



slow

REGENERATIVE GROWTH

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About this report

This impact report provides a transparent account of Slow's environmental and social performance in 2024. It is intended for partners, customers, and stakeholders seeking to understand how our business model delivers tangible outcomes for people and nature — on farms, in communities, and throughout the value chain.

The data, insights, and stories presented here reflect our work across multiple countries, including sourcing regions like Laos, Vietnam, and Indonesia, and key business hubs in Denmark, Finland, and Singapore. Unless otherwise stated, the data and stories reflect the 2024 calendar year.

The report combines qualitative insights with quantitative data drawn from across our value chain — covering activities on company-owned farms, with smallholder farmers, and through our market, logistics, and operational teams. We have aimed to strike a balance between narrative and measurement, showing both the progress made in 2024 and the challenges that remain.

This report is not just a summary — it is a tool for dialogue and accountability.



Talk is still cheap. Action is overdue.

Our 2024 Impact Report is a blueprint for how coffee and chocolate can drive real change — beyond slogans, beyond speeches.

Sebastian Nielsen, CEO of Slow

Let's be honest. 2024 should have been the year where ambition turned into action. With bold frameworks like CSRD, CSDDD, and EUDR, the EU signalled real intent — finally, policymakers seemed serious about systemic change. But what started as visionary policy is now stalled, diluted, or dangerously close to being discarded. It's a bitter reminder that while sustainability fills speeches, it rarely makes it to the bank when the bill is due.

Meanwhile, six out of nine planetary boundaries have been crossed. We are staring down the barrel of irreversible ecological tipping points. This isn't activist rhetoric — it's science, shouted with increasing urgency. Yet when science meets lobbying and short-term voter popularity, truth tends to lose.

But not everywhere.

In the absence of political resolve, something powerful is emerging: growing pockets of visionary businesses stepping up. We're seeing corporates take real responsibility — not only for their own operations, but across entire value chains. Investors are shifting capital toward nature-positive models. And perhaps most encouraging of all, consumers are now demanding more than empty claims. They want proof. They want purpose.

This is where Slow comes in. Not as a brand with just smarter messaging or polished communication — but as a fully integrated transformation model for two broken industries: coffee and chocolate. We don't believe in doing less harm. The scale of these industries demands that we actively do good.

That's why our regenerative agroforestry approach isn't a side project — it's the core of who we are. By regenerating degraded landscapes, supporting biodiversity, improving farmer livelihoods, and removing carbon, we demonstrate what a truly nature-positive value chain looks like. And because we control every step from seed to sip, and bean to bite, we can drive it, measure it, and scale it.

Does that mean Slow is perfect? No. We are pioneering, and that means we will make mistakes. But we assess. We adjust. And we advance. The model is our foundation, but the real work lies in execution and expansion — and the journey itself is our strength. Because there is no end game when it comes to nature. Only movement.

This impact report is more than a reflection of what we've done. It's a blueprint for what our industries must become. At a time when regulation retreats, we hope this work serves as a beacon for those ready to move forward anyway.

Let's not settle for regeneration as a slogan. Let's walk the transformation.

**"Because there is no end game
when it comes to nature.
Only movement."**

Executive summary

Carbon net-negative

Slow is a carbon sink. In 2024, our operations achieved -3,560 tons CO₂e in total greenhouse gas (GHG) emissions — Scope 1, 2 and 3, both FLAG and non-FLAG. Coffee from our own farms was carbon negative, removing more CO₂ than it emitted. Each kilogram sold took up to 30 kg CO₂e out of the atmosphere.

Nature and social positive

In 2024, we and our partners planted 107,505 trees — 48,193 in Vietnam through PFFP/WWF, 40,187 in Laos, and 19,125 in Indonesia — and regenerated 1,200 hectares of smallholder farms and 590 hectares of our own land into climate-resilient, biodiverse production zones.

We supported 787 smallholder coffee and cocoa farmers during the reporting year — 374 in Vietnam via the DANIDA-funded PFFP, 115 in Laos, 298 in Indonesia — through inputs, training, infrastructure, and financial assistance.

A total of 720 hectares were certified under EU Organic, FairTrade and Rainforest Alliance, with progress toward Regenerative Organic Certified® and Smithsonian Bird Friendly® standards.

High quality, cost competitive

We produce specialty-grade coffee (80+ points) and high-quality chocolate at competitive prices — making the transition to sustainable products affordable for our customers.

Despite investing heavily in people and the planet, we remain competitive by cutting out middlemen, sourcing directly through identity-preserved supply chains, and converting the usual value loss in upstream trading into local investment and impact.



Avg.
-30kg CO₂e per kg coffee
Slow farms



Avg.
-9kg CO₂e per kg coffee
smallholder farms



240 employees
90% in the Global South



1826_{ha} impacted
= 2,557 soccer fields



787 accumulated agroforestry
training courses



Joined
His Majesty
King Charles III's
Circular Bioeconomy Alliance

Our mission

We exist to regenerate nature and uplift lives — by turning broken food systems into a nature-positive movement that regenerates forests, revive biodiversity, empower farmers and communities, and makes every act of consumption a force for climate action

We offer unique and unmatched value — not only through exceptional coffee and chocolate, but by enabling forward-thinking customers and partners to drive real impact for people and planet, access transparent data and documentation, and tell powerful stories that move hearts, minds, and boardrooms.

Industry Transformation



Key industry challenges

The coffee and cocoa industries face complex challenges that threaten both ecosystems and farmer livelihoods.

Unsustainable farming practices, economic inequality, and value chain inefficiencies continue to put increasing pressure on smallholder farmers and the environment. Addressing these issues requires a shift toward sustainable, inclusive solutions.

ENVIRONMENTAL PRESSURES

Deforestation

Financial insecurity and unclear land tenure often drive farmers to clear forests for cultivation. This leads to biodiversity loss, ecosystem disruption, and reduced carbon removals. Without viable alternatives, forest encroachment continues, threatening critical habitats and accelerate climate change.

Excessive chemical use

Synthetic fertilizers, pesticides, and herbicides are widely used to increase yields—especially in response to climate-related crop diseases. But overreliance on chemicals depletes soil health, pollutes water sources, and disrupts ecosystems, hindering long-term recovery.

Monoculture farming

Coffee and cocoa production are largely grown in monoculture systems, prized for efficiency. However, these systems degrade soil, increase vulnerability to pests, and reduce ecological resilience—making farmers more dependent on chemical inputs.

Soil degradation

Intensive farming strips soils of nutrients, decreasing fertility over time. Without resources for regenerative methods like composting or crop diversification, many farmers face declining yields—forcing them to expand into forests or use more chemicals.

Water scarcity and pollution

Cocoa and coffee farming require significant water inputs, often straining supplies in drought-prone areas. Runoff from chemical inputs contaminates rivers and groundwater, affecting local ecosystems and communities. Limited access to efficient irrigation further compounds the issue.

SOCIAL CHALLENGES

Long and fragmented value chains

The path from farm to consumer is dominated by intermediaries. Smallholder farmers receive the smallest share of the final price, while middlemen and retailers capture most of the value. Without direct market access, farmers lack pricing power.

Farmer poverty

Market volatility, low yields, and limited access to credit keep smallholders in poverty. Without stable incomes, they cannot invest in improved practices or education—entrenching intergenerational hardship.

Child labour and exploitation

For many families, child labour is a necessity, not a choice. When incomes fall short, children leave school to work in the fields. This is not inevitable—it reflects a broken system.

Market barriers

Without cooperatives, infrastructure, or digital tools, smallholder farmers remain reliant on intermediaries who dictate the terms of trade. Shifting power begins with building direct and transparent market connections.



The systemic shift

The agriculture sector is a major contributor to the interconnected crises of climate change, biodiversity loss, and social inequality. From 2010 to 2019, emissions from Land Use and Land Use Change (LULUCF) — including deforestation and land conversion — totaled for over 16 gigatons of CO₂ per year, more than 30%¹ of the global total.

This sector consumes 60% of the planet's habitable land, drives 90% of global deforestation, and depletes 70% of freshwater resources². Within this context, coffee cultivation alone is responsible for the annual loss of 130,000 hectares of forest, with 450 million farming households earning less than a living income, primarily in the Global South.

¹ Systems Change Lab. Transforming Food & Agriculture.

² Grüter et al. (2022). Climate-Smart Coffee. Springer.

Despite rising consumer pressure, many industry players continue to rely on scattered pilot programs and isolated sustainability efforts that fail to address root systemic issues. In an era of global climate change, superficial attempts will not suffice. Coffee Arabica, the coffee most readers of this report enjoy, is highly vulnerable to climate change due to its sensitivity to temperature increases and changes in rainfall patterns.

Arabica requires altitude, water, and shade, yet it is predominantly grown in monocultures without shade cover, leading to further environmental stress. Climate models from Grüter et al. (2022), the OECD, and NASA project a 35% decline in highly and moderately suitable Arabica coffee-growing areas by 2050. With most Arabica coffee farmers living at the poverty line, they lack the means to invest in making their production more resilient. This is already evident with rapidly increasing coffee prices due to droughts and other climate-induced issues.

Slow was founded to do things differently

Our answer to a broken system

Slow exists to create systemic change in our broken food system, focusing on transforming the value chains of coffee and chocolate to create products that remove CO₂, regenerate nature, and improve livelihoods. Unlike others, our impact is not a side project—it's the business itself. Here's how we're different:

Integrated end-to-end value chain

We farm, process, mill, roast, package, ship, brand, and sell our products directly to our customers. This approach allows us to focus on quality, maintain full transparency in our activities, and eliminate unnecessary repetitions. It also enables us to collect robust, primary data on the ground — ranging from farm productivity, household sizes, and farmer income to tree species, tree count, and trunk diameter. Additionally, 90% of our staff is located in countries of origin.

Identity preserved sourcing

This model ensures that materials or products originate from a single source and their specified characteristics are maintained throughout the supply chain. It guarantees that narrative claims are related to the specific product consumed, the only way to ensuring trust in the impact of a producer.

Conversion from monoculture to nature-based production

Sustaining the status quo is not enough — we need to regenerate our agricultural lands. We are actively converting monoculture plantations into biodiverse agroforestry systems — both on our own farms and in collaboration with smallholders on their lands.

OUR APPROACH



About Slow

Most coffee and chocolate begins with axes and fire. Ours began by bringing the forest back.

Mrs Nid Keoparsert, coffee farmer,
Nongsamphan village, Bolaven Plateau, Laos

Slow brings forest back to farms. We transform monoculture coffee and cacao into thriving agroforests, where diverse trees protect soil, capture carbon, and build resilience.

Our company

Operating across Indonesia, Laos, Vietnam, and Europe, Slow works at the intersection of agriculture and ecosystems. We collaborate directly with smallholder farmers to regenerate degraded land and strengthen livelihoods, ensuring that environmental sustainability and community well-being go hand in hand.

Our commitment to impact

At Slow, we pursue sustainable, ethical growth without compromising the environment, quality of life, or social equity. Our impact model guides company-wide practices, embedding accountability and regeneration into daily operations.

In 2024, we invested USD1 in impact activities for every kilogram of coffee or cocoa sourced or produced. These covered farmer training, organic farming, forest protection, tree planting, renewable energy, certification, and improved living and safety standards. We also funded the construction of a village school to improve quality of life in a coffee-growing community.

Our people

Approximately 90% of our team is based in coffee and cocoa-growing areas, working directly with smallholder farmers to address challenges on the ground. This local presence enables trust-building, rapid response, and measurable improvements in sustainability, wages, and working conditions. A lean team in Europe connects these efforts to global markets, ensuring full traceability from farm to final product.



Mrs Peay Phonejaloun, coffee farmer, Nonsung
village, Paksong District, Laos

A fully integrated value chain: from soil to sip

Working directly with growers to produce coffee that regenerates.

The conventional coffee supply chain is fragmented and extractive. Beans pass through a long chain of intermediaries — from farmers to collectors, exporters, importers, traders, and roasters. Each step adds cost, complexity, and opacity. Value is skimmed off at every turn. Farmers are left with the smallest share. Ecosystems are depleted. Consumers remain disconnected from the source.

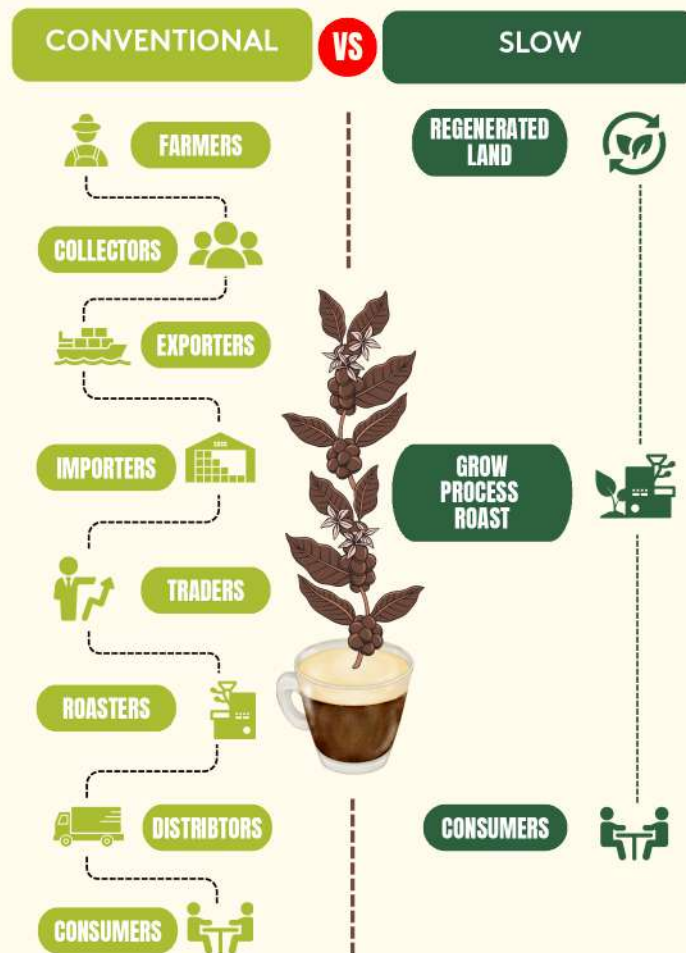
Slow takes a different approach. We are not an importer. We are a coffee producer. We regenerate land, grow the coffee ourselves, and manage the full process — from cultivation and harvesting to processing, roasting, and direct delivery. There are no auctions, no traders, and no commodity speculation.

By removing the traditional trading system, we eliminate value leakage — and reinvest that value where it matters most: in ecosystems, fair livelihoods, and resilient communities.

Because we control every step, we can ensure full traceability, radical transparency, and measurable impact — from the ground we regenerate to the cup you serve.

This isn't just a more efficient model. It's a blueprint for how coffee can regenerate rather than deplete.

FROM SOIL TO SIP WITHOUT THE MIDDLEMEN



Our dual approach

Slow drives impact through a dual approach: converting our own farms and working closely with smallholder farmers. Both are essential to achieving sustainability at scale.

1. Slow-managed farms

Operating and regenerating farms enables us to make long-term decisions that maximize environmental benefits and serve as models for regenerative agroforestry. Our strategies include:

- Establishing buffer zones and natural areas to support biodiversity and protect ecosystems
- Planting native tree species to regenerate degraded land and improve soil health
- Maintaining high shade-tree density to enhance carbon removals, preserve soil moisture, and support wildlife habitats

2. Smallholder farms

Smallholder farmers often face structural barriers—including insecure land tenure, financial constraints, and short-term economic pressures. Lasting change requires collaboration tailored to their realities. By working with smallholder farmers, we:

- Provide training, inputs, and infrastructure to support agroforestry adoption and improve productivity
- Offer advance payments and emergency funds to enable long-term investments and reduce reliance on predatory lending
- Facilitate certification to improve market access and income stability
- Strengthen local cooperatives and farmer groups to enhance resilience and self-governance

This dual approach allows us to lead by example while ensuring the benefits of agroforestry are widely shared—fostering a more sustainable and inclusive agricultural system.

Who are smallholder farmers?

A smallholder farmer is typically a producer who rears livestock, raises fish, or cultivates crops on a limited scale. In developing countries, smallholder farms are often family-owned enterprises operating on up to 10 hectares (24 acres), with most cultivating less than 2 hectares (5 acres) of land. (FAO.org)

Mr Sarwono, cocoa farmer, Lampung, Indonesia

Mrs Wandee Silathong, coffee farmer, Nongluang village, Paksong District, Laos

Our operations in countries of origin



Laos

Converting monoculture to agroforestry

On the Bolaven Plateau, we manage 590 hectares of coffee farms, transitioning from monoculture systems to biodiverse agroforestry. The Slow Cooperative, with 115 members, provides training, inputs, certification, and emergency funds—fostering resilience and long-term prosperity.

590^{ha} Slow-managed farms

398^{ha} Smallholder farms

674^{ha} EU Organic or Fairtrade certification



Vietnam

Advancing regenerative coffee farming

In Quang Tri, we collaborate with DANIDA and WWF on the Prosperous Farmers and Forests Project, supporting 374 smallholder farmers in their transition to agroforestry. This shift improves environmental sustainability while creating more secure and stable livelihoods.

618^{ha} Smallholder farms



Indonesia

Strengthening cocoa farming communities

We partner with smallholder cocoa farmers in Sumatra and Sulawesi, sourcing beans processed at our Sumatra factory. Through 13 farmer groups, we support 298 farmers with training, certification, infrastructure, and inputs—enhancing product quality, community resilience, and livelihoods.

220^{ha} Smallholder farms

47^{ha} Rainforest Alliance

Southeast Asia



Our Theory of Change

The time for change is now. Slow is making regenerative farming the standard, driving change that regenerates ecosystems, delivers carbon removals emissions, and builds stronger, fairer supply chains.

At Slow, our Theory of Change is built on regenerative agriculture—transforming coffee and cocoa farming to deliver environmental regeneration, social equity, and economic resilience. Instead of short-term fixes, we focus on systemic change that creates lasting impact.

What is regenerative farming?

Regenerative agriculture is designed to regenerate degraded land, deliver measurable carbon removals, and rebuild ecosystems. In coffee and cocoa production, this means enriching soils, improving watersheds, boosting biodiversity, and strengthening farming communities. Often organic, unlike conventional methods that strip the land, regenerative farming is structured to give more than it takes.



Mrs Phen, farm worker at Phouluang Farm, Kalong village, Paksong District, Laos

Five pillars of our approach

Carbon



Integrating trees and diverse plants into farms enhances carbon removals, reducing greenhouse gas emissions, and mitigates climate change.

Biodiversity



Planting a range of tree species, including native timber, creates wildlife habitats and promotes ecological balance—reviving biodiversity in degraded landscapes.

Water



Healthy soils enriched with organic matter retain water more effectively, reduce runoff, and improve drought resilience, supporting sustainable water use.

Soil



Techniques such as cover cropping and reduced tillage improve soil structure, increase fertility, and support microbial life—making farms more productive and climate-resilient.

People



Empowering farming communities through education, fair compensation, and inclusion in decision-making enhances livelihoods and drives long-term sustainability.

Our process of regeneration

Regeneration isn't a fixed formula. It's a process grounded in science, led by farmers, and guided by nature — improving productivity, resilience, and biodiversity along the way.

How regeneration unfolds



Resilience through diversity

By reintroducing native species and creating layered agroforestry systems, we reduce dependency on chemical inputs, buffer against climate shocks, and strengthen ecosystem stability.

A thriving forest is the best insurance policy against a volatile future.

Quality from nature itself

Healthy soil, balanced shade, and rich biodiversity lead to slower, more natural growth — enhancing flavour, aroma, and nutritional value in coffee and cacao.

Nature gives back when given space to flourish.

Farmer training & productivity

We train farmers to work with nature, from pruning shade trees to managing compost and crop spacing.

This improves yields over time, diversifies income sources and reduces long-term input costs.

2024 farm case

Khongtoun farm

From abandoned degraded land to a living system.

Once depleted by conventional agriculture, Khongtoun is now Slow's largest farm — a 319-hectare site in southern Laos under long-term regeneration. Tenure and management rights were signed in late 2023. When our tenure rights expire, we will return the land in a better state than we got it.

Situated near the Dong Hua Sao National Biodiversity Conservation Area, Khongtoun lies at the edge of a vital ecological corridor. Through careful planting design and regenerative soil management, we are building habitat buffers, stabilising microclimates, and strengthening the surrounding forest ecosystem.

Regeneration is ongoing. In 2024, we established nurseries, planted thousands of trees, and reshaped the land to hold more water and deliver measurable carbon removals. Over time, Khongtoun is intended to serve not only as a productive landscape, but as proof that regeneration at scale is both possible and urgently needed.



Right: Sebastian Nielsen, Slow CEO; left: Kasper Hülse, Slow CCO, on site at Khongtoun Farm, Laos.

Key facts

Bolaven Plateau

Southern Laos

2024

Becoming a
Slow farm

elevation

1.100-
1.200m

size

319_{ha}



Coffee monoculture

2013-2019



Land tenure

Long-term lease

Restoration plan

2025

50_{ha}

2026

50_{ha}

2027

Full
replanting



Agroforestry Design 2025



200

shade trees/ha

16 varieties: native, fruit, temporary

150

fast-growing shade trees

Buffer Zone



30 ha

protected for biodiversity

Employment Impact



40-50

workers (current)

100

workers during peak replanting (July-August)

100-150

permanent jobs once fully operational

400-500

seasonal harvest workers

Community Infrastructure



Family housing



Daycare with meals and nutrition



Monthly medical check-ups for workers and children

Khongtoun farm

2024 farm case

Not land grabbing - land healing

Slow's farm model is grounded in regeneration, not extraction. We do not acquire land from smallholders or from areas relied on by local communities. These smaller plots — typically 2-5 hectares — are essential to livelihoods, food security, and rural stability.

Instead, we focus on larger farms, often abandoned or degraded after years of monoculture. We hold tenure and management rights through transparent, legal agreements, while ownership remains with the Government and people of Laos. When our tenure ends, we will return a regenerated landscape for the benefit of future generations.

Once stripped of biodiversity, these landscapes are now being regenerated — planted with diverse species that rebuild soil health, deliver measurable carbon removals, and strengthen ecosystems. This model also creates fair employment, facilitates knowledge sharing with surrounding smallholders, and supports local economies. Our goal is not control, but regeneration at scale — proving that nature-positive farming can regenerate land, strengthen communities, and secure a resilient future.

**We don't take land from smallholders.
We bring degraded land back to life.**

Certifications as a foundation

Slow meets EU Organic, Rainforest Alliance, and Fairtrade — and builds on them through direct data collection, on-the-ground presence, and real-time monitoring.

We collect primary data directly from our sourcing regions to track farmer incomes, monitor working conditions, and use geospatial tools to measure deforestation and carbon stock changes. Our presence on the ground ensures measurable improvements in environmental and social outcomes.

Controlling the entire supply chain — from cultivation to distribution — ensures every bag of coffee or bar of chocolate is traceable to the farmers who grew them, reinforcing our commitment to ethical sourcing.



Science Based Targets initiative

Slow's climate ambition is grounded in science, not slogans. As an SBTi-approved company, we follow the Science Based Targets initiative and apply Oxford University's Climate Solutions Framework across our coffee and cocoa operations.

With a verified net-negative baseline and a target to cut absolute emissions by 90% across Scope 1, 2, 3, and FLAG by 2030, our pathway is aligned with the Paris Agreement and the 1.5°C target. Regenerative production, agroforestry at scale, and verifiable ground-level data position Slow as a business delivering measurable climate solutions.



DE-ÖKO-013
EU-Landwirtschaft

EU Organic

276 ha of Slow-owned farms certified;
supported smallholders in certifying
360 ha of agroforestry coffee



Fairtrade

Facilitated Fairtrade certification for
398 ha of smallholder coffee farms



Rainforest Alliance

Supported certification of 47 ha of
smallholder cocoa farms; aiming for
200 ha by 2025



Collaborating for systemic change

At Slow, we recognise that fixing a broken food system requires collective action.

We partner with high-impact organisations and global alliances to embed sustainability, resilience, and equity into agricultural value chains.

Some of our partnerships and commitments



UN Global Compact

As a participant in the world's largest corporate sustainability initiative, we align with universal principles on human rights, labour, the environment, and anti-corruption. Through the Forward Faster initiative, we support corporate action across five key areas of the 2030 UN Sustainable Development Goals (SDGs):



GENDER
EQUALITY



CLIMATE
ACTION



LIVING
WAGE



WATER
RESILIENCE



FINANCE &
INVESTMENT

**FORWARD
FASTER**



**CIRCULAR
BIOECONOMY
ALLIANCE**

Circular Bioeconomy Alliance

Founded in 2020 by His Majesty King Charles III, the Circular Bioeconomy Alliance (CBA) promotes a nature-first economy that balances economic prosperity with ecological health. Slow has adopted the CBA's Principles for Regenerative Landscapes to restore ecosystems and create food production models that boost biodiversity and strengthen local livelihoods.

Sustainability



NATURE &
ENVIRONMENT



SOCIAL WELL
BEING



ECONOMIC
PROSPERITY



DIVERSITY



CONNECTIVITY



ADAPTIVE
CAPACITY

Local context



HARMONY



MINISTRY OF FOREIGN AFFAIRS
OF DENMARK
Danida

DGBP
DANIDA GREEN
BUSINESS
PARTNERSHIPS



DANIDA & WWF

In partnership with the DANIDA Green Business Partnerships (DGBP), WWF offices (Vietnam, Finland and Denmark), Slow serves as the private sector partner in the Prosperous Farmers and Forests Partnership (PFFP) — a transformative initiative in Vietnam to grow sustainable forest economies. This project is committed to:



18,000

Protecting 18,000 hectares of natural forest along biodiversity corridor in Quang Tri province by 2027.



2,500

Transitioning 2,500 hectares of monoculture coffee to regenerative agroforestry.



2,000

Improving livelihoods for 2,000 smallholder households by increasing incomes through sustainable farming.

Through this initiative, we support climate-resilient communities while demonstrating the economic case for regenerative agriculture.



Reframing our future: Why nature must be at the heart of the economy

BY DR. MARC PALAHÍ

Nature is not merely a backdrop to human activity; it is the foundation upon which our economies, societies, and individual well-being are built.

I believe we must stop viewing nature as a passive victim of economic progress and start recognizing it as our most valuable economic partner. Today, more than half of global economic activity depends on natural systems and resources—from water and fertile soils to forests and pollinators. Yet our prevailing economic model continues to degrade and deplete these life-supporting assets. This contradiction lies at the heart of today's converging crises—climate change, biodiversity loss, and inequality.

We need a fundamental transformation: a shift from an extractive, linear economy to a regenerative, circular bioeconomy. One that mimics nature's own design—where waste becomes input, where resilience comes from diversity, and where growth does not come at the expense of ecological integrity. A circular bioeconomy leverages the power of biology—not fossil fuels—to drive innovation and prosperity in harmony with the planet.

Forests are perhaps the most powerful illustration of nature's economic potential. They are home to 80% of terrestrial biodiversity and serve as the green infrastructure of life—regulating water cycles, storing carbon, and producing renewable materials. But forests are not just ecological assets; they are cultural and economic pillars. They shape rural livelihoods and sustain iconic products that connect people to nature—such as coffee and chocolate.

Coffee and cacao are two of the most traded commodities globally and deeply intertwined with forest landscapes. Yet ironically, under conventional farming models, they are also significant drivers of deforestation and biodiversity loss. This is not only an ecological failure but an economic one—because the long-term future of these crops depends entirely on the health and resilience of the ecosystems they come from.

The solution lies in transitioning from monoculture to agroforestry—farming systems that restore tree cover, regenerate soil health, and create value through diversity. By integrating cocoa and coffee into forested landscapes, we can enhance carbon sinks, protect pollinators, and increase farmers' resilience to climate shocks. These regenerative systems are not only more sustainable—they yield higher-quality crops, richer flavors, and stronger rural economies.

Investing in nature is not just an environmental imperative—it is a strategic economic decision. Nature-based solutions can unlock up to \$10 trillion in annual business opportunities and generate 395 million jobs by 2030. More importantly, they offer a pathway toward a more stable, inclusive, and resilient global economy.

If we understand that nature is not a cost to manage, but a source of value to steward, then investing in forest-based economies becomes a clear priority. It connects climate, biodiversity, food systems, and human prosperity into one coherent vision for the future.

As I often say, nature is the most advanced technology we have on this planet. If we align our economic systems with its logic, we will not only address the challenges of today—we will lay the foundation for a thriving tomorrow.

Marc Palahí is Chief Nature Officer at Lombard Odier Investment Managers and CEO of the Circular Bioeconomy Alliance, an initiative launched by HM King Charles III. He previously served as Director of the European Forest Institute. He holds a Ph.D. in forestry and economics from the University of Joensuu, Finland. His work focuses on forests, circular bioeconomy and sustainable development, with research published in *Nature* and other peer-reviewed journals.

SLOW & CLIMATE

A woman with long dark hair tied back, wearing a dark jacket, stands on the left, looking up at a large tree trunk. A man in a camouflage jacket and a tan cap stands on the right, using a yellow measuring tape to measure the circumference of the same tree trunk. The scene is set in a lush coffee plantation with large green leaves and clusters of red and yellow coffee cherries in the foreground. The background shows more trees and a clear blue sky.

Methodology

We don't just calculate emissions, we account for them. Our inventory measures carbon across the value chain from land use to logistics.

Mr Yosef, cocoa farmer in West Sulawesi, Indonesia

Slow's greenhouse gas (GHG) emissions inventory covers Scope 1, Scope 2, and Scope 3 emissions, categorised into FLAG (Forestry, Land Use, and Agriculture) emissions and Non-FLAG emissions to align with global accounting standards.

FLAG emissions focused on land-related impacts, including covered emissions and removals from land-use change, farm management, and carbon removals from tree growth and soil carbon. We used a direct land-use change (dLUC) approach, combining farm polygon maps with satellite imagery to track historical land cover. FLAG calculations include both Slow-owned farms and those of our smallholder partners.

Non-FLAG emissions include all other sources: packaging, transport, processing, energy and other operational inputs. These were calculated using a hybrid approach combining activity-based and spend-based methods, with emissions factors sourced from Altruistiq, Ecoinvent, and DEFRA.

All calculations followed methodologies aligned with the GHG Protocol, ensuring accurate tracking, comparability, and accountability.

FLAG emissions

FLAG emissions account for the emissions and removals associated with land-use change, land management practices, and carbon removals in coffee and cacao farming.

FLAG Scope 1

Direct emissions and removals from Slow-owned farms, including:

- Land-use change
- Land management (fertilisation, pruning, residue management)
- Carbon removals (tree growth, soil carbon)
- Non-land emissions (tractor fuel, machinery, process emissions)

FLAG Scope 3

Indirect emissions and removals from smallholder and cooperatives farms, covering the same categories above.

Non-FLAG emissions

Non-FLAG emissions include greenhouse gas emissions from sources outside of the Forest, Land, and Agriculture sector. These primarily come from purchased goods, energy use, industrial processes, transportation, and waste management across the supply chain.

Non-FLAG Scope 1

Direct emissions from sources Slow owns or controls. These include fuel burned in vehicles, industrial processes, and leaks such as refrigerants or methane.

Non-FLAG Scope 2

Indirect emissions from purchased energy, including electricity, heating, and cooling.

Non-FLAG Scope 3

All other indirect emissions in Slow's value chain. This includes business travel, commuting, product use, transportation of purchased goods, and waste.

FLAG emission calculation methodology

Both FLAG Scope 1 and Scope 3 emissions account for:

- **Land-use change (LUC) emissions** – from historical land conversion, such as deforestation or conversion of native grasslands to croplands.
- **Land management emissions** – from farm operations, including organic fertiliser application, energy use, and residue handling.
- **Net carbon removals** – CO₂ captured by coffee trees, shade trees, and vegetation in designated buffer zones, and CO₂ emitted through vegetation loss.

1

Land-use change analysis

In line with Chapter 7 of the Land Sector and Removals Guidance under the GHG Protocol, land-use change accounting covers deforestation and other conversions over the past 20 years.

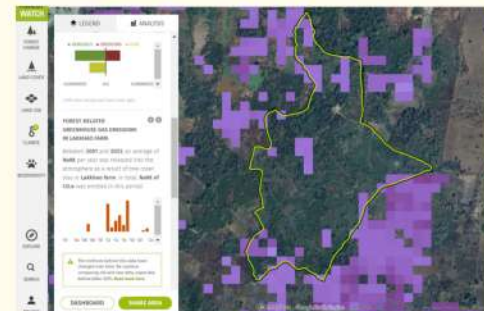
Slow uses a direct land-use change (dLUC) method, relying on polygon maps specific to each farm. This site-level approach is more accurate than statistical land-use change (sLUC) models. The assessment spans 2004–2023 (20 years).

Polygon maps are collected by walking farm boundaries and uploading the data to the Global Forest Watch (GFW) platform. We select the years when land-use change occurred and extract the annual emissions for those years, then sum them to calculate total LUC emissions.

To comply with GHG Protocol guidelines, we apply a 5% linear discounting approach, distributing emissions evenly across the inventory window to reflect cumulative impact.



A Slow team member in Laos walks the perimeter of a buffer zone, collecting GPS polygon data for land-use change analysis.



Polygon maps are uploaded to the GFW platform to calculate annual LUC emissions. Purple shading marks areas of tree loss over the past 20 years.



Annual LUC emissions are derived from GFW using historical satellite imagery.

FLAG emission calculation methodology

2

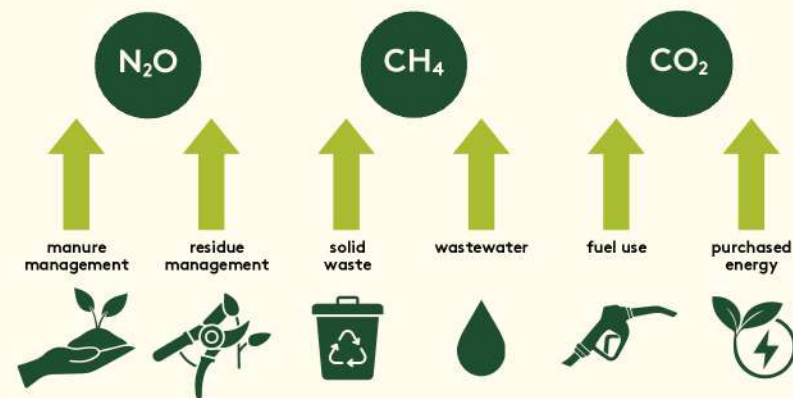
Land management emissions

Slow's land management emissions analysis is based on the draft Land Sector and Removals Guidance (Parts 1 and 2) published by the GHG Protocol in September 2022. As the guidance remains in draft form, chapter references and methodologies may change upon final publication.

Following Chapter 8 of the draft, the analysis includes:

- **Organic fertiliser production and application** - non-CO₂ emissions, primarily methane (CH₄) and nitrous oxide (N₂O), from livestock manure production and use.
- **On-site fuel combustion and purchased energy; wet-mill wastewater** - CH₄, N₂O, non-biogenic CO₂, hydrofluorocarbons (HFCs), and perfluorocarbons (PFCs) from farm equipment fuel use, wet-mill waste, and purchased energy.
- **Farm residue** - Slow does not collect primary data on residue. Emissions are estimated using the formula: $\text{kg residue/ha} = 5\% \times (\text{kg crop product/crop area})$. Residue is assumed to remain on the field.

Data is sourced from farm logbooks and supplier interviews and processed using the Cool Farm Tool to convert activity data into CO₂e emissions.



Components of land management emissions



3

Carbon removals

Satellite-based biomass estimation

Our core methodology for calculating carbon removals combines tree growth rate data with remote sensing.

Where ground-based tree measurement data was available, carbon removals were calculated using growth rates and integrated with emissions data from multi-source satellite imagery and vegetation indices to estimate above-ground carbon stock changes over time. These were calibrated with spaceborne LiDAR data and supported by external platforms to enhance accuracy. Where tree data was not available, net removals are derived solely from satellite analysis.



Methodology

Farm polygon collection

Farm boundaries across our sourcing network were mapped to enable per-farm analysis.

NDVI analysis

NDVI (Normalized Difference Vegetation Index) was calculated from Sentinel-2 imagery at 10x10m resolution to assess vegetation health and density.

GEDI calibration

NDVI data was calibrated using LiDAR measurements from NASA's GEDI (Global Ecosystem Dynamics Investigation), which provides canopy height and biomass density metrics.

Technology support and satellite imagery selection

The remote sensing workflow — supported by TerraPulse to improve spatial and structural accuracy across datasets — used cloud-free images from multiple satellite sources captured in January–February 2022 and January–February 2023 to ensure consistency and comparability.

Biomass estimation using tree data

Where we have collected ground-based data using the Winrock-guided sampling methodology, we applied a growth rate of 0.3 cm/year for coffee trees and 0.5 cm/year for shade trees to calculate biomass stock changes between 2022 and 2023. Below-ground biomass was estimated using the root-to-shoot ratio formula.

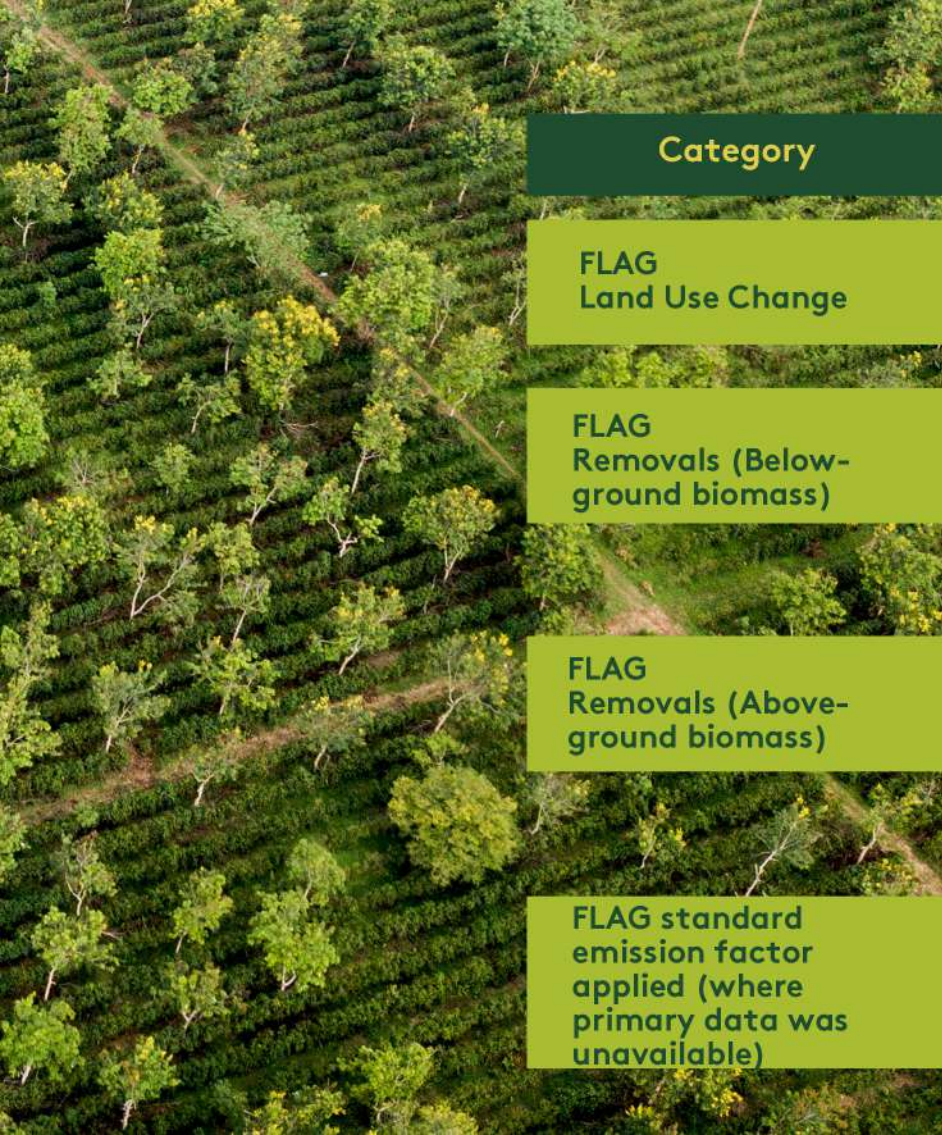
Estimated removal using tree data

Total above-ground and below-ground biomass stock change was converted to CO₂ removals using the formula:
 $\text{kg CO}_2\text{e} = (\Delta\text{biomass} \times 0.5) \times (44/12)$

Calculated net removal using tree data

Net emissions were calculated by combining removals derived from tree measurement data with emissions estimated through satellite analysis.





Category

Methodology Assumptions and Limitations

Impact

**FLAG
Land Use Change**

Slow's historic Land Use Change analysis applies high-level emission factors from Global Forest Watch, which uses global models for activity data (Hansen tree cover loss) and biomass emission factors (Harris et al.), for years where land use change had occurred.

medium

**FLAG
Removals (Below-ground biomass)**

To estimate below-ground biomass, Slow applied root-to-shoot ratios from the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: 0.37 for the Indonesian farm and 0.27 for the Lao farm.

medium

**FLAG
Removals (Above-ground biomass)**

Satellite analysis by TerraPulse was used to calculate emissions resulting from vegetation loss for each farm.

medium

**FLAG standard
emission factor
applied (where
primary data was
unavailable)**

For Scope 3 emissions from sourcing green beans where we lack primary data, Slow applied the FLAG standard factor of 5.39 kg CO₂e per kilogram of green beans (Ecoinvent via Altruistiq). This covered for ~11% of our 2024 bean sourcing.

medium

LiDAR-enhanced biomass measurement experiment

A parallel field study to validate satellite-based carbon estimates

Alongside satellite analysis, we ran a field experiment using LiDAR technology to strengthen biomass estimates. The goal was to validate and improve carbon measurement by cross-referencing remote data with real-world tree scans.



Methodology

Stratification mapping

NDVI data clustered each farm into nine vegetation-density zones.

Sampling design

Six 20m x 20m plots were selected per zone using GPS coordinates, following Winrock International protocols.

Field data collection

Tree height, diameter, and count were measured with handheld terrestrial LiDAR scanners.

Biomass calculation

Allometric equations were applied to LiDAR data to estimate biomass.

Manual validation

LiDAR-based results were cross-checked against manually collected field data.

Correlation testing

Some zones showed strong correlation between remote and ground data, though dense plots revealed calibration gaps.

Improvement plan

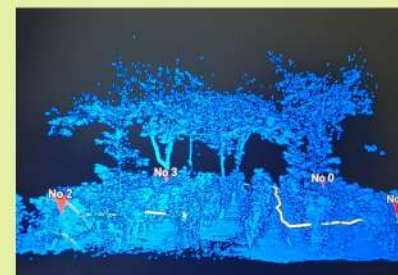
We are establishing a continuous feedback loop to improve estimation accuracy.

- Ground-based LiDAR will serve as the primary calibration dataset.
- Remote sensing tools will be iteratively refined against this ground-truth data.
- New estimation equations will be developed to better reflect local conditions and forest structure.

This loop supports ongoing improvements in quantifying carbon removals across diverse landscapes.



Creation of stratification map based on NDVI scores and allocation of sample plots



LiDAR scan analysis



Field data collection with terrestrial LiDAR

Non-FLAG emissions scope & methodology

Slow also assesses Non-FLAG emissions, which encompass greenhouse gas emissions from sources outside of the Forest, Land, and Agriculture (FLAG) sector. These include emissions from purchased goods, energy use, industrial processes, transportation, and waste management throughout the supply chain.

To calculate these emissions, Slow used a hybrid methodology that combined activity-based and spend-based approaches. Emissions factors were sourced via the Altruistiq platform using data from Ecoinvent and DEFRA. This ensured consistency, transparency, and alignment with globally recognised reporting standards.

Non-FLAG Scope 1 emissions

Direct emissions from owned or controlled sources

This included fuel consumption from Slow-operated vehicles used in logistics and farm transport, as well as emissions from stationary combustion in facilities such as heating systems at production sites. These emissions were measured using an activity-based approach, with fuel consumption records and verified emissions factors.

Non-FLAG Scope 2 emissions

Indirect emissions from purchased electricity

These included electricity, steam, heating, and cooling used in operations. Calculations used metered electricity data and country-specific emissions factors for accurate reporting.

Non-FLAG Scope 3 emissions

Indirect emissions across the value chain

Scope 3 covered emissions related to raw material purchases, product distribution, and disposal.

Key contributors to Scope 3 included:

- Emissions from raw ingredients, packaging materials, and other production inputs.
- Emissions from transportation of coffee and cocoa beans from suppliers to processing facilities, including land and sea transport by third-party logistic providers.
- Emissions from generated waste mainly come from the disposal of coffee husks from the hulling process and packaging materials from chocolate manufacturing.



GHG

accounting results

	GHG Scope Categories	emission (kg CO ₂ e)	
		FLAG	Non-FLAG
Scope 1	Stationary combustion	2,781	8,789
	Mobile combustion		14,007
	Direct & fugitive combustion	31,635	990
Scope 2	Electricity use	753	160,436
	Direct heat use		3,256
Scope 3	Purchased goods & services	2,906,439	320,626
	Capital goods		15,765
	Other fuel & energy related activities	1,901	46,428
	Upstream transportation & distribution		191,047
	Waste generated in operations		83,618
	Business travel		73,274
	Employee commuting		79,783
	Total Emission	2,943,509	998,018
Removals	Scope 1	-1,477,690	
	Scope 3	-6,024,274	
	Total Removal	7,501,964	
	Net Emission	-4,558,454	998,018
	Total Net Emission	-3,560,436	

Takeaways

1

FLAG purchased goods and services accounted for the largest share of emissions, driven mainly by coffee and cocoa sourced from smallholders and fertiliser use on Slow-owned farms. Emissions from coffee smallholders were largely the result of historical land-use change and fertiliser application, while on Slow farms, fertiliser use made up the bulk of emissions within this category.

2

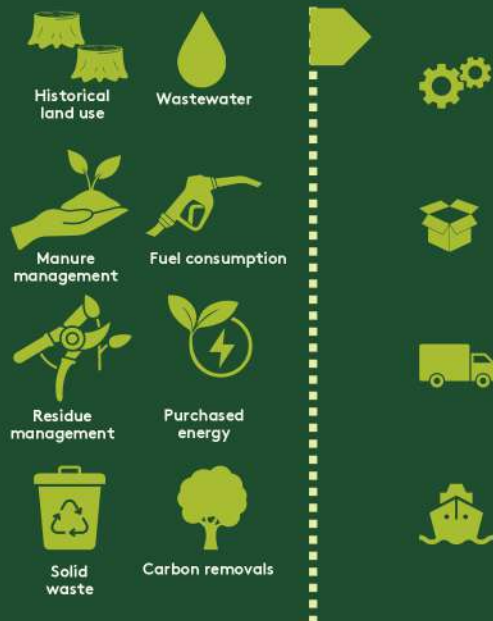
Scope 3 removals remain modest as Slow onboards new coffee and cocoa suppliers. Many are still early in their agroforestry transition, with young shade trees and ongoing efforts to expand canopy cover through additional planting. Removals are expected to grow as trees mature and shade density increases. Similarly, Scope 1 removals are projected to rise with continued planting on Slow-owned farms and the maturation of existing shade trees.

3

Non-FLAG electricity use was mainly driven by cooling equipment in Indonesia. Efficiency upgrades are planned to reduce equipment energy demand and associated emissions.

Life Cycle Assessment (LCA) for Slow farms average GHG emissions per kg roasted coffee

At farm gate
-31.27 kg CO₂e per kg



Transport & dry milling
+0.09 kg CO₂e
per kg of coffee

Packaging (big bag)
+0.0001 kg CO₂e
per kg of coffee

Local warehouse → regional
+0.079 kg CO₂e
per kg of coffee

Shipment Regional port → EU
+0.354 kg CO₂e
per kg of coffee

Roaster → coffee warehouse
+0.02 kg CO₂e
per kg of coffee

Roasting & packaging
+0.64 kg CO₂e
per kg of coffee

EU warehouse → roaster
+0.008 kg CO₂e
per kg of coffee

Shipment EU Port → bean warehouse
+0.004 kg CO₂e
per kg of coffee

Final Product

Cumulative emissions and removals across the coffee life cycle result in roasted coffee with a net impact of

-30.08 kg CO₂e
per kg of coffee

conventional coffee
+16.50 kg CO₂e
per kg of coffee*

Net difference
Slow farm coffee vs.
conventional coffee
-46.58 kg CO₂e
per kg of coffee

Nearly 90% of FLAG emissions for coffee were calculated using primary data. Residue management and beans without supplier data were estimated using standard factors from Altruistiq, based on country of origin.

Non-FLAG

*Source: J. Poore and T. Nemecek, "Reducing food's environmental impacts through producers and consumers"

Life Cycle Assessment (LCA) for smallholder farms average GHG emissions per kg roasted coffee

At farm gate
-10.23 kg CO₂e per kg



Transport & Dry milling
+0.09 kg CO₂e
per kg of coffee

Packaging (big bag)
+0.0001 kg CO₂e
per kg of coffee

Local warehouse →
Regional
+0.079 kg CO₂e
per kg of coffee

Shipment Regional port →
EU
+0.354 kg CO₂e
per kg of coffee

Roaster → Coffee
Warehouse
+0.02 kg CO₂e
per kg of coffee

Roasting & packaging
+0.64 kg CO₂e
per kg of coffee

EU warehouse → Roaster
+0.008 kg CO₂e
per kg of coffee

Shipment EU Port → Bean
warehouse
+0.004 kg CO₂e
per kg of coffee

Final Product

Cumulative emissions and
removals across the coffee
life cycle result in roasted
coffee with a net impact of

-9.04 kg CO₂e
per kg of coffee

conventional coffee
+16.50 kg CO₂e
per kg of coffee*

Net difference
Slow farm coffee vs.
conventional coffee
-25.54 kg CO₂e
per kg of coffee

Nearly 90% of FLAG emissions for coffee were calculated using primary data. Residue management and beans without supplier data were estimated using standard factors from Altruistiq, based on country of origin.

Non-FLAG

*Source: J. Poore and T. Nemecek, "Reducing food's environmental impacts through producers and consumers"

Life Cycle Assessment (LCA) for smallholder supply average GHG emissions per kg chocolate

At farm gate
+4.02 kg CO₂e per kg



Non-FLAG

FLAG emissions for cocoa were calculated entirely using primary data, covering all beans we source. Only residue management was estimated using standard factors from Altruistiq, based on country of origin.

conventional dark chocolate

+18.70 kg CO₂e
per kg of chocolate*

Net difference
Slow farm chocolate vs.
conventional chocolate

-10.50 kg CO₂e
per kg of chocolate

*Source: J. Poore and T. Nemecek, "Reducing food's environmental impacts through producers and consumers"

A vibrant green bird with a red throat patch is perched on a branch, looking towards a cluster of green and yellow fruits. The background is a lush, out-of-focus tropical forest with large green leaves and bright sunlight filtering through. The text "SLOW & NATURE" is overlaid in white at the bottom.

SLOW & NATURE

Impact on Nature

Where biodiversity thrives, ecosystems endure.



Importance of biodiversity, soil, and water

Understanding biodiversity: The interconnected web of life

Biodiversity forms the backbone of resilient ecosystems. It encompasses the variety of life — microbes, plants, insects, and animals — that support soil fertility, regulate climate, and sustain food production.

In 2024, Slow's agroforestry landscapes hosted a greater range of species than conventional farms, helping stabilise yields and reduce risk.

Forests with more tree species supported more pollinators and herbivores, building self-sustaining ecological systems (Loreau et al., 2001).

Agroforestry systems planted with diverse flora attracted pollinators, birds, and mammals that assisted with seed dispersal and pest control. Research shows such systems support 30–50% more biodiversity than monocultures (Jose, 2009).

Soil health: The foundation of productive agriculture

Healthy soil is central to food and ecosystem health. In 2024, Slow's regenerative model continued to rebuild soils degraded by chemical-intensive monoculture. We added organic matter via trees and shrubs, improved structure as residues decomposed, and supported microbial activity.

Higher soil organic matter increases water-holding capacity. A commonly used NRCS rule of thumb is that each 1% rise in soil organic matter can store about 20,000 gallons more water per acre; actual gains vary by soil type, texture, and profile depth (Hudson 1994; USDA NRCS). This helps crops withstand dry spells.

Soil organic matter—decomposed plant residues, stable humic compounds, and living microbes—also improves nutrient cycling, aeration, and erosion resistance (Paustian et al., 2016).

Water quality: A vital resource for all life forms

Clean water is vital for people and ecosystems. We protect waterways through agroforestry tree cover, riparian buffers, and wastewater controls.

Slow does not use synthetic agrochemicals on our own farms, but agriculture can still affect water quality.

Our ESMS flags three risks: (1) nutrients and sediment from organic fertiliser/soil disturbance, plus occasional maintenance spills (fuel, lubricants); (2) wet-mill wastewater rich in organic matter that must be treated before discharge; (3) pulp waste from wet mills requiring proper handling. Vegetated buffers intercept sediment and nutrients, reduce erosion, and improve infiltration—helping recharge groundwater and sustain dry-season flows. Studies show they can cut nutrient runoff by up to ~70% (Dosskey 2010; Carpenter 1998).

Key indicators

Slow tracks tree cover, soil organic matter, and water-holding capacity — indicators drawn from agroecological research and detailed in the Slow Agroforestry Manual — to assess soil health, microclimate stability, and climate resilience in shade-grown farms.

Trees planted

Farm	Unit	Value	Source	Method
Lakkhao	trees	5,048	farm record	tree counting
Namphod	trees	27,421	farm record	tree counting
Phouluang	trees	7,718	farm record	tree counting

Tree cover

Farm	Unit	Value	Source	Method
Lakkhao	%	12.19	Terrapulse	remote sensing (NDVI calibrated with GEDI dataset)
Namphod	%	19.10	Terrapulse	remote sensing (NDVI calibrated with GEDI dataset)
Phouluang	%	11.66	Terrapulse	remote sensing (NDVI calibrated with GEDI dataset)

Soil organic matter

Farm	Unit	Value	Source	Method
Lakkhao	%	3.37	The Landbanking Group	ground sampling
Namphod	%	2.68	The Landbanking Group	ground sampling
Phouluang	%	2.63	The Landbanking Group	ground sampling

Water holding capacity

Farm	Unit	Value	Source	Method
Lakkhao	m ³ /m ³	0.29	The Landbanking Group	ground sampling
Namphod	m ³ /m ³	0.27	The Landbanking Group	ground sampling
Phouluang	m ³ /m ³	0.27	The Landbanking Group	ground sampling

Reforestation as a climate solution

When forests fall,
emissions rise.

Certification alone can't
fix legacy loss.

Beyond deforestation- free coffee and cocoa

The coffee and cocoa industries have long been linked to tropical deforestation. As global demand rises, agricultural frontiers continue to expand into biodiverse ecosystems—eroding carbon sinks, accelerating emissions, and undermining the long-term viability of food production.

Coffee farming, in particular, is a major driver of deforestation in Latin America, especially in Brazil, Colombia, and Peru (Armenteras et al., 2017). Similar dynamics are playing out in Indonesia and other parts of Southeast Asia (Global Change Biology, 2020).

Voluntary certification programmes like Rainforest Alliance and Fairtrade have helped reduce deforestation risk and improve farm practices. New regulatory frameworks are also emerging. The European Union Deforestation Regulation (EUDR) is being phased in; full enforcement is pending. It is expected to require companies importing commodities like coffee and cocoa to prove that their supply chains are deforestation-free, using geolocation data, land-use history, and end-to-end traceability.

These measures help reduce deforestation; however, they were not designed to regenerate ecosystems. Undoing past damage requires regeneration at source—converting monocultures to biodiverse agroforestry and, where appropriate, reforestation.

Tree planting progress

Cumulative number of trees planted
by Slow and our partners between
2021 and 2024



104,292
LAOS



48,193
VIETNAM



30,655
INDONESIA

Agroforestry conversion

Agroforestry is a broad term encompassing land-use systems that integrate trees with crops.

Definitions vary—some emphasise ecological restoration (Nair, 1993), others focus on farmer income diversification (Jose, 2009). Agroforestry systems span from simple alley cropping to complex multi-strata forest models (Moguel & Toledo, 1999).

Coffee agroforestry, or shade-grown coffee, is one such system—long practised by farmers and now globally promoted for its role in climate mitigation, adaptation, and biodiversity.

Slow developed a standardised framework to guide this shift from monoculture to diverse, multi-strata systems. Our Agroforestry Manual aligns environmental, agronomic, and economic goals to build long-term resilience.

Features of Slow's Agroforestry Manual

Slow applies the following agroforestry features across our managed plantations and encourages smallholder farmers to adopt similar practices where feasible.

Principles

The guiding principles of Slow's agroforestry approach include:

Environmental sustainability

Enhance biodiversity, improve soil health, and increase carbon removals through tree growth.

Economic viability

Balance ecology with profitability to ensure long-term sustainability for Slow and partner farmers.

Agroecological design

Design multistrata systems with diverse trees and cover crops that reflect natural forest structure.

Scientific rigour and continuous learning

Integrate research to evaluate impact and adapt practices over time.

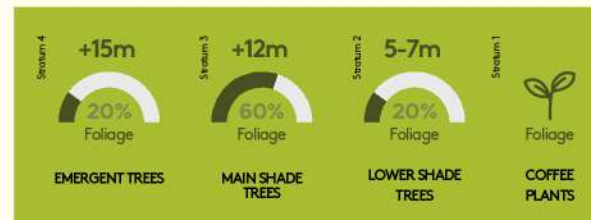
Local adaptation and community engagement

Co-design approaches with smallholders to fit local needs and conditions.

Tree selection

Slow's agroforestry model prioritises diversity, density, and structure:

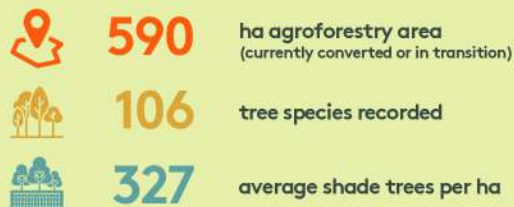
- **Diversity:** At least 20 tree species per site, including fruit and endangered species, with a focus on native trees.
- **Density:** Minimum 200 shade trees per hectare to protect soil and regulate temperature.
- **Structure:** Four canopy layers to mimic natural forests and maximise ecosystem function.



Enhancing ecosystem health

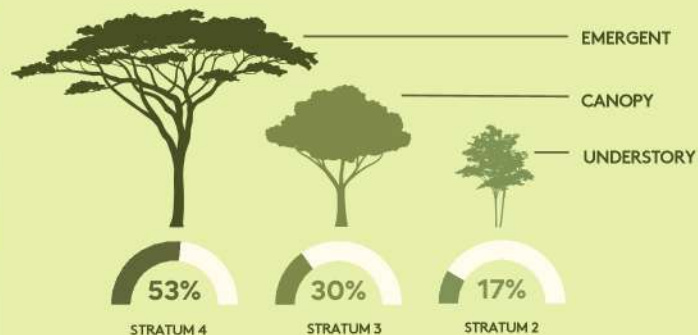
- **Soil restoration:** Apply biochar and organic inputs to boost fertility, reduce erosion, and strengthen long-term soil health.
- **Pollinator support:** Install bee boxes and plant diverse flowering species to promote pollinators and biodiversity.
- **Cover cropping:** Introduce nitrogen-fixing species (e.g., pinta bean, ubon stylo) to improve soil structure, suppress weeds, and lower input needs.
- **Buffer zones:** Establish natural buffers—especially along waterways—to improve habitat, protect water quality, and reduce runoff.

Slow farms



SHADE TREE TYPES

Tree composition on Slow's farms



Excludes trees in buffer zones

Smallholder coffee farms in Laos



Smallholder coffee farms in Vietnam



Smallholder cocoa farms



Conservation-priority trees

Where trees return, wildlife follows. Slow's agroforestry farms are becoming havens for biodiversity—showing that productive land can also protect nature.

Siamese rosewood
Dalbergia cochinchinensis

CR

A highly valued hardwood threatened by illegal logging. Planted to help restore native tree cover and support long-term species recovery.

Mrs Chan Chanthavong, farm worker at Lakkhao Farm, Paksong District, Laos

Resin tree
Dipterocarps alaptus
VU



Ironwood
Hopea odorata roxb
VU



Macadamia
Macadamia integrifolia
VU



Agarwood
Aquilaria malaccensis
CR





Species planted on farms

In 2024, we planted a diverse mix of tree species across our farms — each chosen for a clear purpose. Some (e.g., macadamia, pomelo) create long-term income options for smallholders. Others restorative native structure, improve degraded soils, and enable carbon removals through biomass growth.

- EN** endangered
- CR** critically endangered
- VU** vulnerable
- LC** least concern
- GNR** global rank not reviewed
- DD** data deficient



LAOS

- CR** Agar wood (*Aquilaria malaccensis* Lam.)
- VU** Black rosewood (*Dalbergia latifolia*)
- GNR** Box fruit (*Barringtonia asiatica* Kurz.)
- EN** Burma padauk (*Pterocarpus macrocarpus*)
- LC** Cassia tree (*Cassia siamea*)
- LC** Dadap (*Erythrina subumbrans*)
- DD** Fujian cypress (*Cupressus funebris* Endl.)
- LC** Golden shower (*Cassia fistula* L.)
- LC** Guava (*Psidium guajava* L.)
- VU** Iron wood (*Hopea odorata*)
- LC** Jackfruit (*Artocarpus heterophyllus* Lam.)
- LC** Java cassia (*Cassia javanica* L.)
- VU** Macadamia (*Macadamia integrifolia*)
- DD** Mango (*Mangifera indica* L.)
- LC** Neem tree (*Azadirachta indica*)
- DD** Papaya (*Carica papaya*)
- GNR** Pink Mempat (*Memecylon* sp.)
- LC** Pomelo (*Citrus maxima*)
- LC** Resin tree (*Dipterocarpus alatus*)
- LC** Sapota (*Manilkara zapota*)
- GNR** Tembusu (*Fagraea fragrans*)
- GNR** White mempat (*Memecylon leucanthum*)



VIETNAM

- LC** Burflower Tree (*Neolamarckia cadamba*)
- LC** Chinese Honey Locust (*Gleditsia australis*)
- VU** Indian Mahogany (*Chukrasia tabularis*)
- LC** Liberica coffee (*Coffea liberica*)
- LC** Native Jackfruit (*Artocarpus heterophyllus*)
- VU** Sal tree (*Madhuca pasquieri*)
- LC** Siamea cassia (*Senna siamea*)
- LC** Soapberry tree (*Sapindus mukorossi*)



INDONESIA

- LC** Cocoa tree (*Theobroma cacao*)



Reference species for agroforestry design

STRATUM 4 - EMERGENT

Rosewood

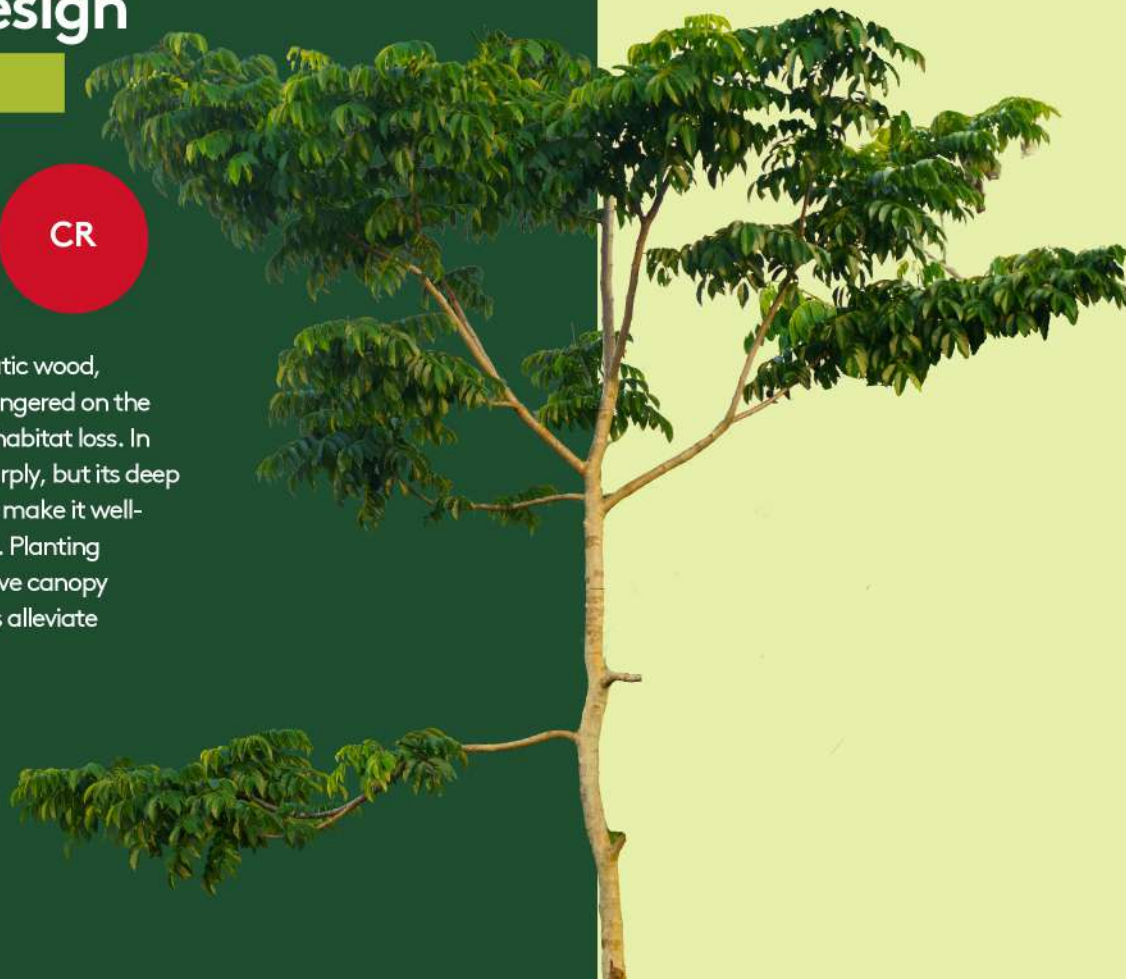
Dalbergia cochinchinensis
Critically Endangered

CR

Once heavily logged for its dense, aromatic wood, Rosewood is now listed as Critically Endangered on the IUCN Red List due to illegal logging and habitat loss. In Laos, wild populations have declined sharply, but its deep root structure and nitrogen-fixing ability make it well-suited to agroforestry restoration efforts. Planting Rosewood on Slow's farms supports native canopy recovery, improves soil fertility, and helps alleviate pressure on remaining wild trees.

1,950

Rosewood trees planted across Slow's farms



Height
20-30 m

Grow speed
medium

Spacing required
4-6 m

Suitable with
 coffee

Native to
**Bolaven Plateau
Laos**

Desirable properties



High-value timber
dense, durable, aromatic



Pest and decay resistance
naturally resilient hardwood



Fine grain aesthetic
valued for furniture and instruments



Nitrogen fixer
improves soil fertility in agroforests



Reference species for agroforestry design

STRATUM 4 – EMERGENT

Height
20m

Grow speed
medium

Spacing required
10 m

Suitable with
 coffee

Native to
Southeast Asia

Desirable properties



High-value timber

tough, reddish, termite-resistant



Grown cover benefit

dense canopy limits weed growth



Wildlife-friendly

attracts seed-dispersing birds and bats



Nitrogen fixer

Improves soil fertility naturally



Burma padauk

Pterocarpus macrocarpus

Endangered

EN

A large deciduous tree, typically reaching 17–23 meters and occasionally up to 30 meters. It is a major timber species in Southeast Asia and is also used as a pioneer species in reforestation projects. Thrives in well-drained sandy loam soils and full sun. Grows best where annual temperatures range from 24–34°C but can tolerate extremes from 8–44°C. Not frost-tolerant.

2,700

Burma padauk trees planted across Slow's farms



Broadening the conversation

Lessons from Quang Tri

Where climate resilience takes root.

Quang Tri, a mountainous province in central Vietnam along the Annamite Range, is a fragile ecological corridor with steep slopes and intense rainfall. Many Bru-Van Kieu and Pa Ko households rely on coffee for income.

For decades, price pressure and market volatility drove a shift to single-crop coffee, leaving hillsides exposed and livelihoods vulnerable. In 2020, extreme rain triggered severe landslides, highlighting how cleared and degraded slopes amplify risk.

In 2024, through the DANIDA-WWF Prosperous Farmers and Forests Partnership (PFFP), we co-developed demonstration sites to stabilise landslide-prone areas and accelerate agroforestry adoption.

Actions included planting bamboo and Arachis pintoi to bind soil, constructing contour trenches to slow runoff, and establishing native shade and fruit trees to restore cover and diversify incomes. Local training in regenerative farming accompanied each intervention.



Coffee plantation landslide, Chanh Vinh village, Huong Phung commune, Huong Hoa district, Oct 2020.

This work is part of Slow's broader commitment to help farmers shift high-risk systems from extraction to regeneration, strengthening landscapes and livelihoods.

Wildlife conservation

Where trees return, wildlife follows. Slow's agroforestry farms demonstrate that productive land can also protect nature.

In 2024 we maintained 48.5 hectares of buffer zones as no-harvest habitat for birds, insects, and wildlife. Motion-activated nature cameras recorded native species across our farms, underscoring ecological value of diversified tree cover.

Leopard cat *Prionailurus bengalensis*

LC

Nature-camera image from Lakkhao farm, Laos, February 2024. A small felid that preys on rodents, birds, and amphibians; its presence confirms use of the surrounding agroforestry-forest mosaic.

Malaysian pied fantail *Rhipidura javanica*

LC

Recorded by a nature camera at Lakkhao farm, February 2024, moving through low vegetation.



Himalayan striped squirrel *Tamias maclellandii*

LC

Nature-camera photo at Namphad farm, March 2024, feeding along low branches.



Greater coucal *Centropus sinensis*

LC

Recorded by a nature camera at Namphad farm, March 2024, foraging in undergrowth.



Masked palm civet *Paguma larvata*

LC

Night-time nature-camera image from Namphad farm, March 2024.





Northern red muntjac
Muntiacus vaginalis

LC

Recorded on a motion-activated wildlife camera at Lakkhao farm near a forested stream corridor in March 2024, foraging alone.

Asian mongoose
Herpestes javanicus

LC

Recorded by a motion-activated wildlife camera near the boundary of Lakkhao farm in March 2024, moving through low vegetation.



Large Indian civet
Viverra zibetha

LC

Recorded on a motion-activated wildlife camera at the edge of Nampot farm in the early morning of March 2024.



Northern treeshrew
Tupaia belangeri

LC

Photographed near shaded farm edges at Lakkhao farm in April 2024, darting between low trees and ground cover.



Asian small-clawed otter
Aonyx cinereus

VU

Recorded by a motion-activated wildlife camera along a stream corridor in 2024, highlighting the area's link to wetland habitats.



LC Least Concern

VU Vulnerable

Case study

Sumatra's tiger conflict: The cost of coexistence

As people and wildlife share shrinking space, the challenge is no longer just conservation—it's coexistence.

Sumatran tiger (*Panthera tigris sondaica*)
©Tursiae

In March 2024, a series of encounters with a Sumatran tiger near Bukit Barisan Selatan National Park resulted in two fatalities and one injury. The incidents occurred on farmland bordering the park and understandably heightened fear among local farmers. Community tensions rose, including calls for the tiger's removal.

The tiger, a 10-year-old male, had entered cacao farms in Suoh, a region where human activity continues to expand near protected forest. Conservationists believe the tiger was displaced from its territory, potentially due to competition or diminishing habitat. Footage from nature cameras confirmed the tiger had begun hunting in agricultural areas—raising complex questions about land use, food availability, and human-wildlife conflict.

For local farmers, the danger was urgent. Travel patterns changed, children were kept home from school, and a deep sense of unease took hold. Authorities set traps in an effort to relocate the tiger, but moving one animal doesn't solve a systemic issue. As land-use pressures grow, encounters between humans and large predators are likely to increase—testing the limits of current conservation approaches.

A measured response

Slow provided immediate support to affected families and coordinated with conservation partners and authorities leading the wildlife response. Beyond crisis support, we work on underlying drivers—land conversion, resource scarcity, and habitat fragmentation—that push wildlife into farm areas.

Bukit Barisan Selatan National Park spans ~3,500 km² and is a sanctuary for endangered species including Sumatran tigers, elephants, and rhinos. The frontier between protected forest and human settlement has grown increasingly fragile.

Toward coexistence

This case illustrates the urgent need for land-use strategies that recognise the interconnectedness of people, farms, and forests. Long-term solutions must:

- **Align conservation goals** with local priorities through community engagement.
- **Expand buffer zones** and land-use plans that reduce human-wildlife contact.
- **Use scientific monitoring** to anticipate and prevent conflict.
- **Foster collaboration** across sectors—conservation, government, and agriculture—to secure both livelihoods and habitat.

Protecting endangered species requires more than setting land aside. True coexistence demands better planning, shared responsibility, and practical innovation so people can farm safely alongside wildlife.

A photograph of an elderly woman with a warm smile, holding a young child. The woman has short, dark hair and is wearing a light-colored, short-sleeved shirt. The child has dark hair and is wearing a colorful, patterned dress. They are outdoors, with a blurred background of green foliage and sunlight filtering through the leaves. The text "SLOW & SOCIAL" is overlaid in white, bold, sans-serif font across the lower half of the image.

SLOW & SOCIAL



Social impact

If pricing doesn't reflect the real cost of a decent life, it's time to rewrite the rules.

Mrs Phou Chanthavong, coffee farmer,
Nonsoung village, Paksong District, Laos

Living income: redefining what's fair

A decent standard of living means more than basic needs. It includes food, shelter, healthcare, education, transport, and the ability to save. That is the basis of the living-income approach—what people actually need to live well.

In 2024, we built this into our pricing. This is structural reform, not charity. Everyone in our value chain should earn enough to live and work with decency; pricing must reflect that.

What's a *living income benchmark*?

A living-income benchmark estimates how much a self-employed smallholder household needs for a decent standard of living in a specific region. It covers food, housing, healthcare, education, transport, and a small buffer for emergencies.

Living income applies to self-employed farmers; living wage applies to hired workers. We use both.

This approach builds on international standards, including the Universal Declaration of Human Rights, which affirms the right to food, housing, education, and fair pay. Living income benchmarks help turn those commitments into practical action.

How we applied it

In Vietnam, we anchored floor prices to the Living Income Benchmark for the Central Annamite Landscape (WWF Vietnam & Landscape Resilience Fund).

In Laos, we ran a bottom-up living-wage assessment for all workers on our farms and set total compensation—including subsidised rice, healthcare, and childcare/schooling—to meet or exceed that level.

In-kind support, such as subsidised rice, free healthcare, and no-cost childcare and schooling, was included in the total compensation package to ensure it met living wage benchmarks.

Why it matters

Fair, stable income builds resilient supply chains. When farmers and workers can cover essentials and plan ahead, you get better crops, stronger communities, and trust.

Slow's model shows that pricing can be designed around human well-being—without sacrificing commercial performance. This should be the baseline for ethical sourcing, not the exception.

Story

Nonsoung school

With Arnolds, Slow sourced coffee from Nonsoung, Laos. Proceeds helped build a new school (opened Sept 2024), expanding education in the coffee-growing community.

Arnolds®

The previous school, built in 1997, lacked basic infrastructure and was too small for the village's growing number of students. Overcrowding meant three classes often shared a single room, and during the rainy season, leaks disrupted learning.

"We had to divide a single room into three classes just to accommodate all the kids," said teacher Khanasa Sittthidet. "The children endured the leaky roof during the rainy season."

The new school—2.5 times larger—features two classrooms, a staff room, toilets, and an outdoor area. Its flexible design supports both educational and broader community use. "The new school will inspire the children to study," Sittthidet added. "They're eager to return and start their journey to a great education."

Bounlieb Keovangsa from the Paksong District Education Service said, "The new school will improve the village's reputation and prosperity. The farmers were proud to be part of this project through their passion for producing coffee."



Smallholder impact by numbers

Ensuring a living income for smallholders is a key priority for Slow. To support this, we provide:



Mr Seephan, coffee farmer, Nonsoung village, Paksong District, Laos

Farmers trained



115
coffee



374
coffee



298
cocoa

Cash advances and financial assistance



90
farmers



115
farmers

Premium pricing mechanisms



550 Farmers & their families



female
farmers

Guidance on obtaining
EU Organic, Fairtrade
and Rainforest Alliance
certifications



445

ha of smallholder
land supported
toward EU
Organic, Fairtrade,
and RA
certification in
2024.

Seedlings



48,193
shade trees



19,125
cacao

Cocoa post-harvest infrastructure supported by Slow

- 3 drying tunnels
- Fermentation boxes with 2-ton monthly capacity



Laos



Vietnam



Indonesia

Story

Daycare centres

On our farms, care extends beyond crops to the next generation.



WATCH NOW

Across ~590 ha of coffee farms, Slow employs ~100 permanent workers and ~1,500 seasonal workers annually. For permanent staff, we provide housing, rice subsidies, monthly health check-ups, living-income wages, and daycare for their children.

In rural Laos, school dropout rates remain high (national rate 11.5% in 2023). Limited early-childhood care is a key driver.

In 2024, we operated three daycare centres—one per farm—staffed by trained teachers and open to children of permanent and seasonal workers.

Around 45 children (ages 2–14) attended. We served ~13,000 nutritious meals and ran growth and weight checks, food-safety and child-nutrition training, and diet monitoring.

To ensure children's health and development, teachers conduct monthly height and weight checks. We also deliver regular training for staff on food safety, child nutrition, and dietary monitoring.

This isn't charity—it's infrastructure. It's how we help working parents thrive, children grow strong and communities build futures.



Ms Seemuang Keakhoonmeuang, farm teacher at Nampot Farm, Nampot village, Pakxang District, Laos

An aerial photograph of a landscape. The majority of the area is composed of agricultural fields, characterized by a grid-like pattern of brown and green patches, indicating different crops or stages of growth. A prominent, dense strip of green forest runs vertically through the center of the image. Several thin, light-brown lines, likely dirt roads or irrigation canals, crisscross the fields. The overall scene suggests a rural or semi-rural environment where agriculture and natural habitats coexist.

SLOW GOVERNANCE & COMPLIANCE

Code of conduct & governance

We work across sourcing regions, field operations, and business hubs in both the Global South and North. To ensure consistency, we follow a shared Code of Conduct and internal policies that guide how we operate — with integrity, accountability, and respect.

These frameworks shape daily decisions across contexts and help maintain ethical, transparent operations. Where relevant, we align with global standards on human rights, environmental responsibility, and regenerative development.

Human rights

- ✓ Human rights policy
- ✓ Child labour policy
- ✓ Nondiscrimination and anti-harassment policy
- ✓ Diversity management policy

Environment

- ✓ Environmental policy
- ✓ Zero-deforestation policy

Labour & workplace

- ✓ Code of ethics
- ✓ Employee engagement strategy
- ✓ Social impact and community engagement policy

Anti-corruption

- ✓ Anti-corruption and anti-bribery policy
- ✓ Ethical marketing and advertising policy

External references include

- ✓ UN Global Compact Ten Principles
- ✓ Circular Bioeconomy Alliance - Principles for Regenerative Landscapes

The cost of compliance: Who bears responsibility?

For smallholder farmers—especially those in the Global South—the cost of compliance are steep.

Mapping land boundaries, collecting data, and navigating legal documentation are technically complex and financially burdensome. Many producers lack the infrastructure, tools, and institutional support to meet these demands. Without intervention, the risk is clear: the farmers who produce the world's coffee and cocoa could be pushed out of the markets they helped build.

Improved farming practices—could mitigate more than half of food system emissions by 2030, according to the Food and Land Use Coalition (FOLU). But such a transformation requires businesses to collaborate directly with producers. The private sector holds the capital and influence to accelerate the transition. What's missing is equitable cost-sharing.

We don't expect smallholders to carry compliance costs. Responsibility sits with those who benefit most from global trade—buyers, processors, and brands. Slow internalises the cost by providing tools, training, and tech so farmers can meet deforestation-free standards without losing market access.

through traceability apps, proactive monitoring, and on-farm support, we make compliance seamless while keeping routes to market open. By internalising these costs, we enable smallholders to continue participating in sustainable supply chains without shouldering undue financial or administrative burdens.

Compliance and leadership

Meeting regulation is the start, not the solution. Slow builds regeneration into the core operations. We plant trees, reintroduce native species, regenerate soil health and measure carbon removals at the farm level. Using GPS, polygon data, satellite imagery and historical land-use analysis, we verify that our sourcing sites are deforestation-free—supporting compliance while strengthening transparency.

Regenerative agriculture isn't a sideline. It's a scalable model that links climate ambition with inclusive development. It empowers farmers as stewards of ecosystems—and delivers lasting value to communities, companies, and the planet.



Mrs Buaphan Keolai, farm worker at Phouluang Farm, Kalong village, Paksong District, Laos

Social impact

A workforce rooted at origin

Slow's team isn't just global—it's embedded where impact matters most.

Slow operates with a distributed workforce across Denmark, Finland, Laos, Vietnam, Indonesia, and Singapore. But the structure isn't incidental. The majority of employees are based in sourcing regions—close to the farms, forests, and communities that define our work.

This proximity is strategic. It enables a real-time problem solving, deeper relationship with suppliers, and more responsive, region-specific implementation of sustainability goals.

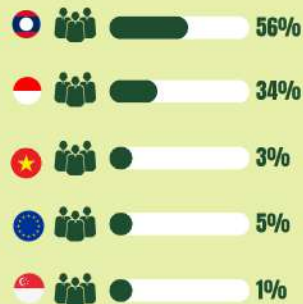
By aligning workforce geography with supply chain geography, Slow ensures our operations stay grounded—both literally and operationally—in the ecosystems and economies it seeks to support.

Mr At Vilajit, coffee farmer, Setkhod village, Paksong District, Laos

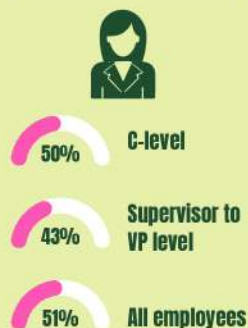
Embedding impact where it counts



Employees by country



Women employees



The future of work at Slow

As Slow grows, we remain committed to a workforce that is globally connected and locally grounded. From cocoa fields in Indonesia to coffee farms of Vietnam and our office in Copenhagen, our teams operate as one.

Impact starts with presence. By embedding our people in sourcing regions, we build trust, accelerate learning, and design solutions rooted in real conditions—not assumptions.

This distributed model isn't just operational—it's foundational. It ensures ethical trade is practiced, not preached, and positions us to drive meaningful change from the ground up.



Data, technology, systems: the backbone of measurable impact

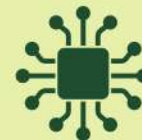


Data Regeneration you can measure

At Slow, data is the foundation of our impact approach. We track over 100 data points per farm, covering land use and land-use change (LULUC), soil health, water access, tree cover, species diversity, production, and social indicators.

This level of granularity allows us to measure progress, surface challenges, and adapt continuously.

Whether assessing biodiversity gains or tracking changes in livelihoods, data makes regeneration visible, credible, and actionable.



Technology High-tech meets human touch

Our tools span both digital innovation and field practicality. Every farm is mapped with GPS coordinates and digital polygons, forming a base for satellite monitoring, drone footage, and 3D landscape imaging.

But we also rely on low-tech methods — motorbikes, notebooks, and in-person interviews — especially when gathering context-rich data like farmer insights or school attendance. This dual approach keeps our model both scalable and grounded.



Systems The infrastructure behind impact

Our systems form the digital backbone linking farm-level activity to measurable impact. Using integrated tools—traceability (Google AppSheet), monitoring (TerraPulse), and carbon data engines (Altruistiq)—we capture, validate, and report real-time data across operations, tracking tree growth, yields, emissions reductions, and living-income progress.

Embedded in our ERP and dashboards, these systems keep data flowing seamlessly across teams and regions.

We take impact beyond the farm

We share our model in boardrooms, classrooms, and global forums to support more scalable, regenerative systems.



We engage with the global sustainability community to share and learn on the future of food systems. From the World Economic Forum to NY Climate Week and the World of Coffee, we join industry dialogues on agriculture and value chains. At COP16—the UN Biodiversity Conference in Cali, Colombia (Oct 2024)—we contributed to sessions on how regeneration supports both nature and livelihoods.

Our academic partnerships—including MBA projects, guest lectures, and student collaborations across Southeast Asia, Europe, and the U.S.—connect us with future leaders. These exchanges refine our model and bring agroforestry-based solutions into new domains.

Whether on a global stage or in a classroom, we treat advocacy as building better systems—and accelerating progress across the value chain.



Looking ahead to 2025

New regions.
Stronger proof.
Bigger impact.



Expanding our model

In 2025, we plan to extend our regenerative agroforestry approach to new regions, with a particular focus on Africa. These landscapes — marked by degraded soil, climate vulnerability, and underserved farming communities — represent both a challenge and an opportunity. Expanding into new geographies is a critical step toward testing the adaptability of our model and advancing regeneration at scale.



Raising the bar on verification

To ensure our impact remains transparent and accountable, we aim to pursue additional third-party certifications. These will help validate key environmental and social outcomes, reinforce the credibility of our reporting, and support stronger alignment with customer partners, and policymakers.



Doubling down on core impact

We'll invest further in field operations where we already work: regenerating land, boosting biodiversity, increasing carbon removals, and strengthening livelihoods. As our footprint grows, so does our responsibility. In 2025, we'll invest further in field operations and deepen our impact in the landscapes where we already work.



Commercial growth = impact growth

Every step forward — new markets, higher volumes — translates into more forests, more income for farmers, and more carbon removed. Slow is scaling — and with scale comes greater potential for impact. In our model, commercial success and regenerative outcomes move together — by design. As we grow, each sale contributes directly to climate resilience, ecosystem recovery, and community well-being.

Packaging and delivery

Important but not the whole story.



Packaging and last-mile delivery often dominate sustainability claims. “100% recyclable,” “biodegradable,” or “eco-friendly.” These narratives are popular because they’re visible, consumer-facing, and easy to market. But their real climate impact is limited.

In 2024, packaging for our coffee and chocolate accounted for just 3.1% of our non-FLAG + FLAG emissions. Last-mile transport added even less, under 1% of total emissions. Together, these represent a small fraction of our footprint.

So, be mindful when reviewing industry-reported figures, such as claims of 70% CO₂e reductions in packaging or 50% in transportation emissions, as these percentages often relate to small absolute values.

That’s why we don’t overstate our efforts in these areas. Optimizing packaging and delivery is important, and we continue to improve both. But making bold claims about marginal reductions risks distracting from where the real change happens.

The real leverage point is farming

At Slow, we believe the most powerful climate action happens at the start of the value chain. Decisions about land use, crop diversity, and soil health shape the sustainability of coffee and chocolate more than any packaging switch ever could. Regenerative farming is a structural solution: it regenerates ecosystems, supports livelihoods, and builds resilience where it matters most.

Sustainability isn’t achieved at the checkout counter. It begins with how we grow.



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slow

Thank you for spending time with us — and with regenerative agroforestry, which to us isn't a buzzword, but a commitment.

If you're curious to taste what that means — in coffee or chocolate, grown under forest canopies — you know where to reach us.

With gratitude,
Slow