in the soil profile, thus reducing the impact of droughts[24]. Enhancing water cycles is of particular importance to dryland farming and forestry solely dependent of rainfall. This also leads to greater water quality by reducing nutrient run-off and sedimentation of waterways.

For irrigated systems, the adoption of these soil and water conservation practices is also paramount and they remain the most effective strategy to address nutrient management, water quality and irrigation efficiency challenges[25].

Our Impact

In Australia, our cattle stations are located in a semi-arid and brittle environment. The focus of our land management is to improve vegetative cover and soil organic matter levels to restore efficient water cycles and promote greater water infiltration and retention in the soil. Our extensive water infrastructure development, with multiple tanks and troughs, also ensures livestock have access to quality water and avoids excessive water loss via evaporation and leakage from open reservoirs and dams.

In Ireland, our forest sites benefit from a mild climate and reliable rainfall. Our management approach improves water quality by moving away from clear-felling, which is associated with the release of sediments and nutrients into streams, and a gradual acidification of water bodies. In many cases, these freshwater bodies harbour rare species such as the freshwater pearl mussel and salmonids.

In the USA, the arable farms we manage are 100% rainfed. The adoption of sound organic fertility plans, the elimination of synthetic fertilisers and the introduction of cover crops minimises the run-off of nitrates and phosphates into streams – a major issue in the US Midwest.

Climate

The Challenge

The way we use land and grow food are major contributing factors to climate change, the greatest environmental challenge of our time. A new report published by Nature Food estimates that food systems accounted for 34% of global greenhouse gas (GHG) emissions in 2015[26]. The world's soils store vast amounts of carbon: between 1,500 and 2,400 Petagrams (Pg) of organic Carbon (C)[27]. This equates to three to four times the amount of carbon in vegetation and twice to three times the amount in the atmosphere. As soil degradation advances across the globe, it is estimated that around 1.32 PgC of soil organic carbon is released into the atmosphere annually[28], representing 11.4% of annual anthropogenic emissions in 2019[29].

Aside from being a key contributor to climate change, agricultural and forestry systems are vulnerable to changes in climatic patterns as extreme weather events such as droughts and floods have negative impacts on crop and forest productivity[30].

The Solution

Through changed land management practices, soils can transition from being a net carbon emitter to become a major carbon sink by sequestering atmospheric carbon (CO_2) via photosynthesis and locking this carbon in more stable forms[31]. There is increasing consensus around the role of natural climate solutions as one of the most practical and cost-effective climate change mitigation strategies[32]. The conservation and restoration of natural habitats, combined with improved land management actions across global forests, wetlands, grasslands and agricultural lands, can provide up to 37% of the emission reductions needed by 2030 to keep global temperature increases under 2°C[32].

On farmland, these improved land management actions include reduced tillage[33], diverse crop rotations[31], cover cropping[34], sound grazing management[35], and compost and manure application[31]. Planting trees on marginal agricultural land sequesters carbon in above and below ground biomass. Changes to forest management can also increase carbon stocks in soils and standing trees, while increasing the production of longer-lived carbon products, such as high-quality sawlogs.

Lastly, these same practices can strengthen resilience to the negative impacts of climate change and offer a path towards climate adaptation. For example, increased soil carbon is the key driver for enhancing soil health, improving water cycles and promoting microbial diversity. More biodiverse farms and forests can better withstand extreme weather.

Our Impact

In Australia, we have designated 158,412 hectares of land to a native woodland regeneration project that will sequester 4,508,731 tonnes of CO_2e – and generate the same number of verified Australian Carbon Credit Units – over a 25-year period. Our beef cattle operations employ holistic planned grazing to improve soil health and ground cover, which increase the ability of soils to sequester carbon from the atmosphere. This controlled grazing system also allows us to adjust stocking rates according to seasonal conditions and to avoid overgrazing – which was an important tool during a long-running drought that hit our region from 2013 to 2020.

In Ireland, we are investing in young, fast-growing forests that have very high rates of carbon sequestration, both above ground in trees and below ground in roots and soils. By transforming sites to continuous cover forestry, and avoiding clear-felling, we will increase the volume of standing carbon in trees and avoid the loss of carbon from soils and residues that would occur after clear-felling. Our silvicultural approach also focuses on harvesting higher quality sawlogs that go into long-lived products such as construction timber, which store carbon for decades.

In the USA, the transition to organic farming will eliminate the use of synthetic nitrogen fertiliser, a highly energy intensive product that represents a large part of emissions from conventional arable farming. The use of nitrogen-fixing cover crops, manure and compost in organic farming can also minimise the release of nitrous oxide (N_2O) from soils, a potent greenhouse gas. Lastly, healthy soils under organic management are proven to sequester carbon, offsetting other farm emissions.

Society

The Challenge

Rural areas across the developed have suffered from loss of livelihoods and depopulation, as economic growth has been focused on urban areas. Those who decide to stay on the land are now older and often struggle to find successors. According to the Australian Bureau of Statistics (ABS), the average farmer in Australia is 56 years old. Similar patterns can be observed in most of the developed world. Beyond the age problem, those who are young and want to start a journey into ecological farming are held back by knowledge and funding gaps.

Conventional agricultural and forestry systems, while efficient and highly productive, can create negative externalities for society[36]. In the drive for yield, the nutritional value of vegetables, grains, meat and dairy products, represented by key minerals, vitamins and proteins, has declined by up to 40% over the last 50 to 70 years[37]. Suboptimal diets are leading risk factors for poor health globally and responsible for up to 45% of all cardiometabolic disease deaths in the US. The overuse of pesticides leads to an increased level of chemical residues in many foods, with proven negative consequences for human health[39]. In commercial forestry sites adopting monocultures and clear-felling, the amenity value of forests is low and is often unpopular with local communities.

The Solution

At the most basic level, the pursuit of ecological farming and sustainable forestry can create new economic opportunities for farmers, foresters and others working in these sectors, helping to revitalise rural communities. Public and private sector initiatives can help bridge the knowledge and financial gap required to support rural operators, in transition to more ecological production systems. This can come in the form of targeted education, improved access to land and greater availability of suitable financial products such as longer-term and flexible loans attached to environmental outcomes.

Growing healthy, nutritional, and chemical-free food provides clear health benefits for consumers and can indirectly take pressure off healthcare systems. Ecologically managed farms and forests can also promote a healthier environment for local communities around them and create positive externalities including greater amenity values.

Our Impact

In Australia, our cattle operations provide employment opportunities in remote rural areas where jobs are few. We provide extensive training on holistic planned grazing and low-stress livestock handling to farm managers and employees, building a cadre of operators with new skills, some of whom have gone on to manage other properties in this way. We produce grass-fed beef on natural grasslands without the use of pesticides or fertilisers.

In Ireland, our fund acts as a demonstration project for the commercial viability of CCF. We are helping to train new foresters and harvesting contractors in this sustainable forestry management and have the support of a technical assistance facility from the European Investment Bank and the EU LIFE Programme, including further research on the effectiveness of continous cover forestry practices in Irish conditions. By transitioning away from monocultures and clear-felling, we will develop forests that have greater aesthetic and amenity value for local communities, helping to address some of the issues that have caused public opposition to forestry in recent years. Our approach also ensures that forest management optimises the multiple uses of forests, including amenity and landscape values, local timber production, climate change regulation, and the protection of soil, water and biodiversity resources.

In USA, we have partnered with several mid-sized organic farmers to expand and build farm businesses. Access to capital and the absence of long-term leases are major hurdles for farmers looking to extend organic operations. We fill that gap by purchasing land and setting flexible lease agreements that adequately reflect the risk and rewards. Beyond that, we have partnered with a leading organic research institute, Rodale Institute, to provide further technical advice to those farmers in their journey. Through our investments, we are increasing the supply of domestically-grown, pesticide-free, organic certified food for consumers.

STRATEGY PROFILE - AUSTRALIA

Investment Strategy

The SLM Australia Livestock Fund acquires and operates grazing land in Australia with a focus on grass-fed beef cattle production. It launched in 2012 with AU$75 million and now manages around 450,000 hectares.

Our strategy is to implement a management process known as 'holistic planned grazing'. This involves dividing land into smaller paddocks, putting cattle in large herds, and moving them frequently across the property. It provides a decision-making framework that allows managers to vary the size of herds and the frequency of herd movements according to seasonal conditions, mimicking the behaviour of large herds of herbivores in natural environments.

With the right management, raising cattle on native grasslands offers the lowest-cost method of beef production. These systems make the most of what nature provides for free – sunlight, rainfall, soils and the photosynthetic power of plants – rather than relying on external feed purchases such as grains and hay. There is also a growing scientific evidence of the health benefits of grass-fed meat, which is leading to increased consumer demand[40].

Australia has many advantages for low-cost, grass-fed beef production: disease-free herds, year-round grazing, reliable infrastructure, large properties, competitive land prices, and good access to markets. It is well-positioned to serve the rapid growth in demand for red meat from fast-growing Asian economies.

Impact Thesis

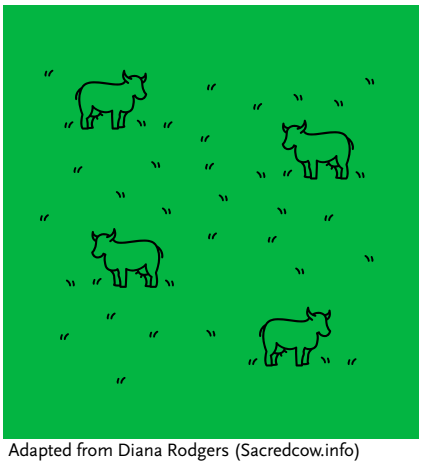
Beef cattle production has attracted a bad reputation for its methane emissions, but the problems associated with raising cattle for beef production go well beyond methane. From industrial cattle feedlots to poorly managed grassland, the negative impacts vary from deteriorating soil health, chronic soil erosion and carbon loss, broken water cycles and biodiversity loss, with systems heavily reliant on grains and monocultures. These systems lead to degradation of natural ecosystems, present hidden financial and environmental risks, and ultimately externalise these costs and risks to the wider society.

The native grasslands managed by SLM are in brittle and semi-arid environments unfit for cropping or other agricultural uses. If left un-grazed, these areas tend to degenerate and become hot spots for wildfires. If poorly grazed, land health conditions can also degrade quickly leading to erosion and loss of carbon.

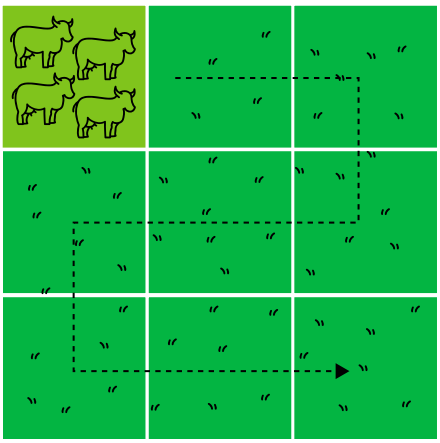
The adoption of holistic planned grazing has the potential to mitigate these issues while also creating a wealth of positive impacts on the land. The frequent movement of larger herds leads to intense, beneficial impacts on grasslands through the breaking up of soil capping, more even grazing of forages, and improved manure distribution. Long rest periods allow for full grass recovery and improved ground cover, leading to an increase in plant diversity, particularly of perennial grasses, legumes and forbs. These are key catalysts to improve carbon, mineral, water and energy cycles. Academic research indicates that well-managed grasslands can store significant amounts of additional carbon, enough to offset most or all of the methane emissions associated with cattle[41,42].

Continuous Grazing

Constant access to entire pasture, leading to overgrazing



Holistic Planned Grazing



Access to smaller paddocks, adaptive based on changing conditions

Adapted from Diana Rodgers (Sacredcow.info)

- ✕ Less wildlife habitat
- ✕ More exposed soil
- ✕ Reduce forage diversity
- ✕ Increased rainfail runoff
- ✕ Less healthy animals
- ✕ More parasites

- ✓ Better wildlife habitat
- ✓ More microbial diversity
- ✓ Increased rainfail absorption
- ✓ More carbon sequestration
- ✓ Healthier animals
- ✓ Fewer parasites

One further management unit – covering 165,000 hectares – is being managed primarily for carbon. This area equates to 37% of our landholdings in Australia. Its terrain and low rainfall make it unsuitable for the same type of infrastructure development as the other properties. Instead, we have successfully established a large carbon project focused on regeneration of native Mulga woodland under the Australian Government's Carbon Farming Initiative. We also partnered with a local cattle producer who raises a small herd of cattle on the property, using sustainable management that is consistent with the carbon project.

The area of Australia in which we operate experienced a severe drought from 2013 to 2020, one of the worst droughts observed since records began in 1879. Average rainfall across our properties fell below 50% of the historic norm on a number of occasions. The properties received average rainfall for 3 quarters in 2016-17 but this was followed by an even more severe period of drought. Overall, the fund properties have received 36% less rainfall than expected since the start of operations. This has significantly curtailed our ability to carry animals and led to partial destocking at times. Our focus has been on stewarding the land through this drought and maintaining as much vegetative cover and soil health as possible. Rainfall returned to a normal level towards the end of 2020, leading to abundant pasture growth. The properties are now in good condition to take advantage of the upturn in weather conditions and a strong cattle market.

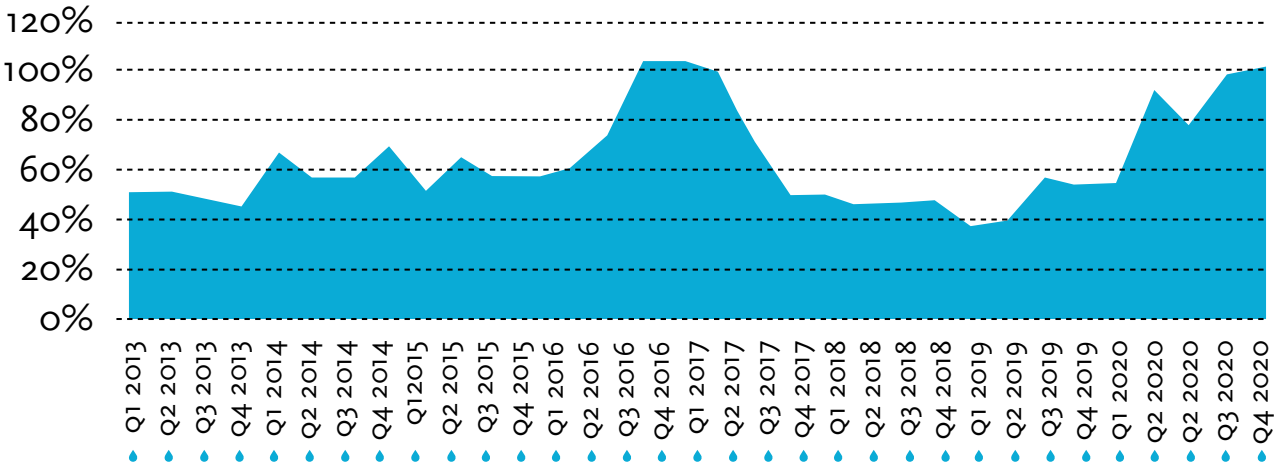
Infrastructure development on SLM properties

Water points built	168
Water piping laid (km)	539
Fencing erected (km)	4,121
New paddocks created	1,183
Total hectares	**285,192**

Progress so far

The fund has acquired and now manages large scale operations in southern Queensland and northern New South Wales, divided into 6 management units. Five of these management units – the core production properties covering 285,000 hectares – have been developed for holistic planned grazing. We invested capital in building 168 new water points to provide drinking water for larger cattle herds. We constructed 4,121 kilometres of fencing across these 5 properties, mostly single-wire electric fencing, creating 1,183 new paddocks. The paddocks average less than 200 hectares, which allows for much better control of grazing pressure.

Average rainfall on SLM properties (12-month rolling total vs historical average)



Impact measurement and results

Reporting frameworks

We have presented below the details of the 30 IRIS+ indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs.

GIIN IRIS+ Metrics	GIIN IRIS+ Metrics - Results	GIIN IRIS+ Primary Impact Categories	GIIN IRIS+ Other Impact Categories	SDGs
Crop Type	Natural Grassland - Rangeland	Agriculture	Biodiversity & Ecosystems / Land / Employment / Health	2, 6, 8, 9, 12, 15
Livestock/Fish Type	Grassfed Beef Cattle			
Land Directly Controlled: Total	450,000 ha			
Land Directly Controlled: Cultivated	0 ha			
Land Directly Controlled: Sustainably Managed	450,000 ha			
Land Directly Controlled: Treated with Pesticides	0 ha			
Biodiversity Assessment	Yes - Vegetation Surveys carried out on properties by 3rd party (Agricultural Information and Monitoring) every 2-3 years	Biodiversity & Ecosystems	Biodiversity & Ecosystems	2, 6, 8, 15
Greenhouse Gas Emissions Strategy	Yes - Holistic Planned Grazing and regeneration of native woodland	Climate	Air / Energy / Land / Pollution	3, 8, 9, 12
Greenhouse Gas Emissions Avoided Due to Carbon Offsets Sold	1,376,977 Australian Carbon Credit Units (ACCUs) issued and sold to the Australian Government's Clean Energy Regulator for projects on Fund properties from 2016 to 2020. (259,809 ACCUs in 2020 alone). Each ACCU issued represents one tonne of carbon dioxide equivalent (tCO_2e) stored or avoided.			
Greenhouse Gas Emissions Sequestered	1,376,977 tonnes of CO_2e between 2016 and 2020 (as represented by issued ACCUs). 259,809tCO_2e in 2020 alone			
Greenhouse Gas Emissions Mitigation Types	Greenhouse gas emissions avoided due to carbon offsets sold (i.e. ERF project) Greenhouse gas emissions sequestered from land use, land use change, and forestry (i.e. Mulga country regeneration)			
Forest Management Plan	N/A	Land	Agriculture / Biodiversity & Ecosystems / Employment / Climate / Water	2, 6, 12, 15
Type of Land Area	Grazing/Rangeland			
Ecosystem Services Provided	Provisioning Values/Services: Food - Freshwater Regulating Values/Services: Regulation of climate - Regulation of water timing and flows - Erosion control - Disease mitigation - Maintenance of soil quality - Pest mitigation - Pollination Supporting Values/Services: Habitat - Nutrient cycling - Primary production - Water cycling Cultural Values/Services: Educational and inspirational values			
Area of Trees Planted: Native Species	0 ha			
Area of Trees Planted: Total	0 ha			
Ecological Restoration Management Area	244,698 ha managed for regeneration of native woodland as part of projects approved by Australian Government's Clean Energy Regulator under the Carbon Farming Initiative			
Soil Conservation Practices	Application of regionally appropriate practices to promote healthy soil disturbance (eg. animal impact) while minimising physical damage of soil on pastureland through the adoption of grazing approaches underpinned by short and non-selective grazing followed by long rest periods that improve the plant community dynamics (and diversity), nutrient cycling, water infiltration (and less run-off) and soil stability; Prevention of soil erosion, acidification, salinization and accumulation of other adverse compounds.			

Impact measurement and results

Reporting frameworks

We have presented below the details of the 30 IRIS+ indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs.

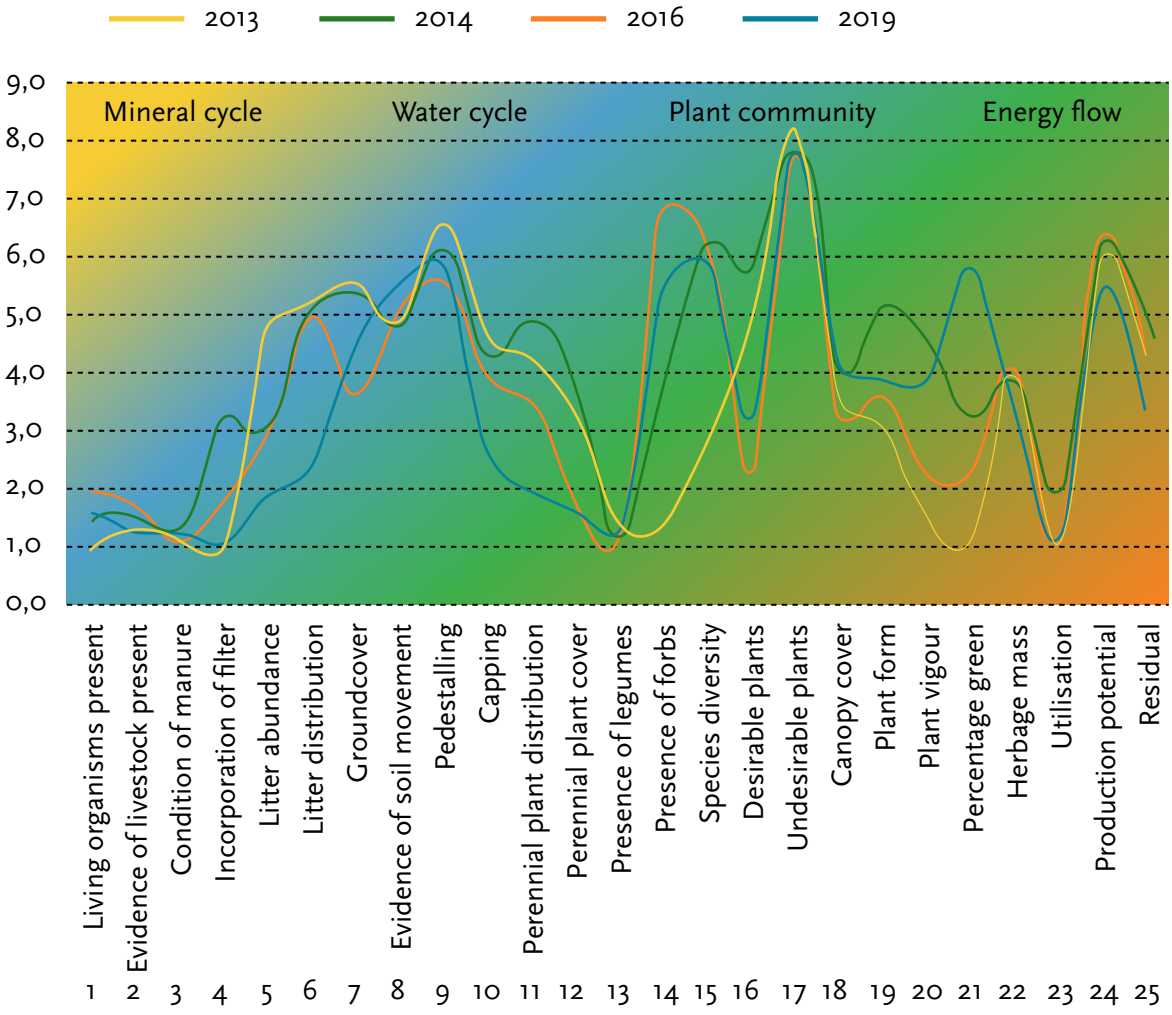
GIIN IRIS+ Metrics	GIIN IRIS+ Metrics - Results	GIIN IRIS+ Primary Impact Categories	GIIN IRIS+ Other Impact Categories	SDGs
Soil Health Practices	Application of regionally appropriate soil health improvement practices such as those promoted through holistic planned grazing. These practices aim to maintain ground cover, natural re-establishment of perennial grasses, legumes and forbs and the promotion of litter cover and decomposition to maintain or enhance soil fertility and physical and biological characteristics of soil; Monitoring of soil and landscape health characteristics, including: soil capping and erosion; litter cover, distribution and decomposition rate; species composition and diversity; condition and distribution of manure.		Agriculture / Biodiversity & Ecosystems / Employment / Climate / Water	
Water Quality Practices	The adoption of soil conservation and soil health practices also aim to improve water quality by restricting erosion, soil and nutrient runoff into water bodies.	Water	Agriculture / Biodiversity & Ecosystems / Climate / Land / Waste	
Level of Water Stress	Arid and low water use			
Water Withdrawn	98ML (estimate)			
Water Type	Groundwater / Rainwater			
Total Assets	Assets under management (AUM): US$60m	Cross - Category	Cross - Category	
Environmental Impact Objectives	Sustainable land use (Holistic Planned Grazing and Mulga regeneration)			
Climate Resilience Strategy	Yes			
Product/Service Certifications	No			
Social and Environmental Targets	1) Develop properties with fencing and water systems for Holistic Planned Grazing (4 of 5 properties developed); 2) Limit stocking rate to carrying capacity of land, adjusted for rainfall and seasonal conditions (achieved across all properties); 3) Improve vegetation cover and diversity of grasslands (not achieved yet because of persistent drought); 4) Increase carbon sequestration and generate carbon credits for sale wherever possible (1,376,977 ACCUs issued so far); 5) Provide well-paid and satisfying jobs for local farm workers (salaries meet or exceed industry benchmarks); 6) Provide training and experience in Holistic Planned Grazing to farm managers (achieved)			
Social and Environmental Performance Reporting	Yes - Environmental reporting			
Jobs in Directly Supported/Financed Enterprises	10 FTE			

Property-Level assessments: Biodiversity

Since 2013 we have engaged a third-party expert, Agricultural Information and Monitoring Services, to carry out regular biodiversity assessments on our properties. These assessments are based on landscape health monitoring protocols covering 36 sites with 25 indicators each. They include key land health indicators related to mineral and water cycles, plant community dynamics and energy flows. Each indicator receives a score from 1 (low) to 10 (high).

Despite the introduction of holistic planned grazing, the impact of seven years of drought has undermined our capacity to regenerate the land as fast as intended. The chronic deficit in rainfall over this period has halted many critical ecological processes on the land. Adjusting livestock numbers in accordance with these challenging seasonal conditions has allowed us to sustain landscape health and avoid further deterioration of the land. We believe that our sound and proactive land management approach is now paying off as seasonal conditions gradually returned to normal in 2020. The response of our grasslands to rainfall has been exceptional and we expect to see measurable improvements in land health conditions in future assessments.

The table below shows the aggregated indicator from all 36 monitoring sites for 2013, 2014, 2016 and 2019.



Property-Level assessments: Carbon

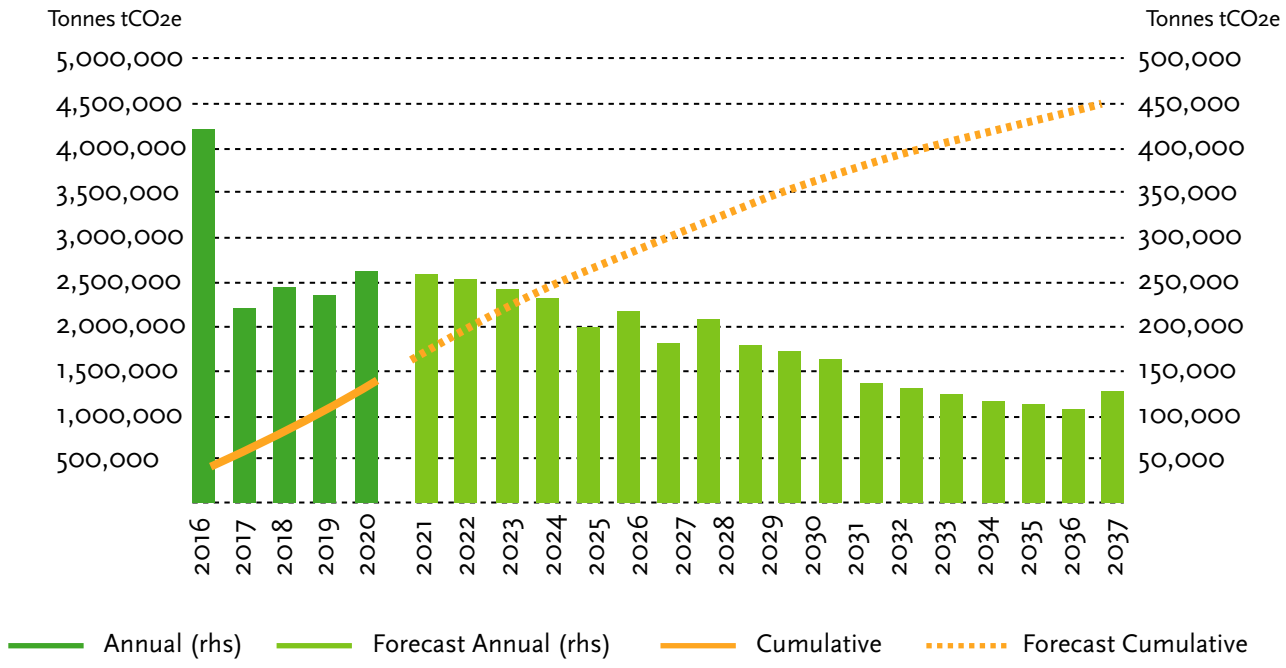
The fund has established 4 carbon projects on its properties under methodologies approved by the Australian Government's Carbon Farming Initiative. The total carbon estimation area covered by these projects is 163,773 hectares.

Three of these projects, covering 158,412 hectares increase carbon sequestration through the "Human-Induced Regeneration of a Permanent Even-Aged Native Forest" methodology. We have committed to manage the land in such a way that encourages native vegetation, especially native Mulga trees, to regenerate naturally into forest. This involves cessation of mechanical or chemical destruction of regrowing trees (a common historic practice in the area) and careful management of the timing and extent of grazing (which is consistent with our holistic planned grazing strategy). A smaller project, covering 5,361 hectares, applies an "Avoided Deforestation" methodology.

We partnered with an experienced Australian carbon project developer, Climate Friendly, to develop these projects. Climate Friendly carries out an independent verification of the progress of the project each year, using remote sensing (satellite imagery), site visits, reports from the property managers, and forest carbon models approved by the Australian regulator. The Australian Government's Clean Energy Regulator issues Kyoto-compliant Australian Carbon Credit Units (ACCUs) to the fund on the basis of these verified results. Each ACCU issued represents one tonne of carbon dioxide equivalent (tCO2e) stored or avoided.

The Australian Government has created an Emissions Reduction Fund, administered by the Clean Energy Regulator, to enter into contracts with farmers and landowners to buy carbon credits. We participated in reverse auctions and won contracts to sell credits to the Clean Energy Regulator over the first 10 years of each project. The projects last for 25 years and should continue to generate carbon credits beyond the initial 10-year contract. It may be possible to sell these later credits to private sector buyers seeking to offset their emissions. These projects generated 259,809 ACCUs in 2020, which is equivalent to the annual emissions of 56,130 passenger vehicles or the emissions avoided by 56 wind turbines. The total amount of carbon sequestered under these projects over 25 years is forecasted to be 4,508,731 ACCUs, a sum that equates to 10,438,665 barrels of oil consumed.

Annual and Cumulative ACCCs Generated and Sold - Actual and Forecast



Before acquisition		After development
22 small	Water points	**28 large**
18	Paddocks	**224**
2,388 ha	Average size of paddocks	**191 ha**

Case Study: Padua

Padua was the first acquisition of the SLM Australia Livestock Fund. It is an aggregation of two properties that were purchased for approximately AU$10 million in 2012. Situated near Cunnamulla in south-central Queensland, it covers 43,000 hectares of native grassland and open woodland. Average rainfall is 380mm and it benefits from periodic flooding from the Warrego River.

Previous to acquisition, the property had been divided into 18 large paddocks, with one paddock stretching across 14,500 hectares. There were 22 small water points that could only support a limited number of animals at one time. Cattle and sheep were conventionally managed, with small herds scattered across the property. One-third of the land was not being utilised as it was more than 2km from a water point, the limit for how far livestock will walk.

The fund invested over AU$3 million into the development of holistic planned grazing across the property. Twenty-eight new water points were constructed, consisting of double tanks and troughs, supplied by 116km of newly laid water pipes. Each water point is capable of delivering enough drinking water for 4,000 cattle at one time. 788km of fencing was erected, mostly single-wire electric, creating 224 new paddocks. We used a 'wagon wheel' design where each water point gave access to 8 paddocks around it. We also built 2 new cattle yards according to low stress stock handling principles, which allows animals to be moved and processed with less stress.

This development reduced the average size of paddocks to less than 200 hectares. It allowed us to introduce holistic planned grazing, using larger herds to have a positive impact on the land, and then moving these herds every few days to new paddocks, so that the land had time to recover. On occasion we have managed a single herd of 4,000 animals, although more commonly we group herds of 1,000-2,000 animals each. During the extreme drought of recent years, we quickly reduced cattle numbers and fully destocked the property for a period. Our focus has been on conserving the condition of the land in order to build resilience and augment recovery rates. This approach has been validated as the property benefited from good rains in 2020 and is now showing abundant pasture growth.

STRATEGY PROFILE - IRELAND

Investment Strategy

The SLM Silva Fund is a €30 million sustainable Irish forestry fund established in 2018 with backing from the European Investment Bank and other European investors. SLM Partners entered into a partnership with an Irish forestry company, Purser Tarleton Russell Limited (PTR), which is responsible for evaluating acquisition opportunities and managing forest properties after acquisition.

The Fund acquires existing semi-mature forest plantations in Ireland and transitions them from a management regime based on clear-felling to continuous cover forestry systems. Where possible, the Fund also establishes new forests with a diverse set of tree species on marginal agricultural land.

Because of its mild climate, Ireland has some of the best growth rates for trees in the world. The country has a well-developed timber processing industry, which exports to the UK and other parts of Europe, and a growing bioenergy market. As a commodity, timber is set to grow in value as the world shifts towards a bio-economy and timber products displace cement, steel and fossil fuels.

Impact Thesis

Temperate conventional forestry in countries like Ireland is dominated by non-native, single-specie, even-aged stands that are managed in a clear-fell-replant system. Under this system, land is prepared and planted with trees, the plantation is thinned periodically, and all the remaining trees are then harvested on maturity, before the land is replanted for the next rotation. This silvicultural system is easy to plan and execute. But it exposes investors to certain risks: 1- Even-aged monocultures are more susceptible to pests, diseases and windthrow – risks that are likely to be exacerbated by climate change; 2- Clear-felling can cause negative environmental impacts such as soil damage, water run-off, reduced biodiversity, low amenity value and release of forest and soil carbon; 3- Tightening government regulations and certification standards are constraining the ability to apply this system, especially in environmentally sensitive areas.

Continuous cover forestry is a viable alternative. Under this system, forest cover and woodland conditions are maintained permanently. Trees are felled individually or in small groups throughout the entire woodland area. The increment in growth is removed as 'income' every few years, preserving the 'capital' of the standing forest. High quality trees are allowed to grow larger. The system relies on natural regeneration to develop a mixed-age stand, and species diversity is encouraged and naturally emerges across the full productive area of the forest, rather than being compartmentalised in plots. The overall objective is to maximise the commercial benefits from woodland while letting natural processes do most of the work.

Forests managed under CCF have higher biodiversity and amenity value, and they can be more resilient to pests, diseases and windthrow, contributing to climate change adaptation. They store more carbon in standing trees and soils, avoid the release of carbon that occurs with a clear-felling event. This management approach also avoids the negative impacts on soil and water resources that can be caused by clear-felling[43].

Progress so far

By the end of 2020, the Fund had acquired 50 properties totalling 1,243ha hectares. 67% of the area is currently being managed under CCF. The remaining area is unsuitable for CCF management at this stage of the rotation, because the forests are too old to make the necessary interventions without compromising stability and increasing the risk of wind damage. These areas will be managed sustainably to clearfell and then replanted with more diverse mixtures, with the goal of applying CCF management in the second rotation. In addition, we have agreed sales on a further 300 hectares and these properties are going through the conveyancing and contracting process.

The majority of the forest properties are between 16 and 30 years old. Sitka spruce is the main tree species, making up more than three-quarters of the area in the current portfolio, but other species include Norway spruce, Lodgepole pine, Ash, Sycamore, Japanese larch, Oak, Douglas fir and Alder. We are constructing roads to improve access to the forests, applying for felling licenses, and starting to carry out thinning operations on the properties, as the first step towards transformation to continuous cover forestry. We have also acquired 32 ha of grazing land for afforestation, and have planted 17 ha to date. In 2021 we anticipate the launch of an EU LIFE project to fund CCF training and R&D work to help fill data gaps and build biodiversity monitoring and carbon measurements into timber inventory systems.

Impact measurement and results

Reporting frameworks

We have presented below the details of the 30 IRIS+ indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs.

GIIN IRIS+ Metrics	GIIN IRIS+ Metrics - Results	GIIN IRIS+ Primary Impact Categories	GIIN IRIS+ Other Impact Categories	SDGs
Crop (Forest) Type	Stika Spruce, Norway Spruce, Lodgepole Pine, Japanese Larch, Douglas Fir, Ash, Sycamore, Oak and Alder	Agriculture	Biodiversity & Ecosystems / Land / Employment / Health	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND
Livestock/Fish Type	N/A			
Land Directly Controlled: Total	1,243 ha			
Land Directly Controlled: Cultivated	N/A			
Land Directly Controlled: Sustainably Managed	1,243 ha			
Land Directly Controlled: Treated with Pesticides	37 ha			
Biodiversity Assessment	Yes - with input from the European Investment Bank, the fund agreed a set of forest biodiversity indicators that will be measured and reported regularly	Biodiversity & Ecosystems	Biodiversity & Ecosystems	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 15 LIFE ON LAND
Greenhouse Gas Emissions Strategy	Growth of semi-mature forests and transformation from clearfell management to Continuous Cover Forestry (CCF)	Climate	Air / Energy / Land / Pollution	3 GOOD HEALTH AND WELL-BEING; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Greenhouse Gas Emissions Avoided Due to Carbon Offsets Sold	0			
Greenhouse Gas Emissions Sequestered	20,654t CO_2 eq.			
Greenhouse Gas Emissions Mitigation Types	· Greenhouse gas emission reductions from land use, land use change, and forestry; · Greenhouse gas emissions sequestered from land use, land use change, and forestry			
Forest Management Plan	Yes			
Type of Land Area	Forestry: 1,243 ha			
Ecosystem Services Provided	Provisioning Values/Services: Food - Freshwater Regulating Values/Services: Regulation of climate - Regulation of water timing and flows - Erosion control - Disease mitigation - Maintenance of soil quality - Pest mitigation - Pollination Supporting Values/Services: Habitat - Nutrient cycling - Primary production - Water cycling Cultural Values/Services: Educational and inspirational values	Land	Agriculture / Biodiversity & Ecosystems / Employment / Climate / Water	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND
Area of Trees Planted: Native Species	2,85 ha			
Area of Trees Planted: Total	20,74 ha			
Ecological Restoration Management Area	132 ha			
Soil Conservation Practices	Application of CCF (avoidance of clearfell), to minimize disturbance and physical damage of soils in forests, promotion of understory regrowth, creation of buffer zones around bodies of water; Prevention of soil erosion, acidification, salinization and accumulation of other adverse compounds			

Impact measurement and results

Reporting frameworks

We have presented below the details of the 30 IRIS+ indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs.

GIIN IRIS+ Metrics	GIIN IRIS+ Metrics - Results	GIIN IRIS+ Primary Impact Categories	GIIN IRIS+ Other Impact Categories	SDGs
Soil Health Practices	Same as Soil Conservation Practices	Water	Agriculture / Biodiversity & Ecosystems / Climate / Land / Waste	6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION
Water Quality Practices	The adoption of soil conservation and soil health practices aim to improve water quality by restricting erosion, soil and nutrient runoff into water bodies. The transition to more diverse forests under Continuous Cover Forestry will reduce eutrophication and acidification of waterways.			
Level of Water Stress	Low (<10%)			
Water Withdrawn	N/A			
Water Type	N/A			
Total Assets	Assets under management (AUM): US$35m	Cross - Category	Cross - Category	2 ZERO HUNGER; 3 GOOD HEALTH AND WELL-BEING; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION; 15 LIFE ON LAND
Environmental Impact Objectives	Sustainable land use (CCF Converstion and Afforestation)			
Climate Resilience Strategy	Yes			
Product/Service Certifications	Currently evaluating suitable product certification - FSC and PEFC			
Social and Environmental Targets	The SLM Silva Fund established a partnership with the European Investment Bank's Natural Capital Finance Facility to develop a technical assistance (TA) operation. The key areas of focus and deliverables of the TA are: 1) CCF Training and Capacity Building Programme; 2) Integration of Additional Biodiversity Indicators into Conventional Forest Inventory; 3) Set up of forest plots for monitoring and planning under the AFI/ISN protocols; 4) Study on Sustainable Deer Densities and Carrying Capacity in Irish Forests; 5) Assistance in Carbon Monitoring; 6) Establishing a Forest Management Certification Scheme			
Social and Environmental Performance Reporting	Yes			
Jobs in Directly Supported/Financed Enterprises	4.5 FTE			

Property-Level assessments

During the development of the Fund, we designed a set of sustainability indicators that we would use to measure and report on impact at the forest-level. In particular, we liaised with the technical forestry and environmental experts of the European Investment Bank to define relevant indicators. The 7 indicators are listed below, along with notes on their relevance and how they will be measured.

Indicator	Relevance	Means of Measurement
1. Area of Forest Managed Under CCF (hectares)	This requirement is aligned with the Fund's objectives and acquisition strategy.	The management / silvicultural system to be used for each forest will be stated in each individual forest management plan. A summary of these areas in hectares will be available via the forest inventory.
2. Forest Naturalness – Deadwood	Fallen and standing deadwood, retained as habitat, is a key biodiversity indicator used internationally. Forest naturalness increases with greater volumes of retaine deadwood.	Deadwood will be measured in cubic meters per hectare (m^3 / ha.) as part of the forest inventory.
3. Forest Naturalness – Tree Species Range	Most Irish plantation forests are either monocultures or have a very narrow range of species present. By increasing the range of species, opportunities arise for greater biodiversity levels and increased resilience against climate change.	The tree species present at each site shall be recorded in the forest inventory.
4. Forest Naturalness – Tree Size Distribution	Conventional forest management in Ireland is to homogenise tree sizes through thinning so that at felling all trees are of a similar size. Conversely, in CCF management, thinning is used to diversify the range of tree sizes in order to ensure a stock of trees over an extended time period. Therefore, the tree size distribution for any stand can be used as a strong indicator that stands are progressing towards CCF.	Tree Diameter at Breast Height ("DBH") can be used as a proxy for tree size and the DBH distribution is measured as part of the inventory process. DBH is measured in centimetres (cm) and a distribution across the DBH range of trees in each stand can be presented.
5. Forest Naturalness – Regeneration	Conventional forest management in Ireland does not encourage natural regeneration. In CCF management, thinning from an early age is used to reduce the basal area to levels that encourage natural regeneration and stands are retained allowing seeding to occur. For this reason, the presence of natural regeneration is considered a reasonable indicator of progress in CCF management.	The presence or absence of natural regeneration in the stand will be recorded in the forest inventory.
6. Forest Naturalness – Other Identified Biodiversity Features	At present, most conventional forest inventory systems in Ireland are weak with regard to the assessment and recording of biodiversity features and indicators. Apart from the features already proposed as indicators 2 to 5 above, other features such as veteran trees, caves, cliff faces, old hedgerows, river banks, water courses, open spaces, inaccessible banks, springs, nesting sites, swamps etc. can be of high biodiversity value and should be recorded as such in the forest inventory.	Combined biodiversity data will be summarised per site on a site biodiversity map that quantifies in area (ha.) and percentage terms, the proportion of each site where biodiversity objectives are prioritised.
7. Carbon Sequestration	Forests are an important carbon sink and provide mitigation against global warming and climate change. For CCF forests, while some carbon is leaked from the system through natural timber decay and harvesting, the forest as a whole locks in carbon both above and below ground and this is retained as long as the forest is retained.	It is intended to develop / adopt a measure, using the timber inventory as a proxy, that records carbon stored in forests owned and managed by the fund.

The European Investment Bank invested in the Fund via its Natural Capital Financing Facility (NCFF). This facility is earmarked for projects with high biodiversity and environmental impacts. Alongside investment, the NCFF is providing technical assistance funding that will be used to enhance impact measurement as well as the Fund's impact on the broader Irish forest sector. Technical assistance will be used to develop methods for integrating biodiversity features and indicators into the Fund's forest inventory and planning systems. It will be used to develop a scientifically robust methodology for accounting for carbon stored in CCF forests, which will then be integrated with the Fund's forest inventory to allow annual reporting on this indicator.

The technical assistance funding will also be used to provide CCF management training to the wider Irish forest industry and to establish and monitor research plots in CCF-managed properties owned by the Fund, using a protocol developed by the Association Futaie Irrégulière (AFI) in France. After some delays, the technical assistance facility should be operational in 2021, which will allow us to enhance impact measurement and report robust technical data in future years.

Co. Tipperary, Ireland

48 hectares

Sitka spruce, Norway spruce, Japanese larch, Lodgepole pine

100%
Area under CCF management

hedgerows watercourse springs

Biodiversity features

8,106 m3
Current standing timber volume

769 tonnes CO2e per annum
Estimated carbon sequestration

Case Study: Cloncannon forest

Cloncannon is a 48-hectare upland forest in County Tipperary that the Fund acquired in 2019. It was planted in 1996. Some of the most productive stands at the lower elevations had been thinned before we bought it.

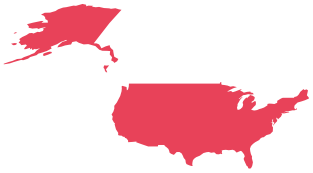
We applied to the Forest Service for a felling license based on CCF management and for a grant to extend the existing forest road so we could thin all the forest compartments. The CCF thinning will remove smaller and misshapen or heavily branching trees every 3-4 years to allow more light into the forest. This will ensure the remaining, higher quality trees grow faster, and, over time, it will promote natural regeneration as the trees mature and produce viable seed. Over the next 50-60 years, multiple cohorts of trees of different ages will develop in the forest, giving structural and age diversity, and removing the need to clear-fell and replant.

The forest contained a block of pure larch that was not growing well. We clear-felled this compartment and replanted with a more diverse mix of species that will be managed under continuous cover forestry, further increasing site productivity and species diversity. The forest also contained a small area that had been left unplanted, so we have afforested this area with a diverse mix of species.

The forest will produce a mix of smaller, lower value logs that will supply local biomass boilers with renewable energy, and higher value sawlogs to supply the construction industry. The retention of the forest canopy under CCF management will allow forest biodiversity to develop without disturbance, which is likely to accelerate the accumulation of soil carbon, as well as microorganisms, herbaceous plants, fungi and wildlife. CCF management will give the forest greater resilience to wind, pests and diseases without compromising productivity.

The forest has a prominent position in the landscape. We expect it to become a visible example of successful CCF management and a suitable site for training harvesting contractors and forest managers on sustainable practices.

STRATEGY PROFILE - USA



Investment Strategy

SLM Partners manages a combination of separate accounts in the USA with $115 million in capital focused on scaling up organic certified farming. Our investments support the production of organic grains such as corn, soybeans, wheat and other small grains, as part of multi-year crop rotations involving forages and cover crops.

Our core strategy is to acquire conventional cropland and partner with local farmers to convert this land to organic production. Consumer demand for organic food is growing strongly, and organic food sales are now 6% of total food sales in the USA. There are strong price premiums for many organic crops. Yet, American farmers have been slow to transition to organic production because of perceived financial and agronomic risks: the amount of organic certified cropland is 1% of the total cropping acreage. Our strategy helps to overcome these barriers. We identify skilled organic farmers who want to expand, work with them to find suitable land, acquire this land and make it available to the farmers through long-term, flexible leases. In effect, we share some of the risks of the 3-year organic transition with farmers and then share in some of the higher profitability that comes from organic farming.

In addition, we provide farm management services to investors or landowners who own large properties and want to convert them to organic certification. We build farm teams, design crop rotations, develop farm management plans, secure marketing contracts and oversee farm operations.

Impact Thesis

Conventional arable farming has largely focused on maximising yields, leading to an over-reliance on external inputs, such as synthetic fertilisers, genetically modified seeds, pesticides, herbicides and other chemicals. These farming systems are associated with a number of well-documented problems: soil erosion, water pollution, pesticide toxicity, high greenhouse gas emissions, reduction of biodiversity (such as pollinators), and over-use of antibiotics in animals. At the same time, conventional farmers often struggle to make a profit, squeezed between high input costs and fluctuating commodity prices[44].

Organic agriculture is governed by a strict set of regulations that prohibit the use of synthetic pesticides and fertilizers, genetic engineering (GMOs), antibiotics, and growth hormones, as well as requiring the use of farming methods that promote ecological balance and foster on-farm biodiversity. As a result, organic farmers tend to grow a more diverse range of crops, plant cover crops to nourish the soil, and use livestock manure or compost to build soil fertility. They rely on biology, not chemistry, to sustain production and to control pests and weeds.

Well-managed organic farms – using regenerative practices such as cover crops, diverse rotations, organic fertility and livestock grazing – can deliver many environmental benefits. They support more biodiversity and reduce nutrient run-off into waterways. They have healthier and more biologically active soils with higher levels of soil organic matter. Although they usually require tillage to control weeds, the use of organic farming practices has been shown to increase soil carbon over time and to reduce greenhouse gas emissions associated with synthetic fertilisers and agro-chemicals. As a result, organic farming can contribute both to climate change mitigation and adaptation.

Our strategy has positive social impacts by helping organic family farmers expand and thrive. We provide long-term access to land (instead of the leases of 1, 2 or 3 years that are common) and share in some of the financial risks of organic transition. We help farmers achieve higher levels of income, and employ more farm workers, which contributes to the revitalisation of rural economies. The transition to organic farming also reduces the amount of pesticide residues in food and eliminates the risk of pesticide poisoning for farm workers.

Progress so far

Our land investment strategy is focused on the US Midwest and Northeast. Since the end of 2019, we have acquired properties in Illinois and Ohio totalling 500 acres (200 hectares). This land has been leased to 3 local organic farmers using a 10-year lease agreement with flexible terms. These farms have started the organic transition and will be organic certified in 2021 or 2022.

At the end of 2020, we established a new US$75 million separate account with an institutional investor. We are on course to complete a number of additional acquisitions in 2021 and to partner with many more farmers. The focus for this mandate is Illinois, Indiana, Michigan, Ohio and New York, although we will consider investments in other states.

In 2019, SLM Partners was appointed manager of a 34,000 acre (13,750 hectare) farm in South Dakota. We completed the organic certification of this farm in 2020. The farm is growing organic wheat and yellow peas, as well as alfalfa and other cover crops, and has secured off-take contracts with major organic grain buyers. It is one of the largest organic crop farms in the country.

Impact measurement and results

Reporting frameworks

We have presented below the details of the 30 IRIS+ indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs.

GIIN IRIS+ Metrics	GIIN IRIS+ Metrics - Results	GIIN IRIS+ Primary Impact Categories	GIIN IRIS+ Other Impact Categories	SDGs
Crop Type	Soybean, Corn, Wheat, Yellow Peas, Alfalfa, Cover Crops	Agriculture	Biodiversity & Ecosystems / Land / Employment / Health	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND
Livestock/Fish Type	No			
Land Directly Controlled: Total	13,960 ha			
Land Directly Controlled: Cultivated	12,600 ha			
Land Directly Controlled: Sustainably Managed	12,600 ha			
Land Directly Controlled: Treated with Pesticides	0 ha			
Biodiversity Assessment	No	Biodiversity & Ecosystems	Biodiversity & Ecosystems	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 15 LIFE ON LAND
Greenhouse Gas Emissions Strategy	Our strategy is to convert conventional cropland to organic certification. Organic farming eliminates the use of synthetic fertilisers and pesticides, applies biological fertility (such as manure or compost), uses cover crops, and adopts more diverse crop rotations. Organic arms often use minimal tillage to control weeds, which can increase fuel use. But organic farms use less fossil fuel-intensive agrochemicals and have reduced nitrous oxide emissions. Over time, well-managed organic farms increase soil organic matter, leading to carbon sequestration in soils. Overall, well-managed organic farms have less GHG emissions than conventional, chemical-based agriculture.	Climate	Air / Energy / Land / Pollution	3 GOOD HEALTH AND WELL-BEING; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION
Greenhouse Gas Emissions Avoided Due to Carbon Offsets Sold	0			
Greenhouse Gas Emissions Sequestered	0			
Greenhouse Gas Emissions Mitigation Types	• Greenhouse gas emissions sequestered from land use, land use change, and forestry; • Greenhouse gas emission reductions from land use, land use change, and forestry			
Forest Management Plan	N/A	Land	Agriculture / Biodiversity & Ecosystems / Employment / Climate / Water	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND
Type of Land Area	Agricultural Land			
Ecosystem Services Provided	Provisioning Values/Services: Food - Freshwater Regulating Values/Services: Regulation of climate - Regulation of water timing and flows - Erosion control - Disease mitigation - Maintenance of soil quality - Pest mitigation - Pollination Supporting Values/Services: Habitat - Nutrient cycling - Primary production - Water cycling Cultural Values/Services: Educational and inspirational values			
Area of Trees Planted: Native Species	N/A			
Area of Trees Planted: Total	N/A			
Ecological Restoration Management Area	1,200 ha			

Impact measurement and results

Reporting frameworks

We have presented below the details of the 30 IRIS+ indicators we currently use to assess the impact of our strategies. These are matched to their respective impact themes and categories and aligned to relevant SDGs.

GIIN IRIS+ Metrics	GIIN IRIS+ Metrics - Results	GIIN IRIS+ Primary Impact Categories	GIIN IRIS+ Other Impact Categories	SDGs
Soil Conservation Practices	Application of regionally appropriate practices to minimize disturbance and physical damage of soil on cropland such as the use of cover crops, replacement of synthetic fertilizers with biological fertility, installation of riparian buffers, which reduces nutrient run-off; Prevention of soil erosion, acidification, salinization and accumulation of other adverse compounds	Land	Agriculture / Biodiversity & Ecosystems / Employment / Climate / Water	2 ZERO HUNGER; 6 CLEAN WATER AND SANITATION; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 15 LIFE ON LAND
Soil Health Practices	Application of regionally appropriate soil health improvement practices such as lower tillage systems, cover cropping, addition of soil amendments (e.g. Compost and manure) and crop residue usage to maintain or enhance soil fertility and physical and biological characteristics of soil; Monitoring of soil health characteristics, including nutrients from different sources necessary to maintain or enhance appropriate nutrient balance and soil health; Developing and maintaining an up-to-date nutrient management program that efficiently uses nutrient inputs and nutrients in the soil and crops to create optimum conditions for production and avoids nutrient loss to water and air.			
Water Quality Practices	The adoption of soil conservation and soil health practices also aim to improve water quality by restricting erosion, soil and nutrient runoff into water bodies.	Water	Agriculture / Biodiversity & Ecosystems / Climate / Land / Waste	6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION
Level of Water Stress	Low-medium (10–19.9%)			
Water Withdrawn	0			
Water Type	Rainwater			
Total Assets	Assets under management (AUM): US$115m	Cross - Category	Cross - Category	2 ZERO HUNGER; 3 GOOD HEALTH AND WELL-BEING; 6 CLEAN WATER AND SANITATION; 8 DECENT WORK AND ECONOMIC GROWTH; 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE; 12 RESPONSIBLE CONSUMPTION AND PRODUCTION; 13 CLIMATE ACTION; 15 LIFE ON LAND
Environmental Impact Objectives	Sustainable land use (Organic Converstion)			
Climate Resilience Strategy	Yes			
Product/Service Certifications	USDA Organic Certified			
Social and Environmental Targets	1) All controlled land is under organic certification or in transition to organic certification (100% currently). 2) Farms achieve a net positive change in GHG emissions and sequestration compared to previous baseline (measurement not yet started). 3) Increase in biodiversity on all farms (not yet measured). 4) Helping organic farmers to access more land and to scale up (3 farmers leasing 200 ha)			
Social and Environmental Performance Reporting	Yes			
Jobs in Directly Supported/Financed Enterprises	13 FTE			

Property-Level assessments: Rodale Institute

SLM Partners has entered into a strategic partnership with Rodale Institute to assess soil health on all our acquired properties. Rodale Institute is a 501(c)(3) non-profit dedicated to growing the organic movement through rigorous research, farmer training, and consumer education. Widely recognized as a founder of the modern organic movement, Rodale Institute has been a global leader in regenerative organic agriculture for over 70 years. It operates from headquarters in Pennsylvania and regional resource centres in Iowa, Georgia and California. Its staff include soil scientists who drive research efforts and organic crop consultants who provide in-field advice to farmers around the country.

Rodale Institute will conduct environmental sampling, monitoring, and analysis on all our farms in order to verify the overall impact of the production systems. Rodale staff will take soil samples on acquired properties and provide analysis in the form of a soil health impact report. This will be conducted soon after acquisition on all properties to establish an initial baseline and then every 3 years hence. It will show changes in soil organic matter and other soil health indicators as the farms undergo the transition to organic management. Rodale Institute has taken samples on the farms we acquired in Illinois and Ohio and will deliver the first baseline reports in early 2021.

Property-Level assessments: Carbon models

In addition to in-field soil samples, SLM Partners is exploring the use of biogeochemical models, and associated carbon accounting schemes, to assess the impact of transitioning conventional cropland to organic certification on soil carbon and farm-level greenhouse gas emissions.

As a pilot project, we commissioned Carbon Yield, a specialist carbon project developer that focuses on agriculture, to carry out an assessment of Pike and Condon farms in Illinois. These comprise 193 acres of farmland that we acquired in late 2019 and 2020 and leased to a local organic farmer, Wyatt Muse. The Carbon Yield team collected data on soil types, the prior history of the land, and Wyatt's crop rotation and farming practices. They inputted this data into the COMET-Farm tool, the official greenhouse gas quantification tool of the US Department of Agriculture (USDA). They then used the Nori soil carbon methodology to estimate the number of verified soil carbon credits that the farms would deliver, after taking into account all discounts and buffers. Under this methodology, the farms are expected to sequester 2,783 tonnes of CO_2e over ten years, at a rate of 1.45 tonnes per acre per year.

Projected soil carbon sequestration on SLM farms in Illinois under organic transition

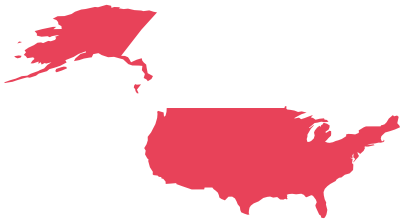
	Pike Farm	Condon Farm	Combined
Area	81	112	193
Average tonnes CO_2e/ acre/ year	1.51	1.39	1.45
Total tonnes CO_2	1,225	1,558	2,783

Source: Carbon Yield, based on COMET-Farm tool and Nori soil carbon scheme

This is an impressive rate of carbon storage. We are now working with Wyatt to explore options to generate and sell voluntary carbon offsets from this farmland. And we plan to replicate this across all acquire farms that are suitable for this programme.

Property-Level assessments: Certifications

All our acquired or managed properties in the US are organic certified or in transition to organic certification. Certification is carried out by third party certifiers that are accredited by the US Department of Agriculture under the National Organic Program. Each farm must present an organic system plan and provide records of crop rotations and all substances used. Organic certifiers carry out inspections of every farm before approving certification.



Illinois, USA

193
acres acquired and leased

Organic alfalfa, corn, soybeans, wheat and oats

Farms are expected to sequester
2,783 tonnes of CO2e
over a period of 10 years

Case Study: Wyatt Muse, Illinois

Wyatt is an innovative young farmer from Champaign County, Illinois. Now 38 years old, he was born and raised on a farm and has held a paid farm job since he was 13. His children (Griffin & Penelope) mark the 5th generation to live and farm on land near Monticello, along with his wife, Ashley. He received a degree in Agribusiness from the University of Illinois at Urbana-Champaign and spent a year studying at Wageningen University in the Netherlands. From 2013 to 2017, Wyatt volunteered as the Treasurer of The Land Connection, an Illinois non-profit that focuses on educating farmers about ecological farming practices.

Wyatt operates his own farmland and is also a partner in Dirt Road Organics, which operates on over 700 acres of land utilizing organic practices (either in transition or fully certified) out of 3,000 total acres farmed, mostly accessed through leases. Wyatt was looking to expand his organic acreage but it was hard to reconcile this with the annual cash leases that are typical in his area. The 36-month organic transition meant he would incur financial losses during the first two years; and there was no certainty that he would be able to lease the land for the long-term and therefore earn a return on his initial investment. This attracted him to our 'farmer first' investment programme.

We worked with Wyatt to identify two suitable farms in his area totalling 193 acres (Pike Farm and Condon Farm) and acquired these parcels in December 2019 and November 2020. We entered into a 10-year lease with Wyatt, under which he would pay a reduced rent during the organic transition and then a standard rent plus a profit share after the farms are certified. Wyatt started the organic transition on Pike Farm in 2020 by planting alfalfa, a perennial forage crop that increase soil organic matter and soil fertility. The first year of organic transition on Condon Farm will be 2021. Wyatt plans to grow organic corn, soybeans, wheat and oats, mostly for food markets, as well as alfalfa for livestock. Wyatt utilises regenerative farming practices, using cover crops, biological fertility, and diverse rotations, while seeking to minimize tillage.

We hired Carbon Yield, a specialist carbon project developer, to carry out an assessment of the carbon sequestration potential of these farms under Wyatt's organic management. Using the COMET-Farm tool, their analysis showed that the farms are expected to sequester 2,783 tonnes of CO2e over ten years, at a rate of 1.45 tonnes per acre per year. This is an impressive rate of carbon storage for cropland.

FUTURE ROADMAP

Sustainability and ESG reporting have moved by leaps and bounds over the last few years. The financial and corporate sectors have now fully embraced voluntary reporting, while regulation is moving fast to bring more transparency and accountability to asset managers and financial products. Yet, in many ways the journey has only started. We recognise some of the limitations in how we are currently able to report on impact and see the need to advance reporting on two key fronts.

For those working across natural capital strategies, the first challenge relates to the lack of a cohesive and standardised set of metrics and indicators for agriculture and forestry. For now, we have mostly relied on practice-based and ad-hoc qualitative assessments to demonstrate impact, but we will include more evidence-based assessments across carbon (i.e. Life Cycle Analysis), soil health, biodiversity and water in our future investment strategies. This new suite of indicators and metrics will be aligned with the GIIN IRIS+, the SDGs and the EU SFDR reporting taxonomies to ensure a consistent communication effort, and compliance, with the delivery of impact outcomes.

The second challenge is to validate our reporting processes and systems, including data collection and analysis, through engagements with independent third-party experts. Third-party verification is a necessary step towards transparency and will also provide a more dynamic and independent approach to evaluate the impact risks and opportunities associated with our investments. This extra level of rigour and disclosure will benefit investors and a wider set of stakeholders.

Measuring and ground-truthing a complex and granular set of biological processes at the farm and forest level is not an easy task. With the advent of more reliable and cost-effective soil and climate sensors, remote sensing data monitoring systems and wider use of geo-referenced farm machinery data access, technology is starting to play a greater role in environmental assessments. We will leverage technology and streamline data collection and analysis where possible. But there will be a cost to implementing more robust impact reporting. Managers and investors should be explicit about this when agreeing on management fees and other fund costs.

Our future reporting activities will aim to further embed impact into our strategies and day-to-day operations. Managing agricultural and forestry assets in line with ecological principles is full of complexity. Outcomes are not always immediate nor obvious. Time and patient capital are of the utmost importance for pursuing such investments, but we believe more than ever that the ecological impacts and financial returns make it worthwhile.

Our next strategy

SLM Partners is currently developing a pan-European regenerative land management fund that will invest in forestry and permanent crops across Ireland, Portugal, Spain and other European countries. We intend to build a climate positive portfolio, which stores more carbon than it emits, while also contributing to EU targets on biodiversity, organic farming and sustainable food. It will help institutional investors meet their commitments to action on climate and biodiversity, as these issues become priorities for regulators and society.

We will measure and verify these impacts by engaging third-party organisations to carry out robust and transparent carbon life-cycle analysis (LCA) on all acquired properties. At an operational and portfolio level, we will develop detailed baseline assessments and set clear targets for climate, biodiversity, water and social outcomes. We see this new European fund as an opportunity to push our impact measurement and reporting to the next level.

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