

Sustainability Report 2021

Transforming Tomorrow Today



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Unless otherwise indicated, “Louis Dreyfus Company”, “LDC”, “Group” and related terms such as “our”, “we”, etc. used in this report refers to the Louis Dreyfus Company B.V. Group.

Message From Our CEO

In a context of increasingly urgent global challenges, we took significant strides to advance transformative sustainability strategies across our operations, assets and supply chains during 2021, while keeping our people safe, ensuring supply chain continuity, and working with partners to support farmers and protect the environment.



Protecting People

At LDC, sustainability always starts with [people](#) – whether they are employees, contractors or other partners and stakeholders, we strive to instill a health and safety culture wherever we operate and work around the world, ensuring every person working for and with us goes home safe and well each day.

In 2021, for the second year in a row, we recorded our [best-ever safety metrics](#), a very positive performance that I am especially proud of and grateful for, in a context that continued to pose many challenges.

And because wellbeing is also a matter of inclusion, we continued to take steps to advance in our roadmap to shape an inclusive workplace and culture across LDC, recording progress toward our [diversity & inclusion](#) goals.

Addressing shortcomings highlighted by the pandemic in relation to the welfare of maritime workers, LDC also helped to develop and launch a dedicated Code of Conduct to protect seafarers' rights, from fair terms of employment to grievance mechanisms. Developed in collaboration with like-minded shipping industry stakeholders, this new code will contribute to more responsible maritime operations and increased support for these essential workers.

All Hands on Deck

On the topic of essential work, never more than in recent months and years have we seen the importance of shipping to keep essential supply chain moving – so decarbonizing the shipping industry is also key to mitigate climate change. And in this area too, our collaborative approach was reflected in our signing in 2021 of a decisive call to action to enable full international shipping decarbonization, alongside more than 230 organizations representing the entire maritime value chain.

The signatories call on governments to work together with industry to deliver the policies and investments needed to reach a full and equitable decarbonization of international shipping by 2050, while making zero emission shipping the default choice by 2030.

To reach these ambitious targets, the private sector must continue to invest in research and development that seeks to reduce shipping fuel consumption and emissions, an area in which our [Freight Platform](#) has continued to advance over the past year.

Accelerating Global Decarbonization

Indeed, decarbonization was center stage in 2021 – at LDC and on a macro level, as government and corporate leaders came together at the 2021 UN Climate Conference in Glasgow (COP 26) to discuss and advance individual and collective efforts to limit global warming, consistent with Paris Agreement goals. In the context of this conference, LDC was among the co-signatories of a [corporate statement of purpose](#) from ten major agri-commodities companies for accelerated and collaborative supply chain action consistent with a 1.5°C pathway.

In line with this and our own existing commitment to reduce our environmental impact and help shape a net-zero economy, in 2021 we established a [new Carbon Solutions Platform](#) charged with leading and accelerating LDC's decarbonization roadmap through action within our operations and across our value chains, supported by participation in compliance and voluntary carbon markets. The platform is building an extensive emissions reduction project portfolio, with a focus on collaborative projects in line with our approach to tackle sustainability challenges through partnerships.

Action for the Environment

In parallel, we also continued to explore and implement innovative solutions to reduce the [environmental footprint](#) of our operations – for example, investing in solar power in Mexico, switching packaging options in the US to reduce solid waste generation, optimizing use of steam in Asia and reducing the emissions profile of our Zambian [cotton](#).

Thanks to these and many other initiatives around the world, we remain on track to achieve our global environmental key performance indicators (KPI) reduction targets for 2018-2022 for greenhouse gas emissions,

electricity and energy consumption, water usage and solid waste sent to landfill.

Our confidence in our ability to deliver on these was highlighted in October 2021, when LDC raised a five-year JPY10 billion sustainability-linked private placement with a Japanese investor, with a pricing mechanism where the interest rate is linked to performance against these same environmental KPIs, similarly to our regional revolving credit facilities, all of which are now [linked to our environmental performance](#).

Future of Forests

Eliminating deforestation and conversion of native vegetation in food and agricultural supply chains is among the most significant contributions our industry can make to limit global warming. This conviction was the basis of our commitment, [announced in 2022](#), to target zero deforestation and native vegetation conversion for agricultural purposes in all our supply chains, by the end of 2025.

This commitment builds on our existing product-specific sustainability codes and policies for higher risk commodities in relation to deforestation, our past work to drive supply chain traceability and reporting transparency as a crucial basis for responsible sourcing decisions, and our initiatives to encourage crop expansion over already cleared land, among other environmentally responsible agricultural practices.

In 2021, for example, we began the roll-out of our revised Global Code of Conduct for Coffee Suppliers and successfully completed a pilot project in Colombia with a new traceability solution provider, with a view to global implementation. Our [coffee](#) teams also developed detailed documentation for LDC's own responsible

sourced program and trained the first group of farmers on this basis, aiming to refine and finalize training methodology in 2022.

In [juice](#), as part of sustainability verification for LDC-managed citrus farms in Brazil, we also continued to enlarge biodiversity conservation areas and plant thousands of native trees.

We also continued to promote our Soy Sustainability Policy with our suppliers, emphasizing our zero deforestation and conversion expectations in particular, enhanced internal processes and systems for traceability and land use monitoring, and began developing zero deforestation and conversion verification methodology, to be finalized in 2022 as we establish our global baseline for deforestation- and conversion-free [soy](#).

In [palm](#), we continued to improve our traceability to plantation, reaching over 70% for our global volumes. We also developed and successfully piloted our protocol to verify supplier compliance with LDC's No Deforestation, No Peat and No Exploitation policy, with direct suppliers to our Indonesia refineries.

and enabled LDC to take important steps, driving key commitments to help shape a better tomorrow - the latest, our 2025 zero-deforestation commitment.

A hugely respected champion of sustainability within LDC, and a much-loved colleague for his warm manner and wry sense of humor, he is and will continue to be greatly missed.

Still, his crucial work must, and will, go on through our commitments to protect and invest in our people, to support [communities](#) connected with our activities - especially vulnerable farming communities, to safeguard the environment, and to forge trusted [partnerships](#) in our work to shape more sustainable agricultural and food production chains.

I would like to thank our teams for the important work they delivered in 2021, with many positive results already, as outlined in this report, and I am confident that more will come this year and beyond, thanks to their dedication, resilience and collective determination to achieve success - safely, reliably and responsibly.

Looking Ahead

Climate change, a lingering pandemic and supply chain dislocations resulting from geopolitical crises will continue to pose significant challenges in the months and years ahead. Fulfilling our role to source, add value to and deliver food and agricultural products worldwide is essential to ensure food security for a growing global population. Doing so sustainably is critical to ensure we can continue to do so for the long term.

To this end, we draw inspiration from our 170-year heritage and experience, our entrepreneurial mindset and flexibility in adapting to challenges, our shared purpose to create fair and sustainable value, and the people who make that purpose come to life - key among them, our late Global Head of Sustainability, Guy Hogge, who passed away earlier this year.

Guy worked for LDC for nearly 30 years, during which time he made many important and inspiring contributions to the company - since 2010, in leading the implementation of our global sustainability framework and roadmap, an essential part of our business model and identity. Over the years, he fervently encouraged

Michael Gelchie

Chief Executive Officer

Pillars of Sustainability

We continue to structure our sustainability efforts across four key areas: our people, our business partners, the communities we touch and the environment around us.

People

At LDC, we are committed to protecting and investing in our people, who are crucial to our success, prioritizing their health, safety and wellbeing, and providing equal opportunities for them to reach their full potential.



SHE 365

Our global Safety, Health and Environment (SHE) policy reflects this commitment, and we strive to instill a 'safety first' culture in the daily work of every employee and contractor working for and with us, at every LDC site and facility around the world.

Equally, as a global business that employs over 17,000 people and is active in more than 100 countries, respect for diversity in all its forms is part of our DNA, and we strive to work inclusively in everything we do, starting with creating a fair and inclusive workplace for our own teams around the world.

Committed to Zero

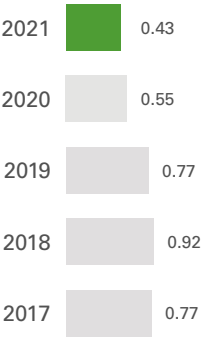
Safety, Health and the Environment (SHE) are a priority at all levels of our business, all day, every day, 365 days a year. Accordingly, we continually strive to instill a 'safety first' workplace culture across LDC, to ensure that every person working for and with us returns home safely and without injury each day.

2021 was another record year for safety at LDC, with zero work-related fatalities, no major process safety incidents and a decreasing trend across all three of our safety indexes. As part of our commitment to SHE, our goal is to create a zero-accident workplace wherever we operate.



Safety Performance Indexes

Frequency



The frequency index shows the number of industrial and logistics workplace injuries requiring medical attention, in relation to hours worked. The ratio expresses the number of employees in every 100 who experienced an injury needing medical attention during the year.

↓ **21.4%**
Year-on-year change

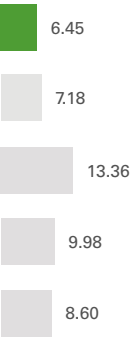
Gravity



The gravity index is a subset of the frequency index. It shows the number of industrial and logistics workplace injuries serious enough to result in time away from work, in relation to hours worked.

↓ **9.5%**
Year-on-year change

Severity



The severity index shows the number of days needed away from work due to injury, in relation to hours worked, for industrial and logistics workplaces. It is expressed per 100 employees for one working year.

↓ **10%**
Year-on-year change



Facilities with Zero Lost Time Injuries

Our commitment to avoid all accidents is reflected in the proportion of assets that operate for an entire year without an incident that results in time off work.

Globally, 2021 was a record year in this regard, as 89% of our facilities reported zero lost-time injuries over the year, a 3% improvement year on year.

| % of facilities recording zero lost time injuries | 2017 | 2018 | 2019 | 2020 | 2021 |
|---------------------------------------------------|------|------|------|------|------|
| | % | % | % | % | % |
| Asia | 80 | 84 | 90 | 95 | 96 |
| Europe, Middle East & Africa | 80 | 74 | 68 | 81 | 82 |
| North America | 79 | 82 | 91 | 90 | 93 |
| North Latin America | 80 | 79 | 71 | 85 | 88 |
| South & West Latin America | 83 | 76 | 85 | 85 | 92 |
| Global | 80 | 78 | 79 | 86 | 89 |



Fatalities

In yet another record for safety performance, 2021 saw zero work-related fatalities recorded across LDC. We commend our people for embracing LDC’s ‘safety first’ culture, securing this achievement that shows our ‘commitment to zero’ is feasible, even in another year that posed many operational challenges.

This said, despite good results compared to national levels in countries where we operate, LDC recorded 4,500 cases of Covid-19 in 2021 and, most regrettably, the loss of 14 employees to the virus.

With the pandemic still ongoing, our SHE teams remain vigilant, monitoring the situation across our locations and introducing or reinforcing existing safety and hygiene measures as needed to combat new Covid-19 variants, including:

- Personal protective equipment (PPE)
- Social distancing
- Remote working
- Rigorous safety training and transparent communication
- Support and incentives to get vaccinated

Sustaining Our SHE Culture

Each year we celebrate a worldwide Safety, Health & Environment Day across LDC, with events that involve all employees and contractors at our offices and assets, as well as many local safety and emergency service representatives who work closely with our sites year-round.

Our 2021 celebration was completely remote, with Covid-19 still affecting most of the countries where we operate. Avoiding physical gatherings to respect global hygiene and safety measures, we instead digitalized the celebration through online training, presentations, games, contests and other interactive activities to connect with our teams worldwide.

As part of these, we highlighted SHE achievements, challenges and priorities with more than 8,000 employees, contractors and partners who participated in the 2021 event across LDC, delivering the key message that every action - individual and collective - matters.

Introducing SHE Digital

In 2021, LDC initiated a transformational digitization process that will shape future SHE practices by putting LDC employees at the heart of a new SHE system through computer, mobile and wearable devices. The focus will be on risk prevention, providing our people with a simple, swift and seamless user experience that will accelerate SHE actions, inspections and discussions.

Process Safety Program 2.0

Our Process Safety Program first launched in 2015 as a foundation to build a solid process safety culture at LDC – a culture we continually promote among our people, training them to identify hazards and mitigate risks proactively, and follow a process safety framework customized for our activities. As a result, we have seen process safety practices progressively harmonized across geographies and platforms, and a successful risk-engineering partnership developed with our insurers.

These efforts have greatly reduced the number of breakdowns in process safety, resulting in a full year 2021 without major process safety incidents. Building on this positive progress, we are now focused on strengthening our model by considering the real consequences of climate change and, as a result, launched LDC’s Process Safety Program 2.0 in 2021 with two main goals:

1. Raise the bar on specific risks in our operations with new policies, guidance and procedures.
2. Reinforce process safety knowledge and expertise LDC-wide.

Targets

| | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Reduce frequency of workplace accidents by 5% year-on-year</p>  <p>Completion: 2021 Status: Complete</p> | <p>Reduce gravity of workplace accidents by 5% year-on-year</p>  <p>Completion: 2021 Status: Complete</p> | <p>Reduce severity of workplace accidents by 5% year-on-year</p>  <p>Completion: 2021 Status: Complete</p> | <p>Reduce lost time injuries to zero</p>  <p>Completion: Ongoing Status: In progress</p> |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

New Targets

| | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Reduce frequency of workplace accidents by 5% year on year</p>  <p>Completion: 2022</p> | <p>Reduce gravity of workplace accidents by 5% year on year</p>  <p>Completion: 2022</p> | <p>Reduce severity of workplace accidents by 5% year on year</p>  <p>Completion: 2022</p> | <p>Roll out four more modules as part of LDC’s new digital SHE system</p>  <p>Completion: 2022</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Diversity & Inclusion

As a global company that employs thousands of people across the world, LDC is a naturally diverse organization. We strive to create an inclusive workplace, where everyone feels supported and empowered to achieve their potential.

Our Diversity & Inclusion (D&I) roadmap and targets support the *United Nations’ 2030 Global Sustainable Development Agenda*, with inclusion, empowerment and equality at its heart, regardless of race, age, gender, sexual orientation, disability, culture, experience, background or ideology.

One of our D&I targets was to roll out an inclusive recruitment standard globally across LDC by 2022, but we have delayed it to 2023 to enable the build of a more equitable recruitment process involving broad-scale technology updates that are not yet in place.

On the other hand, we progressed toward our 2025 and 2030 goals, exceeding some of these as per the results of our 2021 employee survey, which indicated positive perceptions in relation to these criteria.

Flexible Work

In 2021, LDC brought in new global guidelines to offer employees greater flexibility and work-life balance, ultimately leading to increased job satisfaction.

The guidelines provide a foundation for local policies that enable employees to work from home (or another offsite location) for part of their workweek, provided they meet the eligibility criteria we have defined to ensure that we strike a balance between business and team requirements, and individual preferences.

Overcoming Unconscious Bias

At LDC, we believe that recognizing, addressing and overcoming unconscious bias is essential to build strong, inclusive teams. By increasing our awareness of unconscious bias, we can focus on positive ways to identify harmful perceptions and reframe our thinking.

In 2021, we launched a mandatory and global e-learning campaign to recognize and overcome unconscious bias for approximately 8,000 LDC employees (those with access to LDC’s e-learning platform, '*LDC.Learn*'). This new e-learning course consists of two mandatory modules:

- In the first, employees learn about the characteristics of unconscious bias and how to recognize it. They also study the importance of addressing unconscious bias in the workplace to counter its harmful effect on organizational productivity and success.
- In the second, employees learn to recognize and observe their own bias. By understanding these prejudices, they can take steps to overcome them and so embrace workplace diversity.

The course is now part of mandatory training for all new joiners with access to our e-learning space.

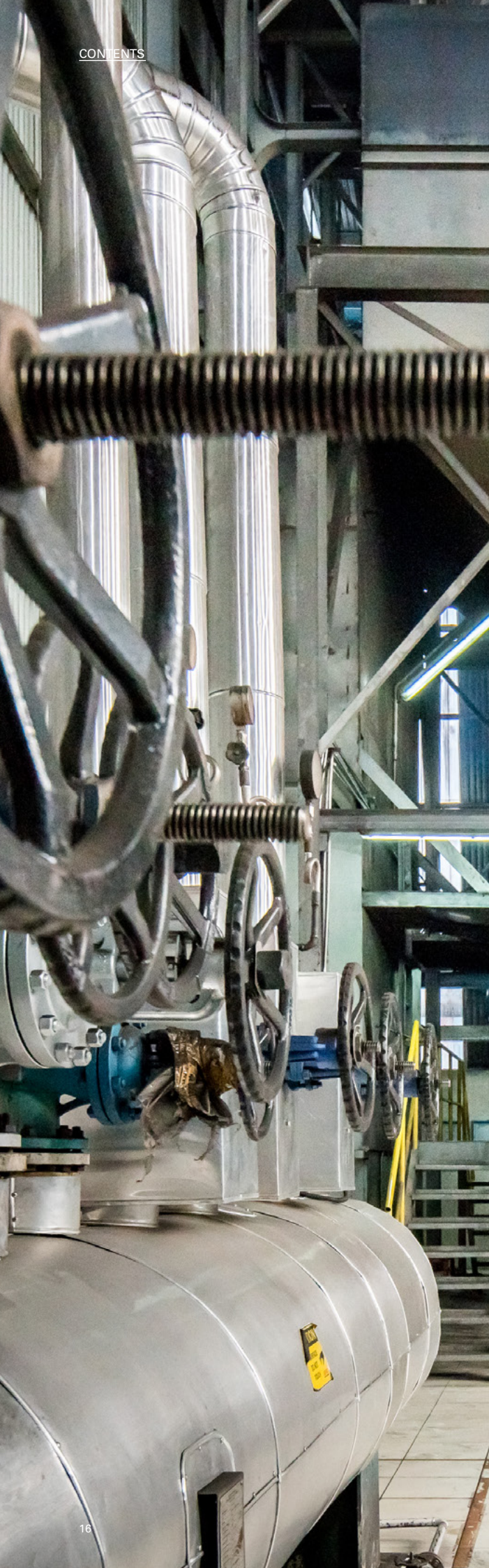
Gender and Age Group, by Region

% of employees* 2020 2021

| Gender | North Asia | | South & Southeast Asia | | Europe, Middle East & Africa | | North America | | North Latin America | | South & West Latin America | | Global | |
|--------|------------|----|------------------------|----|------------------------------|----|---------------|----|---------------------|----|----------------------------|----|--------|----|
| Female | 45 | 46 | 20 | 21 | 39 | 39 | 26 | 27 | 23 | 26 | 15 | 15 | 25 | 27 |
| Male | 55 | 54 | 80 | 79 | 61 | 61 | 74 | 73 | 77 | 74 | 85 | 85 | 75 | 73 |
| Total | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | |

| Age Group | North Asia | | South & Southeast Asia | | Europe, Middle East & Africa | | North America | | North Latin America | | South & West Latin America | | Global | |
|-----------|------------|----|------------------------|----|------------------------------|----|---------------|----|---------------------|----|----------------------------|----|--------|----|
| under 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2 | 0 | 0 | 1 | 1 |
| 20-29 | 18 | 19 | 19 | 19 | 14 | 11 | 14 | 14 | 29 | 27 | 15 | 14 | 21 | 21 |
| 30-39 | 57 | 54 | 51 | 49 | 35 | 37 | 25 | 26 | 35 | 35 | 43 | 41 | 38 | 37 |
| 40-49 | 21 | 22 | 23 | 25 | 26 | 27 | 21 | 22 | 22 | 24 | 29 | 31 | 24 | 25 |
| 50-59 | 4 | 5 | 6 | 6 | 18 | 18 | 27 | 25 | 10 | 11 | 11 | 12 | 13 | 13 |
| 60-69 | 0 | 0 | 1 | 1 | 6 | 7 | 12 | 13 | 2 | 2 | 2 | 2 | 3 | 3 |
| Over 70 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | | 100.0 | |

*Based on headcount as of December 31, 2021, excluding seasonal workers



Nationality

% of employees* 2020 2021

| Nationality | % of employees | |
|--------------------|----------------|----|
| Brazil | 46 | 47 |
| Argentina | 10 | 9 |
| China | 6 | 6 |
| Russian Federation | 4 | 4 |
| India | 4 | 4 |
| Indonesia | 2 | 2 |
| Ukraine | 2 | 2 |
| France | 2 | 2 |
| Other | 24 | 24 |
| Total | 100.0 | |

*Based on headcount as of December 31, 2021, excluding seasonal workers
Note: nationality is not tracked in US locations

Targets

Unconscious bias training compulsory for employees with access to LDC's e-learning platform



Completion: 2021
Status: Complete

Roll out an inclusive recruitment standard globally across LDC



Completion: 2022
Status: Delayed (to 2023)

Engagement scores indicate 75% perception of equal opportunities and treatment



Completion: 2025
Status: Complete*

Engagement scores indicate 70% perception of culture where innovative ideas can fail without penalty



Completion: 2025
Status: Complete*

Engagement scores indicate 90% perception of acceptance as an individual



Completion: 2025
Status: In Progress*

Engagement scores indicate 85% perception of equal opportunities and treatment



Completion: 2030
Status: In Progress*

Engagement scores indicate 80% perception of culture where innovative ideas can fail without penalty



Completion: 2025
Status: In Progress*

*2021 employee survey score is 80%

*2021 employee survey score is 76%

*2021 employee survey score is 87%

*2021 employee survey score is 80%

*2021 employee survey score is 76%

New & Amended Targets

Roll out an inclusive recruitment standard globally across LDC



Completion: 2023

Engagement scores indicate 90% perception of acceptance as an individual



Completion: 2030

Communities

At LDC, we are committed to making a positive difference in the many local communities where we operate. We do this by creating jobs, driving health and education projects, and empowering smallholder farming communities to increase their resilience through more sustainable agriculture, working with the *Louis Dreyfus Foundation* and other partners.

Recognizing that rural farming communities are especially vulnerable to food insecurity and climate change, LDC partners with the [*Louis Dreyfus Foundation*](#) and local implementation partners to support these communities to increase their productivity and profitability sustainably, through micro-farming, agricultural education and entrepreneurial support projects – some of them proposed or coordinated by LDC employees. These projects focus on locations where LDC has an established presence in order to leverage the company's networks and expertise.

In addition to these, LDC employees around the world organize or participate in educational, environmental, health, food security and other initiatives for the benefit of communities connected with our activities.

Giving back to the communities in which we work is both our responsibility and privilege, and some of the projects from 2021 outlined below, illustrate our ongoing commitment to doing so.



Projects Around the World in 2021

Brazil Community Initiatives

Supporting Vulnerable Schoolchildren

Since 2007 LDC has supported the closing party at *Educandário Santo Antônio* school in Bebedouro, providing Christmas gifts and lunches, and supplying school uniforms for the 2022 school year. The institution works in education and social assistance, supporting 275 children and adolescents full-time and assisting 200 families through its socio-family support program, which seeks to prevent and combat social vulnerabilities.

Online Art Auction

In 2021, LDC held an online charity auction of works of art on display at its headquarters in São Paulo. A total of 128 pieces were sold, raising more than R\$100,000 (approx. US\$21,000) for donation to *Instituto Jô Clemente*, a non-profit organization that works toward greater inclusion for people with intellectual disabilities. The donation will enable the care of 62 children for a period of 12 months.

Life Jackets Donation

In May 2021, 600 life jackets were donated by LDC to the Brazilian Navy for use in waterway traffic inspections and professional maritime education courses for riverside communities near Jacareacanga, in the country's Alto Tapajós region, with the aim of contributing to safer river navigation.

Cooking Oil Disposal & Recycling

Our Óleo Vila Velha brand is one of the sponsors of the Óleo do Bem Project, which encourages the correct disposal and recycling of cooking oil in São José do Rio Preto. City residents can visit collection points to exchange two liters of used oil for two bars of ecological soap - an initiative that seeks to stop used cooking oil contaminating the city's waters.

“The children’s eyes were sparkling! This magical experience makes us appreciate the value of ‘the little things’ in our daily lives that are not simply available to everyone.”

Marilia Ferreira

LDC Human Resources Analyst in São Paulo, Brazil

“These donations aim to reduce the number of drowning victims. It is gratifying to participate in this initiative and be able to contribute to safer navigation and the protection of human life.”

Fernanda Rodrigues

LDC River Fleet Manager in Pará, Brazil

Reforestation in Action in Paraguay

In 2021, volunteers from LDC and a team from Paraguayan environmental NGO *A Todo Pulmón* carried out two days of tree planting around our grains and oilseeds warehouses in Curuguaty and Pozuelo.

Together, the teams planted 1,680 trees of 11 native species and five fruit species, as part of a campaign that seeks to raise awareness about the importance of protecting the environment.

This initiative included the delivery of a native seedling to each of LDC's 185 employees in Paraguay to plant at home, and environmental workshops for primary students from our Villeta and Coronel Oviedo communities, near two of LDC's industrial facilities.

Future-Proofing the Next Generation of Colombian Farmers

Run jointly by LDC, the *Louis Dreyfus Foundation* and local coffee cooperatives, this program aims to convey a passion for coffee to the next generation of growers, while disseminating good agricultural practices among the farming community as a whole.

To instil an appreciation for sustainable coffee production at a young age, training takes place in schools, while practical projects involving both students and coffee farmers encourages interaction and hands-on experience.

Key Numbers

188

Students involved in remote classes in an ongoing Covid-19 context, while practical outdoor classes took place on coffee farms.

28.5%

Despite a challenging 2021 due to drought and erratic rainfall, producers overall improved their income by 28.5% year on year.

30

Farmers who received technical assistance in 2021, including training on a variety of topics including labor and social responsibility, soil nutrition, water usage, traceability and commercialization, harvesting, quality analysis and carbon footprint reduction.

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To instil an appreciation for sustainable coffee production at a young age, training takes place in schools, while practical projects involving both students and coffee farmers encourages interaction and hands-on experience.

Key Numbers

132

Students involved in remote classes in 2021, organized to maintain the connection with students despite Covid-19.

40

Farmers who received technical assistance in 2021, 27 of them switching to organic fertilizers and 5 implementing intercropping techniques by year-end.

83%

Average year-on-year income increase, despite a production drop due to a widespread drought, thanks to a combination of better coffee quality, reduced cost of organic fertilizers and favorable coffee prices.

Boosting Family Farms in Argentina

Many smallholder farmers in El Chaco, Argentina struggle with agricultural production, relying on outdated techniques with little access to credit, training or new technologies. This ongoing project with the *Louis Dreyfus Foundation* aims to support the local farming community through training, technical and production assistance and support on social and medical issues.

In 2021, 56 families received agricultural support to restore and improve their yields, of which all registered improved production results. All families received training on nutrition and cooking, as well as seeds to set up and maintain their vegetable gardens, and female family members received support on health and social issues.

The next phase of the project will focus on structuring and consolidating farmers' production through the creation of a farmers' cooperative. Some 200 farmers will receive technical assistance and in-kind production support through the provision of veterinary supplies and agricultural materials.

Key Numbers

56

Families assisted in 2021

100%

Farmers with a positive production margin

Community Support in North America

In 2021, LDC's Grains & Oilseeds teams in North America donated funds to 10 local food banks and community programs throughout the Region, each commercial team selecting a local food bank or charity, and hand-delivering a check to each one.

“To be able to contribute at a local level and see the difference this makes to people in our towns and communities is very important. These seemingly small gestures make a huge difference and connect us to one another. I was very pleased to be a part of this.”

Jay Nelson

LDC Commercial Manager for Ethanol in Grand Junction (IA), US

Engaging with Young Australians

Supporting Health & Wellness

LDC donated the proceeds of cotton bales from grower season trials to *BUSHkids*, a not-for-profit health organization that supports children and families in Queensland's regional, rural and remote communities. The funds were used to design and build a new outdoor therapy space for children and families who might not otherwise have access to local services.

Hosting Open Days

One of LDC's large-scale cotton gin facilities opened its doors to local student aged 4 to 6, inviting them to discover 'where socks and shirts come from'. At the end of an interactive learning day, the children left with samples of raw cotton, lint cotton and cotton seed to show their families.

Introducing Students to Agricultural Studies

In April 2021, LDC sponsored an agricultural field trip for *Dalby State High*, located near LDC's cotton facility - a valuable learning experience for the students, providing insight into future employment opportunities in the agricultural industry.

Sharing Best Agriculture Practices in China

Led jointly by LDC, the [Louis Dreyfus Foundation](#) and [China Education Support Project](#), our 'Sustainable Agriculture Future Change-Maker' project in China, was launched in 2020. The objective was to develop the knowledge and skills of talented university students in the country, encouraging them to enter the agricultural sector and promote more sustainable production methods that would benefit China's environment, public health and agricultural productivity in the long term.

The program kicked off with training on modern farming methods delivered to students from Beijing and other provinces. After completing their online curriculum, the students traveled out to rural areas across the country to conduct surveys on local farming conditions and challenges. Accompanied by agricultural experts, they passed on their knowledge to farmers, training them to increase their income and productivity through more sustainable practices, shifting away from overuse of fertilizers and pesticides that leads to soil erosion and pollution, water scarcity and loss of biodiversity.

In 2021, 109 students joined the second year of the program (from over 500 who applied) and spent time working with farmers and collecting data, accompanied by LDC employees and field technicians. Together, they disseminated knowledge on good production practices to more than 200 farming households.

The project will pursue its plan to engage and train more students across the country, adding innovative agricultural methods and techniques to the curriculum, such as use of bio-organic fertilizer to reduce rates of chemical fertilization, improve soil fertility and enhance crop yield and quality. As a next step, the project will engage with 10 new student groups who will submit research projects on scientific seed selection. Students will conduct field research in rural areas on suitable local seed varieties, including endangered species, with the overall objective of increasing the income of small and medium-sized farmers.

Key Numbers

215

Total number of students engaged to date

50

Farming households informed on fertilizer application and water retention in 2021

2,250

Total number of farmers who benefited from the project so far, directly or indirectly

Aiding & Advancing Smallholder Businesses in South Africa

The *Abalimi Phambili* (Farmers First!) program was launched in the North West province of South Africa in 2021. It currently supports 360 small-scale farmers in maize and sunflower production, both for self-consumption and sale to market, helping to connect smallholders with the broader agribusiness industry and get them market ready.

The project is located in South Africa's Corn Belt, which is dominated by mid and large-scale commercial producers. Subsistence and smallholder farmers tend to lack adequate support, which negatively impacts their production.

The project provides agricultural technical support, including improved access to markets, mechanization and agricultural advice. Fifteen local farmers received credit from the Revolving Fund (credit provided via inputs distribution, with 50% co-financing from farmers) and all participating farmers were trained in the correct application of inputs, including planter and sprayer calibrations.

The farmers also received business support, creating closer working relationships between isolated farmers and larger agricultural value chains, and by stimulating food production in rural communities, the project will also considerably improve local food security and contribute to healthier diets.

Key Numbers

360

Total number of participants (97 of them women farmers)

10%

Average expected increase in productivity vs. baseline

Black Soil for Biodiversity in China

In 2021, LDC officially launched its [Sprint for Soil black soil protection project](#) in northeast China, in collaboration with [China Environmental Protection Foundation](#), to establish a 170-acre black soil protection zone in Yanji, Jilin Province, China.

The three-year project will explore a set of technical standards and implementation rules for black soil protection techniques, sharing the findings with 6,000 local farmers from 20 surrounding villages.

By providing training on the importance of black soil protection and sustainable farming, the project is expected to have a positive impact on more than 200,000 acres of black soil.

Reinforcing Rice Production in Côte d’Ivoire

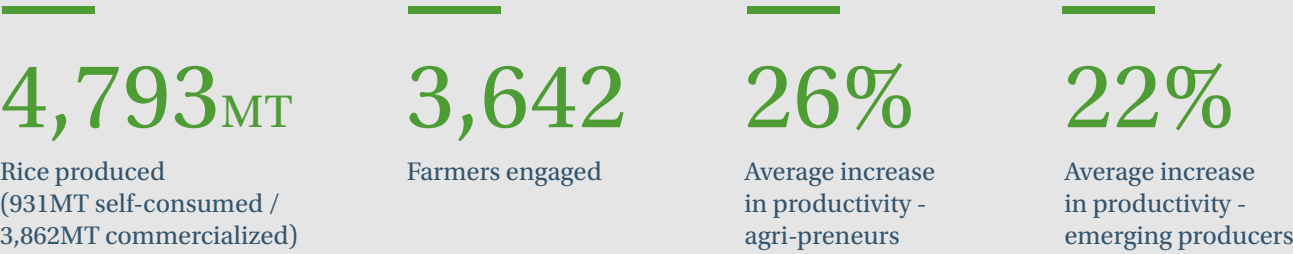
This project with the [Louis Dreyfus Foundation](#) was first established in 2018, with the aim of developing a sustainable supply chain from smallholder rice farmers to the mill in Boundiali, in northern Côte d’Ivoire. By connecting rice producers with processors, and then processors with the market, an inclusive, traceable and sustainable supply chain was built, helping the area’s rice sector transition from subsistence farming to small-scale commercial agriculture.

Farmers are segmented into ‘emerging producers’ and ‘agri-preneurs’ (market-oriented farmers) to offer support tailored to their production profile and ensure rice production for both self-consumption and sale on the local market.

The project has since grown, and in 2021 continued to support more than 3,600 farmers.

A production strategy and plan are being developed for next year, in collaboration with farmers themselves and with local stakeholders.

Key Numbers



Supporting Rural Communities in Benin

In 2021, as part of LDC's 170th anniversary campaign, we called on all employees to vote for the cause that LDC will support with a US\$170,000 donation, symbolizing our 170 years.

Four organizations were proposed for their efforts to promote sustainable agriculture, in line with LDC’s work with the [Louis Dreyfus Foundation](#). The initiative that garnered the most votes was [The Hunger Project](#).

LDC's donation will support three [rural community epicenters in Benin](#), helping to create a women's empowerment program and providing access to healthcare, education, clean water, agricultural tools, savings and credit opportunities for 34,195 smallholder farmers, 18,448 of whom are women.

Empowering Women Farmers in India

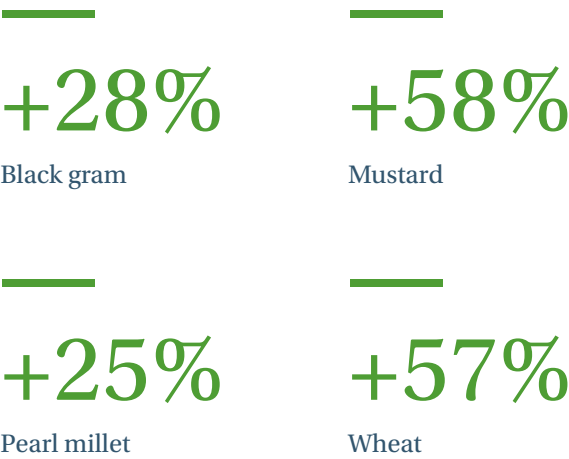
In 2020, working with the [Louis Dreyfus Foundation](#), LDC embarked on a two-year program to enhance the food security and cash incomes of women smallholder farmers in India. The project focuses on the Tonk district in the semi-arid eastern plains of Rajasthan, a farming region with low productivity, limited rainfall and a high incidence of poverty.

In 2021, 3,717 women farmers received training on planting methods including pre-sowing, post-sowing, pest management and organic farming. Of this group, 322 were supported in the development of vegetable production (including vertical planting methods) thanks to the establishment of two high-tech nurseries to supply healthy vegetable seedlings to participating farmers.

Phase 2 of the project starts in 2022 and will target 2,000 new and 4,000 existing farmers across almost 100 villages, who will receive crops and natural farming production training, to establish vegetable gardens and improve livestock production. The project will also scale up commercial vegetable production, fruit orchards, water-harvesting ponds and drip irrigation.



Productivity Increase vs. Baseline



Key Numbers



Environment

A responsible and sustainable approach to protecting the environment and natural resources we all depend on, remains central to our model for sustainable business.

As we continue to fulfill our key role to feed and clothe the world's growing population, minimizing our environmental impact is vital to our long-term success, by helping to ensure sustainable agricultural production, conserve natural resources and contain the effects of global warming and climate change.

To do so, we continually monitor our operations to identify and act on improvement areas, aiming to reduce greenhouse gas (GHG) emissions, water usage, electricity and energy consumption, and solid waste sent to landfill.

In particular, we took an important step in 2021 to accelerate LDC's decarbonization journey and contribute to global emissions reduction goals in line with the Paris Agreement, with the setup of our new [Carbon Solutions Platform](#).

Preserving land of high ecological value also remains a priority, and we continue to work to protect natural habitats connected with our operations, through:

- Observance of our No Deforestation, No Peat, No Exploitation (NDPE) policy.
- Development and implementation of Biodiversity Protection & Conservation Plans at LDC-managed [citrus farms in Brazil](#).
- [Training farmers in our supply chains](#) to adopt responsible agricultural practices that preserve habitats and biodiversity.

Carbon Solutions

In 2021, amid growing global concern and calls for accelerated climate action, we created a dedicated Carbon Solutions Platform to spearhead our global decarbonization trajectory, in line with our commitment to sustainable business.

As an outcome of the 2021 United Nations Climate Change Conference of the Parties (COP26) in Glasgow, 136 countries have committed to net zero emissions by 2050. Some 20% of the world's 2,000 largest corporates, including many multinationals in the food and agriculture sector have also made net zero commitments.

In this context, [LDC set up its new Carbon Solutions Platform in 2021](#), to drive forward our decarbonization journey through the use of renewable energies, low carbon fuels, energy efficiency enhancements and investments in nature-based solutions across our supply chains, supported by participation in global carbon credits markets.

To ensure that carbon best-practice becomes an integral part of doing business, as well as a value driver and competitive advantage for LDC, our new Carbon Solution Platform is working with all business areas across LDC, and in consultation with external climate experts, to:

- Lead LDC's greenhouse gas corporate inventory and science-based **target setting** for scope 1, 2 and 3 carbon emissions.
- Build a **carbon reduction project** portfolio within and beyond LDC's operations, as a source of high-quality carbon credits and removals to help meet our own and our customers' carbon targets.
- Support our business lines to **decarbonize value chains and develop low carbon intensity products and services** for customers.



Portfolio Highlights

Since its creation in September 2021, our Carbon Solutions team has been building up an extensive portfolio of carbon reduction and removal projects spanning:

Regenerative agriculture:

Collaborating with farmers to incentivize farming practices that lead to enhanced soil organic carbon and/or reduction of nitrous oxide emissions.

Reduced emissions from deforestation & degradation (REDD):

Forest conservation and protection projects designed to reduce emissions resulting from deforestation or degradation.

Reforestation and afforestation:

Tree-planting and cultivation activities that generate carbon removals, including agroforestry.

Blue carbon:

Carbon avoidance and removal in coastal and marine ecosystems, such as mangroves, seagrass and sea marshes.

Community projects:

Initiatives to reduce emissions while benefitting local communities in developing countries, such as the provision of improved cooking stoves, safe water devices that reduce use of non-renewable biomass and LED lighting to replace kerosene devices.

Technology-driven removals:

Carbon removals generated by technology enhancements at our industrial assets, such as carbon capture and storage at LDC's ethanol plants.

Reduced fuel consumption in shipping

Through advanced paint coatings, wind-assisted technology or a switch to green fuels such as biofuels on vessels chartered by LDC or customers.

Methane avoidance & reuse:

Avoidance of emissions from enteric fermentation or organic waste, and methane recovery and use for electricity or heat.

Renewable energy:

Emissions reductions from replacement of fossil-based electricity or heat sources with renewable sources such as wind, solar, geothermal and small-scale run-of-river hydro.

Collaboration for Decarbonization

Collaboration is central not only to our own decarbonization journey, but to the many sustainability challenges facing our industry, which can only be addressed if all value chain participants are united in their efforts.

Case Studies

US: Carbon Sequestration and Storage with *Summit Carbon Solutions*

Signed in 2021, this carbon sequestration and storage project will capture CO₂ from two LDC ethanol production facilities in Nebraska and sequester it underground on a permanent basis.

Through the annual capture and storage of over 10 million tons of CO₂ from several ethanol plants and industrial facilities in the US, the project will reduce the carbon footprint of US corn-based ethanol activities, making locally produced ethanol more competitively priced in comparison to foreign imported sugarcane-based ethanol, while improving the viability of ethanol as a fuel source.

The project will also create thousands of jobs during construction, and hundreds once operations begin.

Kenya: Improved Cookstoves Programme with *BioLite*

LDC purchased carbon credits from this project to distribute to Kenyan households new *BioLite* HomeStoves and several models of super-efficient charcoal stoves that cut toxic indoor pollutant emissions by 90% and reduce wood fuel use by 50%.

BioLite's innovative technology also provides users with enough reliable, on-demand electricity in a day's cooking to fully charge a mobile phone or generate an evening's worth of bright LED light, replacing kerosene-fired lights.

Organized in small-scale programs replicated across the country, the project has distributed these affordable stoves to approximately 14,000 households, reducing the consumption of wood and charcoal, and avoiding on average the equivalent of 45,000 tons of CO₂ emissions per year for each program.

Indonesia: Sumatra Merang Peatland Project with *Ecosphere+ Limited*

LDC purchased carbon credits from *Ecosphere+ Limited* in relation to the Sumatra Merang Peatland Project, which aims to restore over 22,934 hectares of peatland rainforest in Indonesia's Merang biodiversity zone, one of the largest and deepest peat swamp areas in South Sumatra.

Through activities such as peatland rewetting, forest protection from illegal logging and fire prevention, the project has reduced and sequestered 2.6 million tons of CO₂ emissions to date.

In addition to its beneficial climate impact, the project brings important social benefits by working with surrounding villages through a community development fund, providing support to fishermen and creating 103 jobs in areas such as dam construction and forest patrols.



Environmental Metrics

We remain on target to reach LDC’s overall target to reduce its four environmental key performance indicators (KPIs) by 5% between 2018 and 2022.

In 2021, we continued to reduce emissions and waste generation - the latter by 21%, far exceeding our 1% reduction target year on year. Nevertheless, we missed our target to reduce all KPIs year on year. Energy consumption rose marginally and water consumption increased due to the exceptionally severe drought that affected our juice farms in Brazil, where increased irrigation of citrus groves was required.

| Global | 2018 | 2019 | 2020 | 2021 | 21 vs. 18 | 21 vs. 19 | 21 vs. 20 |
|----------------------------------------|-------|-------|-------|-------|-----------|-----------|-----------|
| Energy (kWh/MT) | 17.54 | 16.21 | 15.66 | 15.72 | -10.4% | -3.0% | 0.4% |
| GHG (tCO ₂ /MT) (with biog) | 0.043 | 0.042 | 0.034 | 0.034 | -21.9% | -19.4% | -1.2% |
| Water (m ³ /MT) | 0.55 | 0.49 | 0.49 | 0.52 | -4.3% | 7.2% | 7.5% |
| Solid Waste (kg/MT) | 1.14 | 0.48 | 0.29 | 0.23 | -79.7% | -51.7% | -21.4% |

CO₂ Emissions

This index shows the quantity of CO₂ emitted per ton of feedstock crushed or processed. It is measured in kilograms of CO₂ per metric ton of feedstock (kg CO₂/MT).

Building on the reductions achieved in 2020, we continued to introduce process improvements and efficiency savings at our sites around the world in 2021. A key focus of our efforts was the reduction of steam usage, which helps target two of our environmental metrics, energy consumption and greenhouse gas (GHG) emissions.



Case Studies

Claypool, Indiana, US

One of our largest steam consumers in our production processes in Claypool is the DT (desolventizer toaster) unit, in which steam was traditionally added in several areas, resulting in a delayed response and subsequent temperature swings. A new technology adopted in 2021 uses predictive controls to better manage the unit’s temperature, which reduces steam usage and, in turn, gas consumption and associated greenhouse gas emissions.

Zhangjiagang, China

In 2021, this facility reduced steam consumption by 8% year on year through a combination of CAPEX projects and initiatives to optimize production processes, saving emissions through steam, water or heat reductions:

- Installation of a stripper pre-condenser to recover heat by preheat hexane, saving steam
- Sending mineral oil stripper gases to the stripper condenser, working under high vacuum, saving steam
- Replacement of ten small cooling towers with two large cooling towers, saving water and steam
- Introduction of an expander cooler fresh air/vent air heat exchanger, saving steam
- Optimizing production parameters to reduce temperatures across multiple systems, saving steam

Year-on-year reduction in CO₂ emissions: 2,247.73 tons

Tianjin, China

Adding a heat exchanger between the deodorizing oil and bleaching oil sections reduced the temperature required to maintain the system, which significantly reduced natural gas consumption for the high-pressure boiler.

Year on year reduction in CO₂ emissions: 373.22 tons

In parallel, a new 400m² plate heat exchanger was added to the first layer of the crushing plant’s two conditioning towers, which allowed heat from both the steam condensate and from circulating water in the heat recovery system to be used to warm the soybeans. Hot water after heat exchange is then used to heat the conditioning tower air heaters and the de-hulling system air heaters, further reducing steam usage.

Year on year reduction in CO₂ emissions: 2,641.77 tons

Lampung, Indonesia

In the biodiesel plant, the steam trap was relocated from the tank farm area near the heat exchanger, which reduced steam consumption and extended the steam trap’s lifespan.

Year on year reduction in CO₂ emissions: 4,857.24 tons

In the tank farm refinery plant, replacing the aging steam trap line and refinery coil optimized steam consumption.

Year on year reduction in CO₂ emissions: 12,143.09 tons

Electricity and Energy Consumption

This index shows the ratio of electrical power consumed to process (for industrial facilities) or handle (for warehousing facilities) feedstock. It is measured in kilowatt-hours per metric ton (kWh/MT).

In 2021, the severe drought that affected LDC-managed citrus farms in Brazil hampered our overall efforts to reduce energy consumption, as a result of increased use of electrical pumps for irrigation. Nevertheless, we continued to drive improvements, innovation and process changes at our facilities globally, which made a positive difference and maintained momentum and progress in this important area.



Case Studies

Brazil & Argentina

In 2021, variable-frequency drives (VFDs) were installed at ten of our industrial sites in Latin America: **Alto Araguaia, Apucarana, Itumbiara, Jataí, Paraguaçu Paulista, Ponta Grossa** and **Rio Verde** in Brazil, and **General Lagos** and **Timbúes** in Argentina. These motor drives are used in electro-mechanical drive systems to control alternating current motor speed and torque by varying motor input frequency and voltage, increasing system efficiency and driving down energy consumption by over 20% on average.

China

At our **Zhangjiagang** soy processing facility, we installed a bypass at the head of the elevators, increasing transportation efficiency and reducing the need for storage, and thus saving power. As a direct result, the unit reduced power consumption by 0.24 kWh/MT year on year.

US

Single speed fans controlled by dampers can cause increased energy usage, as fans increase to produce less flow, whereas variable speed fan motors reduce horsepower and electric demand for lower flow rates. In 2021, we introduced variable speed motors throughout our facility in **Claypool**, Indiana, reducing wear and tear on motors, eliminating damper controls and reducing energy consumption by 2.5%.

Mexico

Reduced energy consumption is closely associated with reduced greenhouse gas emissions, so use of renewable energies is a win-win scenario.

Accordingly, LDC is actively exploring avenues to harness renewable energies in its operations and, in 2021, completed a project to harness solar power at **El Cofre coffee plant in Veracruz, Mexico**. We shifted to 100% renewable energy by installing photovoltaic panels on the plant rooftop, reducing the facility’s Scope 2 emissions footprint to zero. Comprising 486 solar panels that cover an area of more than 1,000 m², the photovoltaic installation will produce 351 megawatt-hours annually, avoiding 184 tons of CO₂ emissions each year.

Solid Waste Sent to Landfill

This index shows the amount of solid waste produced and sent to landfill for every ton of feedstock crushed or processed. It is measured in kilograms of waste per metric ton of feedstock (kg/MT).

Building on our strong performance in 2020, which saw solid waste sent to landfill reduced by more than 50%, in 2021 we once again significantly reduce solid waste by over 20% year on year, through additional efficiency measures and innovative process changes.



Case Study

Claypool, Indiana, US

Our local team at the facility is replacing a large proportion of required packaging with more sustainable **SpaceKraft** totes, made and assembled in Indiana to support the local economy, while safeguarding the environment.

This project was implemented through collaboration between our Commercial, Purchasing, Operations, Quality Control and Logistics teams, working closely with the new packaging supplier to demonstrate proper use and handling.

Before (traditional totes)

- Derived from fossil fuels
- Take 750 years to decompose in a landfill
- Manufactured further away and require transportation to the site, with related emissions
- Consume more space in trailers in transportation to a recycler or landfill, with related emissions

After (**SpaceKraft** totes)

- Made from 90% recyclable materials
- Take only one year to decompose
- Made locally in Indiana, supporting the local economy
- More eco-efficient recycling, as 264 empty totes take up the same space in a single trailer as 60 traditional totes

The site reduced solid waste sent to landfill by over 20% year on year.

Water Usage

This index shows the ratio of water used for each metric ton of feedstock crushed or processed. It is measured in cubic meters per metric ton (m³/MT).

In 2021, the severe drought that affected LDC-managed citrus farms in Brazil required increased irrigation activities, impacting our ability to reduce water consumption. Nevertheless, we continued to advance with a variety of efficiency measures and process improvements across our assets, and remain on target to reach our overall goal to reduce water usage by 5% between 2018 and 2022.



Case Studies

Yorkton, Saskatchewan, Canada

A new three-way process flow loop was developed the facility to repurpose the water used to cool refined-bleached-deodorized (RBD) oil leaving the deodorizer as boiler feed water. By redirecting water coming out of the cooling loop to the boiler feed water at an optimal point, the new process allows the flow of cooler water to cool the finished oil product, reducing water usage in the summer, while generating thermal savings through improved utilization of a ‘waste’ heat source as boiler feed water.

In 2021, this initiative saved over 9,800 m³ of water.

Claypool, Indiana, US

By reusing reverse osmosis wastewater in the facility’s cooling towers, we reduced chemical usage required to treat well water, leading to fewer discharges and cost savings.

Targets

| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Reduce solid waste to landfill 1% year on year</div> <div></div> <div>Completion: 2021 Status: Complete</div> | <div>Reduce CO₂ emissions 1% year on year</div> <div></div> <div>Completion: 2021 Status: Complete</div> | <div>Reduce water consumption 1% year on year</div> <div></div> <div>Completion: 2021 Status: Missed</div> | <div>Reduce electricity and energy consumption 1% year on year</div> <div></div> <div>Completion: 2021 Status: Missed</div> |
| <div>Reduce solid waste to landfill 1% year on year from 2018-2022</div> <div></div> <div>Completion: 2022 Status: In progress</div> | <div>Reduce CO₂ emissions 1% year on year from 2018-2022</div> <div></div> <div>Completion: 2022 Status: In progress</div> | <div>Reduce water consumption 1% year on year from 2018-2022</div> <div></div> <div>Completion: 2022 Status: In progress</div> | <div>Reduce electricity and energy consumption 1% year on year from 2018-2022</div> <div></div> <div>Completion: 2022 Status: In progress</div> |

New Targets

| | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>Measure, monitor and reduce baseline Scope 1, 2, 3 GHG emissions, reporting results from 2023</div> <div></div> <div>Completion: 2022</div> | <div>Adopt new, science-based targets for our GHG emissions</div> <div></div> <div>Completion: 2023</div> | <div>Understand physical and transition climate risks affecting the Group’s value chains, reporting results</div> <div></div> <div>Completion: 2024</div> | <div>Zero Deforestation & Native Vegetation Conversion for Agricultural Purposes in Supply Chains</div> <div></div> <div>Completion: 2025</div> |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|

Partners

From supporting the farmers who grow the products we merchandize, to understanding the needs of customers who purchase our goods, partnerships are central to our business model. And when it comes to tackling sustainability issues facing our industry, we believe that collaboration is crucial to find shared solutions to common challenges, with fair outcomes for all stakeholders.

Effective action for more sustainable food and agricultural supply chains relies on collaboration by stakeholders across the value chain - from farmers, processors, transporters and distributors, to local communities, non-government organizations, national governments and the financial community.

Accordingly, in 2021, LDC continued to leverage its position as a leading, global merchant and processor of agricultural goods to influence the adoption of more sustainable practices across our business lines.

For agri-commodities such as coffee, cotton, palm and soy, we consulted and worked with a wide range of partners to develop and promote product-specific sustainability codes, policies and standards, and drive supply chain traceability, transparency, certification and verification.

At the same time, working alongside the [Louis Dreyfus Foundation](#) and other partner organizations, we supported the adoption of sustainable farming techniques by some 15,000 additional farmers around the world, empowering them to reduce production costs and boost yields sustainably - for example, through agroforestry projects that saw the planting of 300,000 native trees globally.

We also joined forces with organizations representing the entire shipping industry to accelerate the drive toward more sustainable shipping, by signing a call to action for [full international shipping decarbonization by 2050](#), and to protect workers at sea, by contributing to the development of a dedicated [Code of Conduct for seafarers' rights and welfare](#).

We are also committed to eliminating deforestation and conversion of native vegetation of high conservation value for agricultural purposes from all our supply chains, by the end of 2025.

We are supported in this ambition by the [Tropical Forest Alliance](#), a multi-stakeholder partnership platform that catalyzes the power of collective action to drive the world's transition to deforestation-free supply chains.



Tropical Forest Alliance (TFA)

For many people working on the forests and commodities agenda, the 2021 United Nations Climate Change Conference of the Parties ([COP26](#)) in Glasgow was a pivotal moment.

Globally, 141 countries stepped up to collectively halt and reverse forest loss by 2030 through the [Glasgow Leaders' Declaration on Forests and Land Use](#), and more than 30 leading financial institutions – with US\$8.7 trillion of assets under management – committed to remove commodity-driven deforestation from their portfolios by 2025.

Furthermore, in one of the strongest signals of ambition by the food and agriculture sector, the CEOs of 13 of the world's largest agricultural commodity companies, including *Louis Dreyfus Company (LDC)*, [signed a joint statement to develop a Roadmap for enhanced supply chain](#) action consistent with a 1.5°C pathway by COP27.

These, along with a slew of other announcements, signaled an unprecedented recognition of the role of the food and land use sector in the climate transition.

Just five months later, [Global Forest Watch](#) announced their annual update on global forest loss and deforestation, and it was not good news. In 2021, the tropics lost 11.1 million hectares of tree cover. Of this, 3.75 million hectares was loss within tropical primary rainforests, which is equivalent to a rate of 10 football pitches a minute, and resulted in 2.5 GT of CO₂

emissions, equivalent to the [annual fossil fuel emissions of India](#). Coupled with the stark reality that if we don't halt deforestation by 2030 at the very latest, with significant reductions by 2025, we will not limit global warming to 1.5°C, these trends underscore how important it is to translate commitments into immediate, urgent action.

The stakes have never been higher, and the COP27 agri-commodity roadmap represents a significant opportunity for agri-commodity companies to work together to eliminate deforestation linked to the production of agricultural commodities. It signals to stakeholders that they are serious, as a group, about making meaningful, rapid progress on the elimination of deforestation and conversion in their supply chains, above and beyond what they have been able to do individually over the past decade. This is one of the most significant contributions that the signatories can make towards ensuring we stay in line with a 1.5°C pathway.

Together, the signatory companies largely control the global trade of soy, palm oil, cattle and cocoa, operate at the gates of farmers producing these commodities and understand what producers need, in order to choose to keep native habitat intact. This is why stakeholders expect the 13 signatory companies to be specific and ambitious about their individual and collective implementation plans and targets, coupled with radical transparency in reporting progress.

[LDC's recent commitment](#) to eliminate deforestation and conversion of native vegetation of high conservation value for agricultural purposes from all its supply chains, by the end of 2025, is among the most ambitious in the group of companies, and sets an example of what is not only possible, but necessary. What the audience at COP27 will want to know is, what is the path to get there?

Expectations are also high for accelerating corporate climate disclosure. For the food and agriculture sector, Scope 3 emissions from supply chains can represent 80% or more of total emissions, and much of this can be attributed to agriculture and land use changes. Few companies, however, are comprehensively disclosing scope 3 emissions, and even fewer have set science-based emission reduction targets that include these emissions. Achieving the goals of the [Paris Agreement](#) requires businesses to develop and implement comprehensive climate transition actions plans.

TFA is delighted to be supporting the development of the COP27 Roadmap, in particular because of its emphasis on collective action. Ambitious, meaningful individual corporate action is essential, but to realize forest positive sector transformation it must be coupled with collaboration, with governments, other supply chain actors, the finance sector, civil society and producers. Commodity-driven deforestation is a truly complex problem. No single corporate commitment or policy

can resolve this challenge, and it cannot be treated in isolation, as an environmental issue or a supply-chain problem, because it sits at the heart of the challenges facing global food systems. Keeping forests standing is linked directly to sustaining rural livelihoods, ensuring food security for a growing global population and supporting economic development.

Agri-commodities companies like LDC have a key role to play in bringing these complex agendas together, including working with others to mobilize finance to create incentives for farmers to adopt sustainable practices to conserve and restore by offering not just environmental, but economic benefits too.

As we approach COP27 in Egypt in November 2022, hopes and expectations are high, for companies and governments alike to demonstrate not only increased ambition, but concrete, measurable progress that puts the world on a 1.5°C trajectory.



Authored by:

Petra Tanos

Head of Private Sector Engagement & Strategic Partnerships
Tropical Forest Alliance

Responsible Business

Guided by our company purpose to create fair and sustainable value, and working with a range of like-minded partners, our teams continued to help shape increasingly transparent and sustainable supply chains globally.

Coffee

With more than 10 million tons produced annually, coffee remains one of the world's most popular beverages. Predominately cultivated by some 12.5 million smallholders, we work directly with these farmers, supporting them to make their production more sustainable and profitable.



Since 2018, we have [adopted an approach to sustainable coffee production](#) based on two complementary pillars:

1. Sourcing responsibly and boosting production of certified and verified coffee
2. Going beyond certification to support farmers on the ground

"Sustainability is a core strategy and transcends all areas of our business, as a key consideration and driver of our decisions. Responsible sourcing benefits all members of the supply chain - from the farmer to the roaster and consumer, as well as our own business."

Ben Clarkson
Head of Coffee

Strengthening our Sustainability Strategy

2021 was a transformational year for the Coffee Platform, laying the groundwork to address risks and challenges anticipated for 2022, and support our long-term sustainability ambitions.

- We expanded the Platform's global sustainability team by five, to over 40 employees, scaling up our ability to drive forward our sustainability roadmap and provide responsible sourcing solutions to industry partners.
- We rolled out our revised [Global Code of Conduct for Coffee Suppliers](#), developed with [Des Enjeux et des Hommes](#), with plans in place to engage suppliers who have yet to sign. Approximately 70% of LDC coffee is sourced from suppliers who signed the Code.

- We also made asset enhancements that contributed to LDC's energy-saving goals, opening [a solar panel power plant at our El Cofre Plant in Veracruz, Mexico](#). Comprising 486 solar panels that cover an area of more than 1,000 m², the photovoltaic installation produces 351 megawatt-hours annually. The new system ensures an 80% solar energy supply, saving 184 tons of CO₂ each year.

Collaboration & Partnerships

We recognize that our sustainability efforts have a greater impact when we work with like-minded partners. In 2021 we joined, and in one case rejoined, four organizations working toward more sustainable agricultural production.

[European Coffee Federation](#)

Represents the interests of European green coffee traders while seeking to ensure the resilience and long-term sustainability of the entire coffee supply chain.

[Cool Farm Alliance](#)

A community interest organization that aims to help agricultural producers make more informed on-farm decisions to reduce their environmental impact.

[Sustainable Coffee Challenge](#)

A collaborative effort that defines a set of 2050 goals and interim 2025 targets to fully transform the coffee sector.

[Connective Impact](#)

A global membership hub that connects global non-profits, businesses and funders to gain clarity around fundraising processes and amplify their positive impact.



Certification & Verification

To simplify and rationalize our approach to certification, we transitioned all our [UTZ](#) and responsibly sourced supply chains to the new [Rainforest Alliance](#) Sustainable Agriculture Standard, which was introduced in 2020.

We also developed detailed documentation for our own Responsible Sourcing Program, actively using the material to enroll more farmers across our various origins, empowering and enabling them to produce more sustainable yields as a result.

We successfully piloted our first two supply chains in Brazil and Mexico, audited by an independent control body. Based on these trials, the program framework will be finalized and rolled out to additional supply chains in more origins.

Traceability

Currently, 17% of coffee sourced is traceable to farm-level, putting us well on track to achieve our traceability target of 20% by 2025.

Moving forward, we are looking to unify our business with one traceability system. In 2021, we successfully completed a proof of concept project in Colombia with a new traceability solution provider and have since initiated a global business rollout.

Targets

Design training to support supplier compliance with Code of Conduct



Completion: 2021
Status: Complete

Develop and launch LDC Responsibly Sourced Verified program



Completion: 2022
Status: In Progress

70% of all coffee purchased from Code of Conduct compliant suppliers



Completion: 2025*
Status: Complete

20% of coffee traced to farm through Code of Conduct compliant suppliers



Completion: 2025
Status: In Progress

*Reporting begins 2022

Cotton

Around 99% of the world's cotton farmers are smallholders, who produce some 75% of global cotton production annually. As a result, cotton supply chains are complex and can present a number of sustainability challenges.



Better Cotton

In 2021, we continued to leverage the influence and resources of our industry-leading position to advance sustainable cotton production, working alongside textile industry partners and expert organizations such as the [Better Cotton Initiative](#) (BCI), the [International Labour Organization](#) (ILO), [Cotton Made in Africa](#) (CMiA) and the [U.S. Cotton Trust Protocol](#), to drive progress in the industry.

BCI is the world’s leading sustainability initiative for cotton, working to support cotton communities to thrive while protecting and restoring the environment.

At LDC, we promote the BCI’s comprehensive sustainability standards in our cotton supply chains, and prioritize the purchase of Better Cotton where possible.

Spotlight on Kazakhstan

In Kazakhstan, increased external geopolitical tension and logistic issues prevented us from meeting our goal to increase our base of smallholder farmers by 40%. Still, we continued to build on the strong ties we have established with local cotton farming communities since 2006, maintained our base of some 500 smallholder farmers, and ensuring that our entire Kazakh origination program in the country was BCI-certified.

Our Platform teams are evaluating the domestic situation with regard to ongoing external challenges, in order to re-define targets for the coming years.

Focus on India

In India, we supported sustainable cotton production by increasing the volume of Better Cotton purchased by 50% year on year, bought from ginners and traders who engaged directly with the cotton farmers to train them in BCI-standard best practices.

“Recognizing that collaboration with others can maximize the impact of our activities, we work with a range of partners to improve supply chain practices and promote the purchase of sustainably produced cotton.”

Joe Nicosia
Head of Cotton

Progress in Zambia

In Zambia, cotton is predominantly produced by smallholders with an average 2ha holding, of which 0.5ha are used for cotton production. Cotton production in Zambia decreased during the 2020/21 season, partly due to weather challenges, as both excess and shortfall of rain negatively affected production in different areas of the country. The sector also experienced stiff price competition from crops such as soybeans, which led to fewer farmers growing cotton and, for those that grew it, more attention given to competing crops.

Following Zambia’s creation of a new Ministry of Green Economy in 2021, dissemination of weather and climate-related information has improved, with farmers now able to access timely information on weather through various online and offline media channels. Unfortunately, however, ongoing concerns over Covid-19 meant that farmer training in the field was severely impacted by government restrictions.

LDC works with a potential base of about 100,000 smallholder farmers, depending on weather, labor availability, the price of cotton, and the price of competing crops, among other factors. In the 2020/21 season LDC pre-financed production to 42,137 smallholder cotton farmers in the country, of whom 11,892 (approximately 28%) were female.

In Zambia, where we are actively expanding our operations, we promote sustainable cotton production and ginning as a member of the [Zambia Cotton Ginners Association](#) (ZCGA), the [Cotton Board of Zambia](#) (CBZ) and the [Aid by Trade Foundation](#) (AbTF). We also work on cotton seed development, testing, control and certification with partners such as the Cotton Development Trust (CDT), the Seed Control and Certification Institute (SCCI) and the Zambian government, represented by the Cotton Board of Zambia.

Traceability and Certification

LDC uses a distributor system to promote and monitor sustainable cotton production in Zambia. Locally selected distributors carry out activities for the company on a commission basis - purchasing and transporting cotton from smallholder farmers who have been engaged through training and monitoring.

The aim is to generate higher productivity and increased income for smallholders, while ensuring their cotton is produced in an environmentally sustainable manner. At the same time, farmers take part in needs assessments that LDC then uses to approach donors to fund projects helping accelerate rural development.

In 2021, our farmer network in the country continued producing certified/verified cotton following field and ginnery audits conducted by auditors recruited by AbTF. Certificates were issued to confirm the farmers were producing cotton according to CMiA and BCI standards.

Combating Climate Change

To help contribute to increased cotton production sustainably, LDC has committed to intensifying smallholder farmer training on best practices amid ongoing climate change.

With this goal, LDC is partnering with AbTF and CBZ on the implementation of CAR-iSMa – a pan-African learning and knowledge exchange project on improved soil management, climate adaptation and resilience. Through this project, LDC will monitor and evaluate adoption of better soil improvement practices, such as composting, use of cover crops in cotton production and other good agricultural practices (GAPs). Intensive farmer training began in late 2021 and will run until 2024, when results will be reviewed.

Our team in Zambia also helped reduce carbon emissions from our cotton operations in the country by 13% year on year. Although this is partly attributable to the relatively small crop recorded in 2021, it was also the result of more sustainable use of energy across our assets and operations in the country.

Responsible Pesticide Use

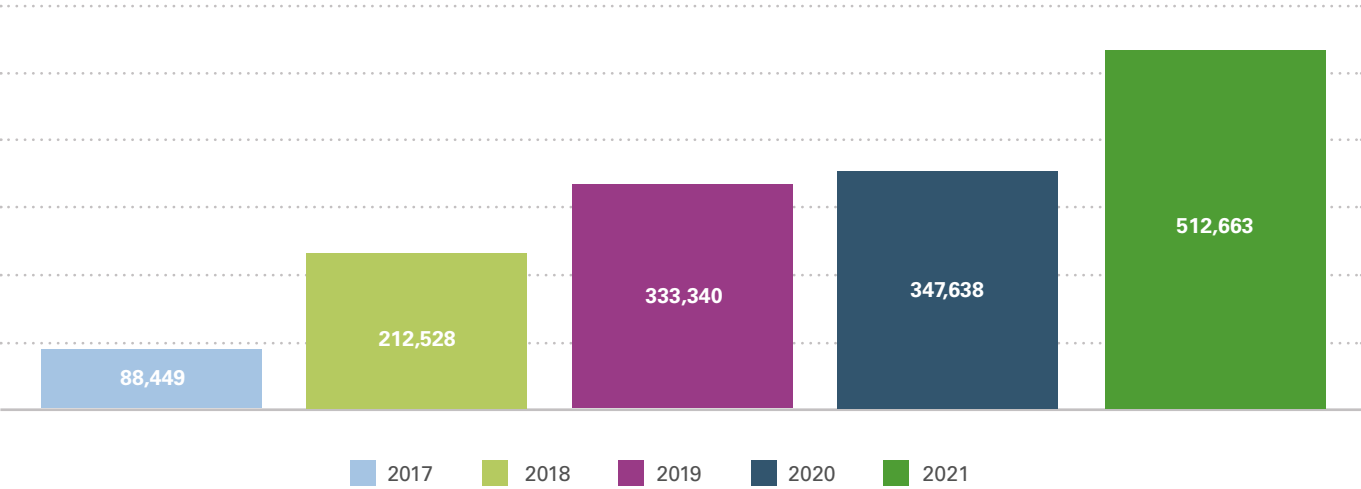
LDC was the first company to respond to farmer concern about an increased resistance to insecticide from pests, in particular bollworm. Working with CBZ, and building on our work started in 2020, we continued to introduce new combinations of chemicals that successfully break pest resistance and increase yields, while avoiding harm to the environment.

Others are now following suit to help achieve the common objective of increased sustainable cotton production and profitability, and a new ruling compels all cotton producers/ginners to procure inputs from suppliers whose chemicals have been tested and approved by CBZ, ensuring effective quality inputs are supplied to farmers throughout the country.

Technology for Sustainability


In 2021, LDC opened discussions with software developers *BanQu* to help improve supply chain transparency in Zambia. *BanQu*’s fully digitalized and secure non-crypto blockchain platform has the capability to provide complete visibility across our cotton supply chain. Once implemented, this solution will replace paper-based, error-prone process at lower tiers, ultimately enhancing trust and clarity for cotton transactions for all supply chain stakeholders, including farmers.

Purchases of Better Cotton 2016-2020 (MT)




Targets

Increase our BCI Kazakhstan partnership to 700 farmers




Completion: 2021
Status: Missed

Take individual membership of the ILO’s Child Labour Platform




Completion: 2021
Status: Delayed

Increase Better Cotton purchased over previous year by 10%



Completion: 2020-2023
Status: Complete for 2021

Purchase 50% more Better Cotton than in 2018




Completion: 2023
Status: Complete*

*Ahead of time

New & Amended Targets

Take individual membership of the ILO’s Child Labour Platform



Completion: 2022

Freight

Cargo ships transport approximately 90% of global trade, and although maritime transportation has the lowest carbon footprint per ton transported, shipping still accounts for some 3% of global greenhouse gas (GHG) emissions. As responsible freight operators, we are active in advancing shipping industry decarbonization in collaboration with increasing maritime value chain participants, by embracing digital transformation and new technologies with the potential to shape a safer and more sustainable maritime sector.



Overview

2021 proved a challenging year for environmental sustainability efforts in the maritime industry as a whole, and LDC was no exception. Our statistics show a year-on-year increase in CO₂ emissions from shipping operations and a reduction in efficiency indicators, largely driven by market externalities beyond our control.

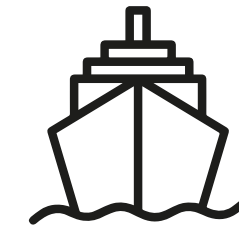
The welcome global rebound from pandemic-related restrictions saw increased volumes of goods transported, which drove increased total emissions, exacerbated by an increase in both the world's average fleet speed and waiting times at port, as a result of high prices and port congestion.

Furthermore, compliance with the [Sea Cargo Charter](#), of which LDC was a founding signatory in 2020, saw changes to our emissions reporting year on year, which participated in the increase of our total CO₂ footprint, Energy Efficiency Operational Indicator (EEOI) and Annual Efficiency Ratio (AER) metrics.

Notwithstanding, we continued to make progress on our shipping decarbonization journey.

Individually, we continued to make headway in relation to technical and operational efficiency initiatives, and assembled a dedicated team of specialists tasked with exploring all aspects of decarbonization in relation to ocean transportation.

In parallel, consistent with LDC's collaborative approach to sustainable development, we signed the [Global Maritime Forum's global call to action for shipping decarbonization](#) by 2050 and, recognizing that seafarers are essential to shipping industry continuity, resilience and decarbonization, continued to work with partners to alleviate some of the issues highlighted by Covid-19 in relation to [seafarers' rights and welfare](#), pushing for regulatory advancement on these and other fronts.



1,255
ships chartered
(vs. 1,129 in 2020)

“As a pre-condition for a successful carbon transition at sea, shipping industry must intensify dialogue with, and make transparent investments in, seafarers – an essential workforce working ‘behind the scenes’ for the continuity of maritime trade.”

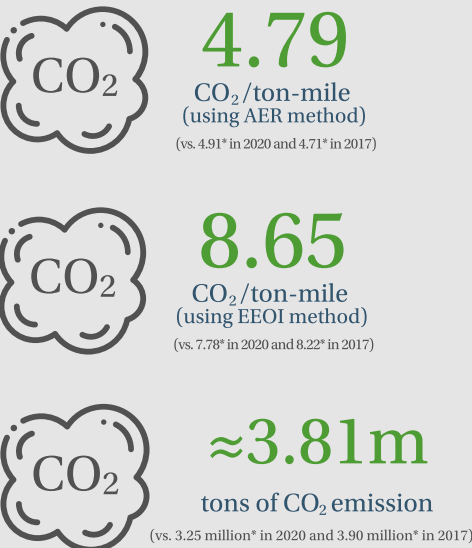
Sébastien Landerretche
Head of Freight

Call-to-Action for Shipping Decarbonization

Alongside more than 230 leaders and organizations representing the entire maritime value chain, in 2021 we signed [a formal call for decisive action](#) to enable full international shipping decarbonization by 2050.

The call-to-action insists that shipping must align with the [Paris Agreement](#) goal to limit global warming to 1.5°C and be run entirely on net-zero energy sources by 2050, achieving well beyond the *International Maritime Organization's* target to halve GHG emissions by 2050, compared to a 2018 baseline.

To deliver on this ambition, we recognize that the private sector must invest in research and development, the production of net-zero emission fuels, port and bunkering infrastructure, zero emission-ready vessels, and more. As outlined in the call to action, national governments and regulators around the world must also support such investments by establishing policy frameworks that make zero emission shipping and fuel production commercially viable, investable, equitable and inclusive.



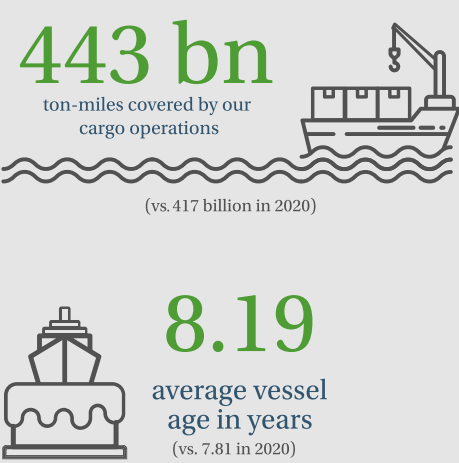
*The change in emissions calculation methodology due to Sea Cargo Charter compliance (requiring us to account for emissions on the ballast leg before loading) has increased our EEOI metric by 7% year on year (2021 vs. 2020). As a result, in order to compare with 2021 figures, we represent our 2017 baseline and 2020 emissions metrics above with a 7% adjustment for this new methodology.

Technical & Operational Efficiency

We continued to work with tech-innovative stakeholders in 2021, to investigate new ways to reduce the fuel consumption and emissions of the ships we charter.

As part of this work, LDC commissioned an independent study to evaluate the performance of four wind-assisted propulsion systems (WAPS). Mandating [Lloyd's Register](#) as independent expert, the four WAPS were compared on various trade routes for a kamsarmax vessel (80,000-85,000 DWT). The study aims at identifying true expected performance and selecting candidates for a pilot project, with the ambition to make a number of investments in this new technology as early as 2022.

We also worked in partnership with [i4 Insights](#), *Lloyd's Register's* digital arm, in trialing their solution to improve vessel efficiency at sea via better routing and hull fouling monitoring.



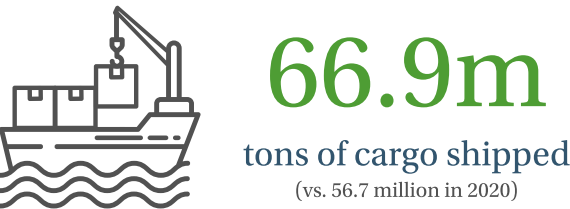
Code of Conduct for Seafarers

The new seafarers' [Code of Conduct](#) launched in 2021 is designed as a tool to help shipowners, operators, charterers and cargo-owners ensure responsible shipping operations by protecting the rights and welfare of seafarers.

The pandemic highlighted shortcomings in the working conditions of seafarers and continues to have a considerable impact on maritime trade and its workforce. In 2020, a slow global Covid-19 response compounded by supply chain disruptions left thousands of seafarers stranded at sea beyond contractual duration, strained dry bulk flows with inefficiencies and delays, and increased operational hazard risks to vessels and cargos.

In response to this humanitarian crisis, and having already signed the [Neptune Declaration](#), in 2021 LDC helped to develop and launch a dedicated Code of Conduct to protect the rights and welfare of seafarers. Developed in collaboration with the [Sustainable Shipping Initiative](#) and [Institute for Human Rights and Business](#) and [Rafto Foundation for Human Rights](#), this new code covers the full spectrum of seafarers' rights and welfare, from fair terms of employment and crew protection, to availability of grievance mechanisms.

While it seeks to reinforce compliance with the *International Labour Organization's* [Maritime Labour Convention](#) (MLC), the Code goes beyond this by directly addressing systemic risks experienced by seafarers, highlighting MLC rights that are not adequately enforced, and including new rights and issues not yet covered by the MLC.



Targets

Reduce our fleet emissions per ton-mile by 15%, compared to 2017

Completion: **2022**
Status: **In Progress**

Juice

As a leading juice merchandizer active in more than 70 countries, LDC recognizes its responsibility to help shape increasingly fair and sustainable juice value chains, in line with our company purpose and global commitment to sustainable business.

Our operations span the entire citrus juice value chain, from farming to packaged juice distribution, enabling us to promote sustainable practices throughout the entire supply chain and influence third-party fruit suppliers in Brazil to adopt these also.

In 2021, LDC continued to strengthen its partnership with and support to third-party citrus farmers, advance its traceability, certification and verification efforts, develop biodiversity conservation plans for LDC-managed citrus farms, and pursue safety and environmental targets.

“Sustainability continued to underpin our decision-making in 2021, from conserving native biodiversity at LDC-managed farms, to advances in certification and verification to meet customer expectations.”

Monica Neves
Sustainability Manager for Juice

Sharing Best Practice

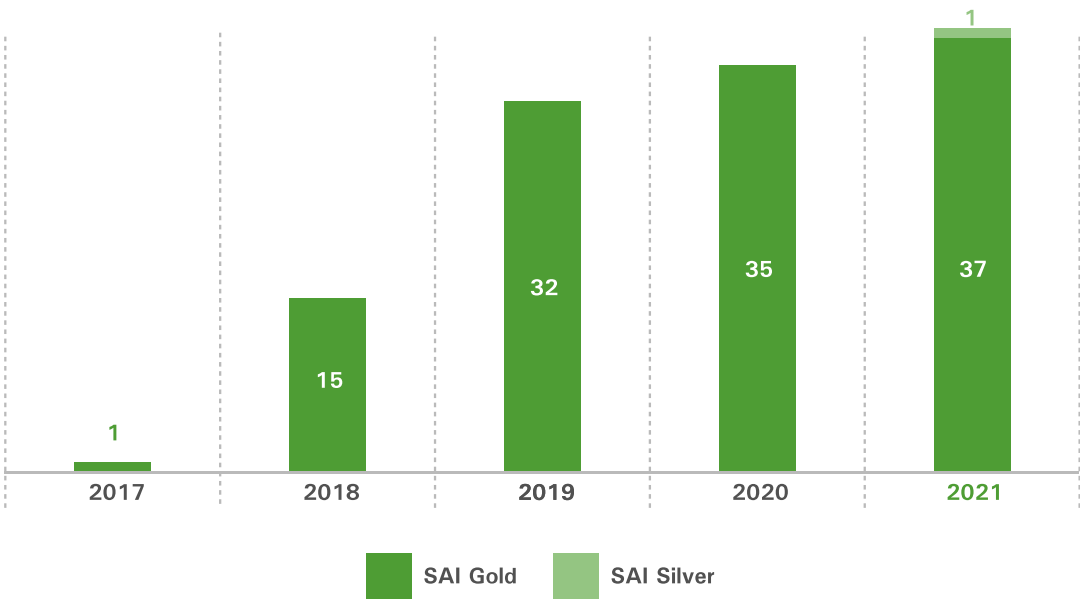
Through our ‘[Programa Compartilhar](#)’ (Share Program), we continued to share and encourage the adoption of sustainable agricultural practices. In 2021, we directly and indirectly reached approximately 1,300 people, including third-party fruit suppliers and their families and employees, representing approximately 80% of fruit volumes sourced from third party suppliers.

Developed in 2015, this program aims to share information on best agricultural practices, new technologies, traceability, biological control, responsible pest management, sustainable farm management and more, in accordance with the standards set out in our [Conduct Manual for Raw Material Suppliers](#), which all our third party suppliers are required to sign.

Advancing Certification & Verification

With three more LDC-managed citrus farms verified by the [Sustainable Agriculture Initiative \(SAI\) Platform](#) in 2021, all 38 are now verified to *SAI Platform* standards, 37 to gold level and one to silver level. Thirty-two of our farms are also [Rainforest Alliance Certified™](#).

FSA/SAI Progress 2017 – 2021



In addition to our farming operations, LDC is committed to sustainable practices throughout its juice value chain, as confirmed by [Sedex-SMETA](#) audits of our industrial and port operations.

50% of all fruit processed in our plants meets international standards such as those of the *Rainforest Alliance*, *SAI Platform*, [GLOBALG.A.P.](#) or *Fairtrade*.

Aiming for greater equity for smallholder farmers in international markets, our *Fairtrade* juice volumes processed in 2021 increased by 250% compared with 2020, guaranteeing a premium payment for 37 farmers, that is then required be invested back into in social, economic or environmental projects of their choice.

Preserving Biodiversity

The long-term future of our business and of agricultural supply chains depends on the responsible use of natural resources and conservation of native ecosystems. This is why LDC acts continually to preserve native fauna and flora through the development of Biodiversity Protection and Conservation Plans for each of our farms.

With three more farms verified by the *SAI Platform* in 2021, all LDC-managed citrus farms now have Biodiversity Protection and Conservation Plans in place, bringing the total area mapped for conservation to 11,300 hectares.

As part of these plans, in 2021 we planted around 19,360 native seedlings across our citrus farms, mainly at our Santo Antonio da Barra Nova, São Luis, Santa Angela, Monte Belo, Bocaina, Graúna and São José farms.

Health and Safety

The safety and wellbeing of our people is our top priority, and with continued Covid-related challenges in 2021, our teams monitored the situation closely and intensified hygiene and safety protocols and restrictions wherever necessary to protect our people.

Despite a marginal increase in our gravity index related to a single incident, overall the trend remained positive for our juice business safety performance indices, with record lows on accident frequency and severity.

| | Frequency | Gravity | Severity |
|-------|-----------|---------|----------|
| 2017 | 0.64 | 0.15 | 4.58 |
| 2018 | 0.71 | 0.25 | 8.62 |
| 2019 | 0.63 | 0.19 | 10.51 |
| 2020* | 0.41 | 0.09 | 2.32 |
| 2021 | 0.35 | 0.10 | 1.17 |

*NB: Figures for 2020 reflect post-audit adjustments to hours worked.

Acting for the Environment

As part of LDC’s commitment to reduce its environmental footprint, we continued to pursue projects aiming to reduce our four key performance indicators:

- **Electricity & energy consumption:** Up 31%
- **Water usage:** Up 40%
- **CO₂ emissions:** Up 18%
- **Solid waste sent to landfill:** Down 11%

Although we continued to make positive strides for solid waste reduction, our other indicators increased in 2021, as power was required to pump water for increased irrigation as severe drought impacted our citrus farms in Brazil, driving up energy use and emissions.

| | 2020 | | 2021 | |
|--------------------------------------|----------------|-------------|----------------|-------------|
| | Absolute | Index (/MT) | Absolute | Index (/MT) |
| Energy (kWh) | 113,861,242.26 | 46.026 | 133,456,652.83 | 48.918 |
| GHG (tCO ₂) (with biog.) | 411,909.81 | 0.167 | 468,639.11 | 0.172 |
| Water (m³) | 17,267,112.26 | 6.980 | 21,022,869.33 | 7.706 |
| Solid Waste (Kg) | 23,982.22 | 0.096 | 157,971.22 | 0.058 |

Targets

Extend Supplier Code of Conduct audits to 50% of third-party suppliers



Completion: 2021
Status: Missed*

*As a result of Covid restrictions in Brazil

Secure SAI Platform Silver grade verification for 3 citrus farms



Completion: 2021
Status: Complete

New Targets

Carry out Supplier Code of Conduct audits with 33% of third-party suppliers



Completion: 2022

Carry out Supplier Code of Conduct audits with 66% of third-party suppliers



Completion: 2023

Carry out Supplier Code of Conduct audits with 100% of third-party suppliers



Completion: 2024

Palm

Palm oil is the most widely used vegetable oil on the planet, and as demand grows, so does the need for transparent, traceable and sustainable palm oil supply chains. At LDC, we seek to balance the competing needs of meeting global demand for palm oil while contributing to the financial security of local communities, with ensuring the preservation of ecosystems that are rich in carbon stock and of high conservation value.



Committed to Zero Deforestation

Agriculture and our world's forests can – and must – coexist sustainably.

To mitigate the risk of deforestation and other unsustainable practices with negative consequences for communities and the environment, we must work closely with all palm production stakeholders – growers, peers, consumer brands and retailers, NGOs, financial institutions, governments and others - to protect forests, native vegetation and peatlands, while advancing social and economic welfare.

In line with our No Deforestation, No Peat, No Exploitation (NDPE) policy, we track progress across our palm supply chain to identify where action is needed and work alongside our suppliers to implement the necessary changes.

LDC's years of work on supply chain traceability and sustainability puts us in prime position to meet evolving market and legislative requirement for traceable and sustainable palm oil. In 2021, we initiated the development of a methodology to quantify deforestation-free volumes in our palm oil supply chain, to be further developed in 2022 in collaboration with our technical partners and in consultation with key stakeholders. This will be used to establish our deforestation-free baseline and measure progress going forward.

“We work in partnership with many different stakeholders to balance competing needs, while preserving forests and conserving biodiversity, which play a vital role in the global ecosystem, and support farming communities living in and around palm plantations.”

Jacinto Peralta Ramos
Global Head of Palm

Expanded Traceability, Verification & Monitoring

At LDC, we make sourcing transparency a priority, aiming ultimately to trace palm oil back to plantation level. We made good progress on traceability in 2021, expanding our traceability scope to include packaged oil and India flows, and reaching 97% traceability to mill level, with the aim of closing the remaining gap by 2022. We also reached 90% traceability to plantation level for directly-sourced volumes, and 72% traceability to plantation for global volumes.

In 2021, we also took further steps by developing our NDPE Compliance Verification Protocol. This protocol is designed to verify supplier compliance with our [Palm Sustainability Policy](#) and identify possible gaps to ensure continuous improvement. It includes a combination of desktop and onsite verifications, based on a supplier’s overall environmental and social risk exposure. It will be piloted with direct suppliers in 2022 and rolled out to all direct suppliers with high-risk exposure by 2023.

Throughout the year, we continued to leverage technology to monitor possible deforestation and peat development in our supply base. Working with [Global Forest Watch](#), [Earthqualizer](#) and [Satelligence](#), we now harness data intelligence that is powered by satellites and simplified in real-time by artificial intelligence, to monitor our global supply chain. Bi-weekly land-use change alerts have allowed us to take quick action on supplier engagement when required to validate and resolve non-compliant practices.

We also adopted a new tool, the [NDPE Implementation Reporting Framework \(IRF\)](#), to measure the overall sustainability performance of our supply chain towards our zero deforestation and peat development targets. We have implemented the IRF reporting with our two refineries in Indonesia, which will receive external verification in early 2022 then be publicly disclosed for transparency.

We also joined the [Palm Oil Collaboration Group](#), which brings together companies from every stage of the palm oil supply chain, to accelerate effective implementation of NDPE commitments. Among other collaborative areas, we actively contributed to the development of the social IRF tool, to measure companies’ progress toward the “zero exploitation” element of their NDPE commitment.

Collaboration for Progress

In 2021 we formed new partnerships to accelerate progress towards our NDPE commitments.

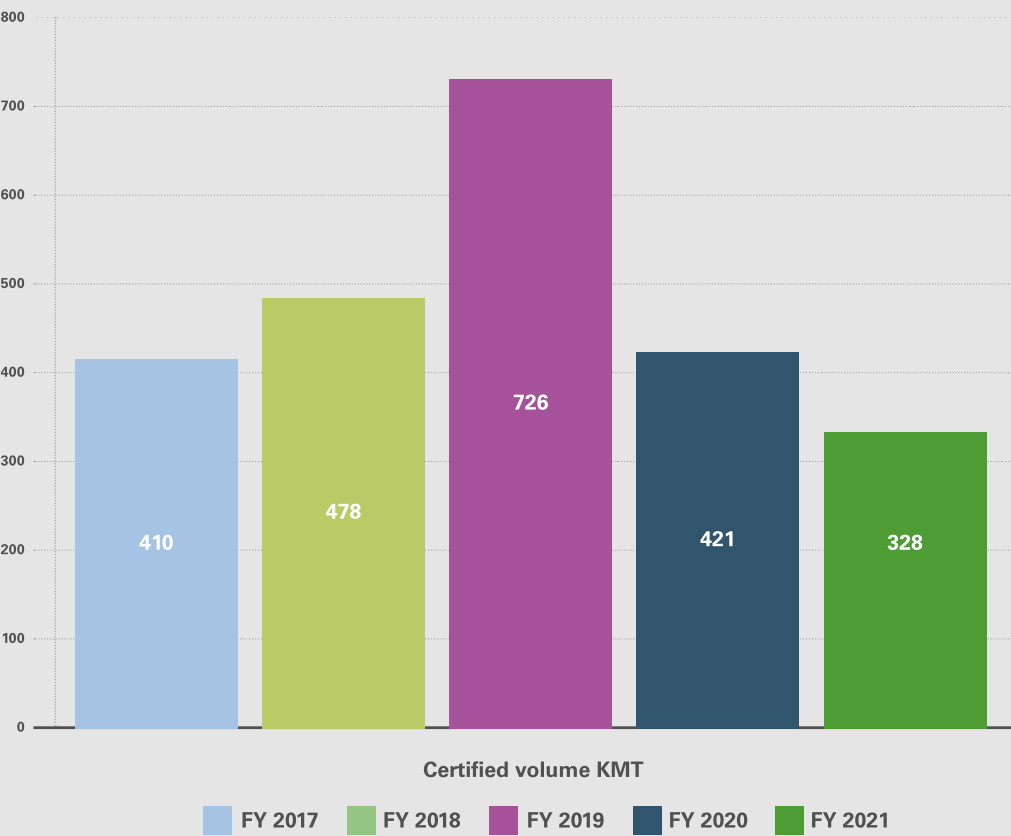
As we grow our palm oil sourcing activities in Latin America and Africa, we entered a new partnership with [Proforest](#) - a non-profit organization that works to support responsible agricultural and forestry production and sourcing in over 30 countries around the world. Working with [Proforest](#) team, we conducted country-level assessments on key environmental and social issues in oil palm production, and ran supplier NDPE risk assessments to identify possible improvement opportunities.

Certified Volumes

As part of our NDPE commitment, we continued to source and sell palm oil that complies with [Roundtable on Sustainable Palm Oil](#) (RSPO) and [International Sustainability & Carbon Certification](#) (ISCC) standards.

As in 2020, in 2021 our certified palm oil sales declined, largely due to Covid-19 impacts on demand for energy, a trend we expect to reverse as the effects of the pandemic ease.

ISCC and RSPO Certified Volumes (KMT)



Smallholder Inclusion

At LDC, we strive to include smallholder farmers in sustainable supply chains by training them to increase their production and yields safely and sustainably. We also support the development of essential infrastructure that is critical for smallholders to comply with sustainability requirements, and ultimately achieve certification required to have market access.

Spotlight on Indonesia

Despite COVID-19 constraints, we progressed with our existing smallholder project in Indonesia, which has been expanded to another supply shed area for our Lampung Refinery in Mesuji District, Lampung. Aiming to train 1,000 smallholders by 2022, in 2021 we provided good agricultural practices (GAPs) training to almost 700 farmers and also helped to improve the cooperative’s infrastructure, including new washing facilities and safe chemical storage.

The project also provides a financial assessment that aims to improve smallholders’ financial access when applying for replanting loan schemes, and ongoing discussions with international donors are held to support them in this area.

The smallholders who already received training in Phase 1 of the project were offered refreshment training on GAPs, with the addition of a horticulture module that will guide them in managing intercropping during the replanting period. They were also given a refresher course on the certification process, ahead of a 2022 audit of 300 smallholders in OKU District, South Sumatra, for an upgrade of their RSPO certification.



Spotlight on Côte d'Ivoire

In collaboration with the [Louis Dreyfus Foundation](#), we launched a new project in South Comoé, Côte d'Ivoire, to train smallholder oil palm producers on sustainable farming practices, regenerative agriculture, agricultural diversification and business entrepreneurship, with particular focus on younger generations and female farmers.

This three-year project is expected to establish a rural farm business incubator that serves as a center of knowledge exchange, learning and best practice testing. It aims to train 400 young adults (minimum 30% women) and have 300 farmers apply regenerative practices and cultivation improvements at farm level.

Looking to the Future

In 2022 and beyond, we will continue to strengthen palm oil supply chain traceability, due diligence and NDPE verification, with a focus on suppliers with higher risk profiles. We aim to finalize and apply our new methodology to track the volume of deforestation-free palm oil, reporting regularly on our progress.

Targets

Near 100% traceability to mill level for palm traded by LDC




Completion: 2021
Status: Complete (97%)

90% of volumes sourced by LDC to come from verifiably responsible suppliers*



Completion: 2021
Status: Complete

100% traceability to mill level for palm sourced directly to LDC refineries




Completion: 2021
Status: Missed (99%)

Suppliers representing 40% of direct volumes field-verified for NDPE compliance and GAPs



Completion: 2022
Status: Amended

Train a further 1,000 South Sumatran palm smallholder farmers in GAPs



Completion: 2022
Status: In progress, on target

*From certified RSPO or ISCC volumes, or from suppliers who are contractually bound to comply with our palm sustainability policy, or from suppliers who have their own NDPE commitments of at least equal rigor to our policy

95% traceability to plantation level for palm sourced directly to LDC refineries



Completion: 2022
Status: In progress, on target

100% of mills supplying LDC refineries to provide LDC-approved NDPE self-declaration



Completion: 2025
Status: In progress, on target

New Targets

Initiate support for one landscape project in our key supply base



Completion: 2022

90% volumes from verifiably responsible suppliers



Completion: 2022

100% traceability to mill level for palm sourced directly to LDC refineries



Completion: 2022

Near 100% traceability to mill level for palm traded by LDC



Completion: 2022

100% indirect suppliers to complete LDC NDPE assessment



Completion: 2023

100% direct suppliers categorized as high-risk to complete field verification of NDPE compliance and improvement plan



Completion: 2023

Soybeans

Soy is the world's most protein-rich oilseed, but also an increasingly important source of biofuel. As global demand continues to rise, it is essential to ensure sustainable soy production. At LDC, we believe that collaboration among all soy value chain participants is key to achieve lasting change, by promoting more sustainable production of this critical and efficient source of protein for human and animal consumption.



Overview

In 2021, we continued to promote our [Soy Sustainability Policy](#) with soy suppliers, emphasizing our zero deforestation and conversion expectations in particular. Meanwhile, we further enhanced internal processes and systems for traceability and land use monitoring, expanded our verified conversion-free soy scheme and our overall portfolio of sustainable soy offers to meet increasing market demand.

In early 2022, we announced our [zero deforestation and native vegetation conversion target by the end of 2025](#). Following thorough soy supply chain risk assessments in 2020, in 2021 we began developing our methodology to verify soy purchase volumes with zero deforestation and conversion, in consultation with key stakeholders. This methodology will be finalized in 2022 and applied to global soy sourcing, to establish our baseline for deforestation- and conversion-free soy.

"In our work to meet growing global demand for soy, we must work with supply chain partners and stakeholders to preserve and protect ecologically valuable biomes, safeguarding the environment and natural resources that are crucial to secure agricultural production for the long-term. Collaboration throughout the value chain is key to sustainable soy production."

André Roth
Head of Grains & Oilseeds

Progress in Brazil

In 2021, we further improved our internal systems and workflow to ensure supplier due diligence, while expanding traceability reporting on soy sourced from Cerrado municipalities. We also supported native vegetation conservation and launched new programs and collaborative initiatives supporting the production of sustainable and deforestation-free soy.

Ensuring Supplier Due Diligence

As a member of the [Amazon Soy Moratorium Working Group](#) (GTS - Grupo de Trabalho da Soja) and signatory of the [Green Grain Protocol of Pará State](#), in 2021, we continued to ensure all our Brazil soy supplies comply with the following minimum environmental and social criteria:

- No deforestation after 2008 for farms in the Amazon biome (in accordance with the Soy Moratorium);
- No embargo for deforestation from the [Brazilian Institute of the Environment and Renewable Natural Resources](#) (IBAMA);
- No overlap with indigenous land;
- No overlap with conservation units;
- No listing on Brazil’s [Ministry of Labor and Welfare](#) slave labor ‘dirty list’; and
- Compliance with the [Green Grain Protocol of Pará State](#), which bans financing or sourcing of soy associated with illegal deforestation or forced labor.

Expanding Traceability Reporting

As a member of the [World Business Council for Sustainable Development’s Soft Commodities Forum](#) (SCF), we expanded our traceability reporting from 25 to 61 focus municipalities that cover over 70% of total land conversion risks in Brazil’s Cerrado biome.

LDC’s most recent SCF reporting profile is accessible [here](#).

Supporting Conservation

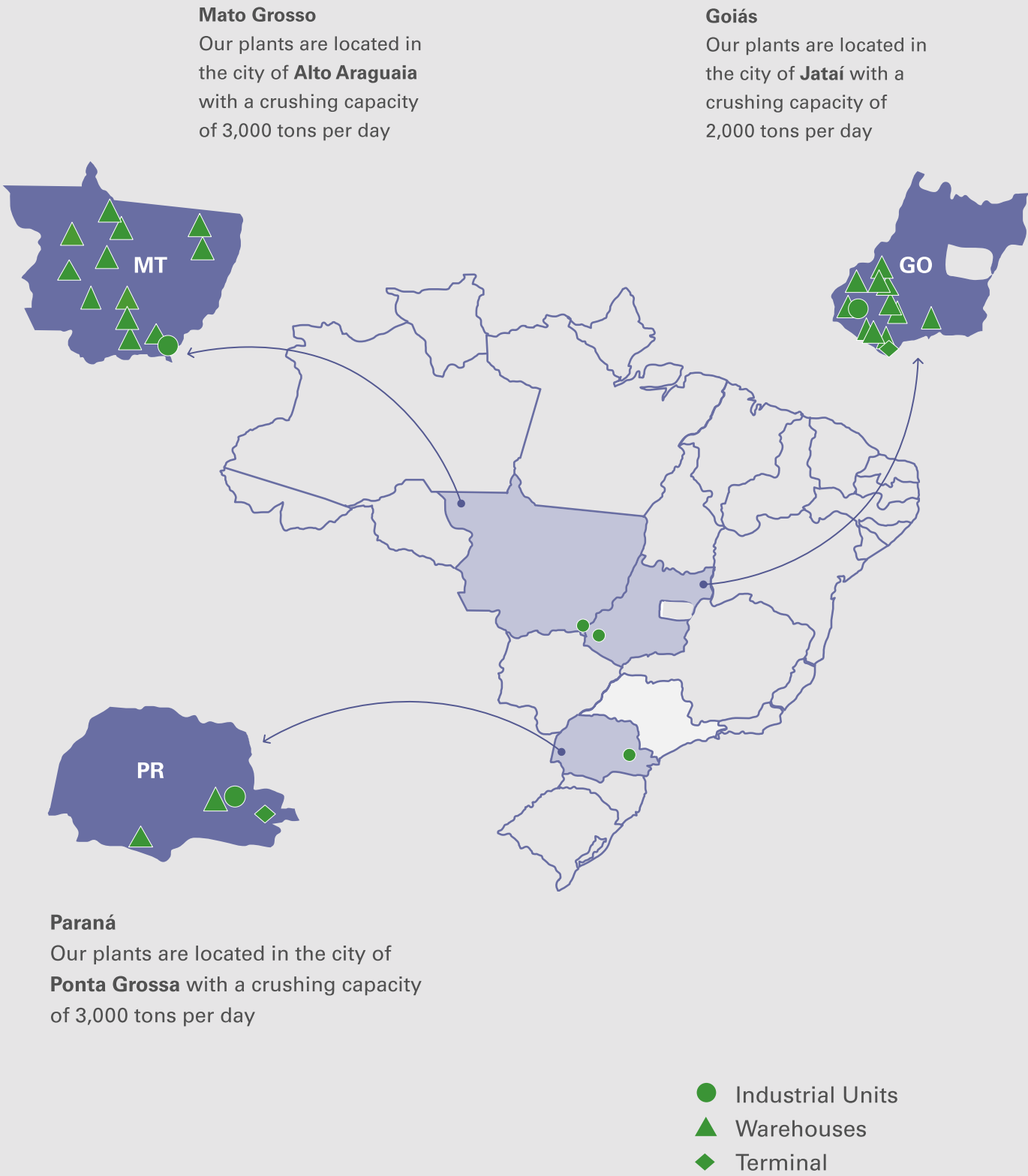
In 2021, we conducted an in-depth analysis of all pre-financed soy farms in Brazil, to identify those with surplus native vegetation beyond legal conservation requirements. Findings showed a high concentration of native vegetation in this portfolio of supplying farms, which we will act to proactively preserve by engaging relevant soy suppliers.

We act through a number of initiatives, including our preferential financing line to incentivize soy expansion over existing open land, which we are working to expand in both the Cerrado and Gran Chaco biomes, as well as additional supplier financing and pricing incentives for continued conservation.

Certification & Verification

LDC’s [Program for Sustainable Agriculture](#) was launched in 2019 to support sustainable soy production and offer verified sustainable products to the market. In 2021, we revised this program to align with the latest [Soy Sourcing Guidelines](#) from the [European Feed Manufacturers’ Federation](#) (FEFAC). So far, this program has been successfully implemented with a group of Brazil soy farmers. We initiated a new collaboration with technical partner [Produzindo Certo](#), to strengthen technical assistance to farmers.

In 2021, we also successfully opened the European market for soybeans from LDC’s Conversion-free Soy Program, to offer third-party verified soy free from native vegetation conversion to the market. Combined with our [Round Table on Responsible Soy](#) (RTRS) flows, this expansion means we are well-positioned to meet increasing market demand for sustainable and deforestation-free Brazilian soy.



Progress in Argentina and Paraguay

In 2021, we significantly increased the percentage of certified sustainable soy in Argentina, from 30% to 49% of our total soy sourcing volume. This brings us closer to our target of making our biggest crushing plant in General Lagos a dedicated facility for processing sustainable soy.

We also finalized Phase One of our pilot program with *The Nature Conservancy* in the Gran Chaco biome, conducting supplier interviews and analyses of land use dynamics. Building on these findings, we are exploring financial and commercial supplier incentive mechanisms with the potential to prevent further deforestation in this critical region.

Sustainability Certification

In 2021, we added the *US EPA Renewable Fuel Standard Program* to our existing (2BSvs and ISCC-EU) certified sustainable biodiesel program portfolio, which requires physical segregation of certified soy from conventional soy. This has brought the total percentage of certified soy in Argentina to 49%, compared to 30% in 2020. All soybeans sourced under these three programs comply with the following requirements:

- Soy production does not take place on land with high biodiversity or high carbon stock;
- Traceability and mass balance chain of custody are in evidence throughout the supply chain; and
- Soy production meets greenhouse gas emissions savings requirements, as defined by importing country regulations.

We also continued with our RTRS certification program in both countries, keeping in scope our Timbúes and General Lagos facilities in Argentina, and our CAIASA, Trociuk and Santa Maria facilities in Paraguay.

Partnerships for Sustainability

In addition to our longstanding membership of the RTRS, in Argentina and Paraguay we are an active participant in several other collaborative initiatives to promote sustainable and deforestation-free soy production, including:

Vision Sectorial del Gran Chaco Argentino (ViSeC)

Supported by the *Association of Argentine Edible Oil Industries* (CIARA) and *Grain Exporters Association of Argentina* (CEC), this discussion forum brings together the main originators, processors and traders of agricultural commodities in Argentina for sectoral collaboration toward forestry law compliance and deforestation-free supply chains. LDC is not only a full member, but also part of the technical group that defines specialized operational and technical issues.

During 2021, the forum was consolidated as a platform with clearly defined objectives and a vision for sectoral collaboration, positioning itself as both a tool and solution to meet the new demands of governments and international markets. Stakeholders across the value chain, including NGOs, universities and banks, have been added as members.

The Nature Conservancy (TNC)

In 2021, we finalized our pilot project with TNC focused on Argentina’s Gran Chaco region, which interviewed suppliers and analyzed their business models, to develop various incentive mechanisms for producers to discourage deforestation in the biome, as a next step.

Argentine Carbon Neutral Program (PACN – Programa Argentino de Carbono Neutro)

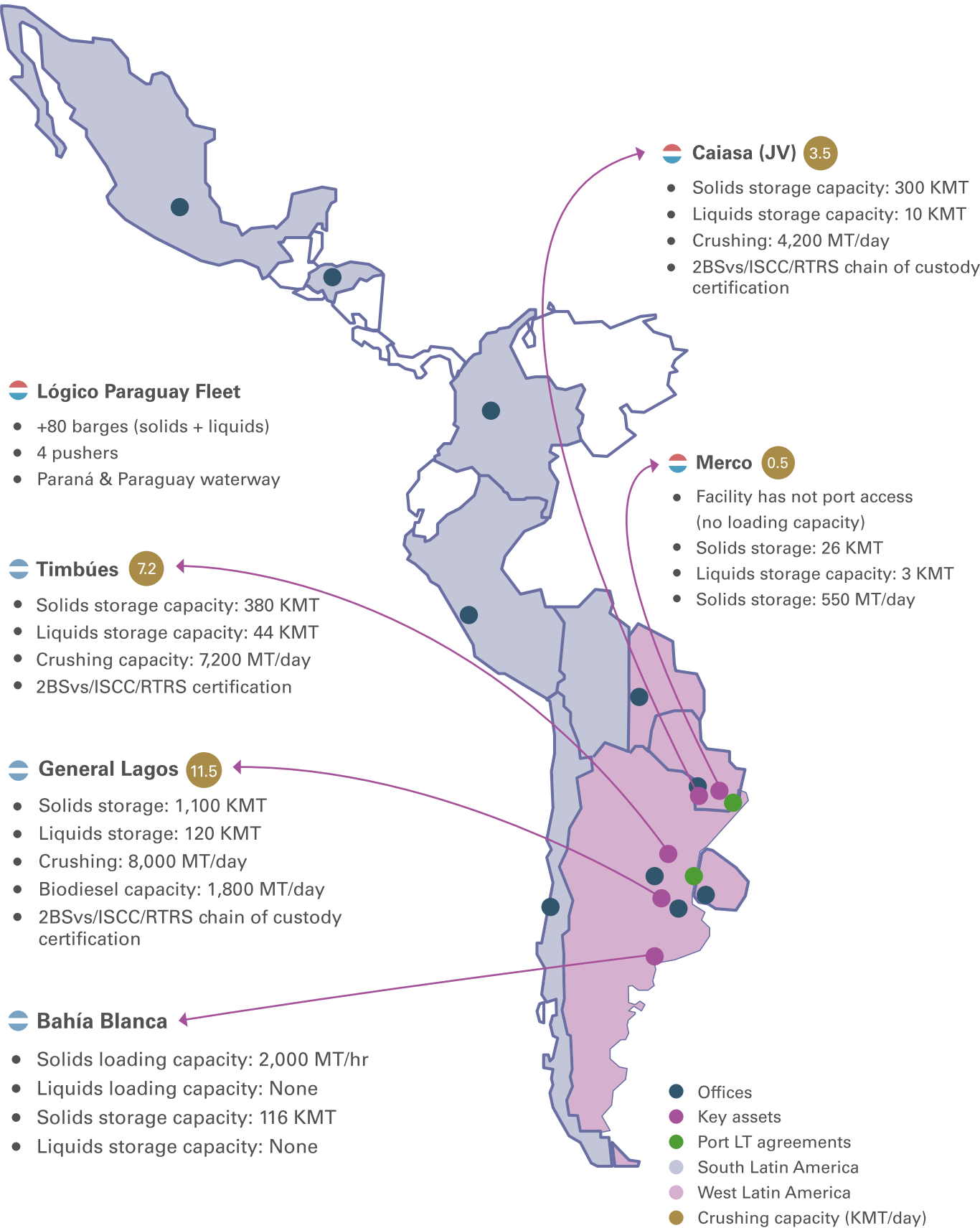
LDC is full member and active participant on PACN’s Oilseeds Roundtable, which works to certify Argentine export products and set a default greenhouse gas emission standard for Argentine soy cultivation. In 2021, we contributed inputs to the creation of a Carbon Balance Calculation Manual and Environmental Good Practices Manual for the oilseed sector.

Paraguayan Chamber of Oilseeds Processors (CAPPRO - Camara Paraguaya de Procesadores de Oleaginosas y Cereales)

As a member, we continued to support the certification of sustainable soy producers in 2021.

Country Elevators

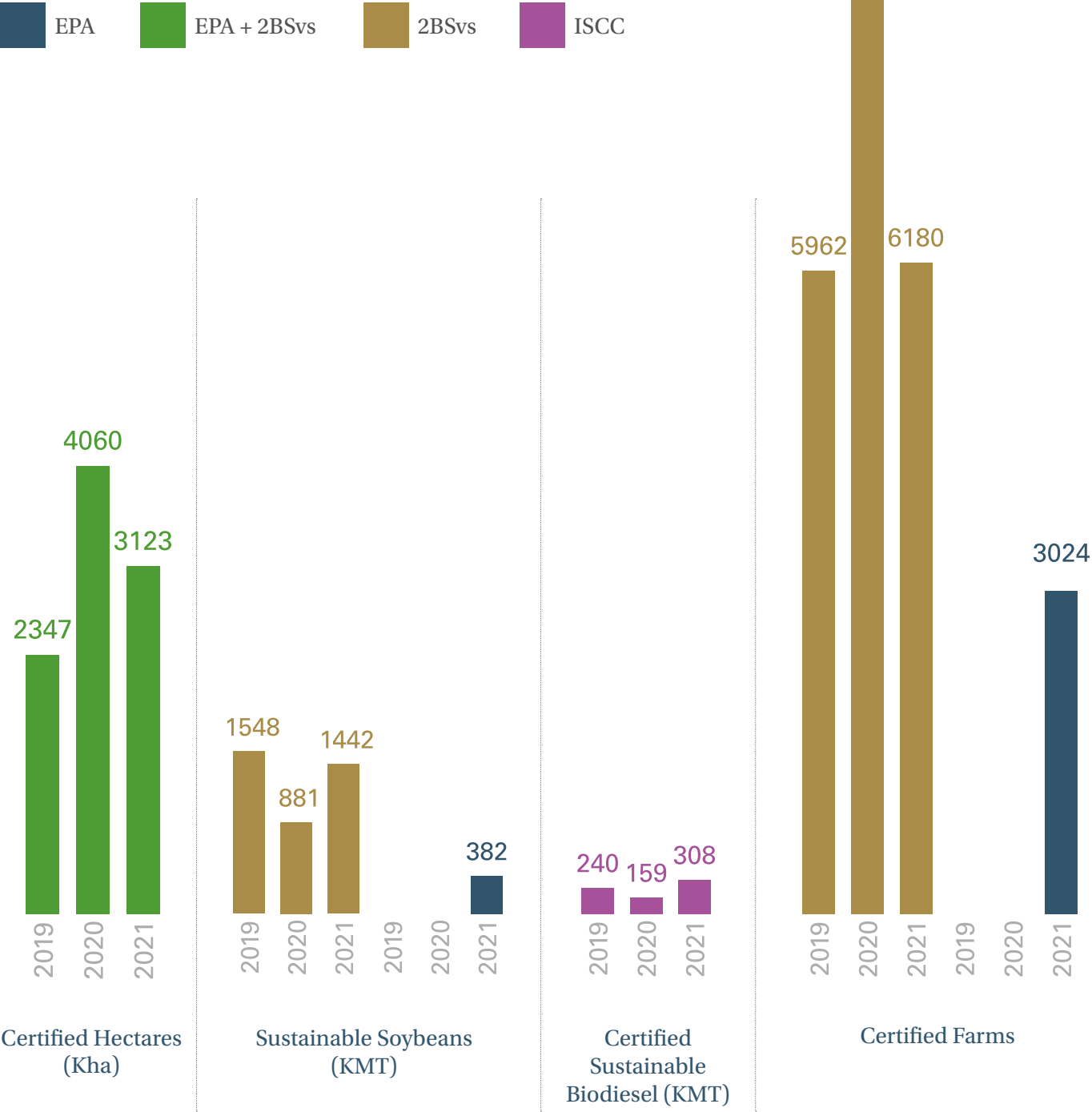
14 elevators and 18 commercial offices throughout Argentina, Uruguay and Paraguay.



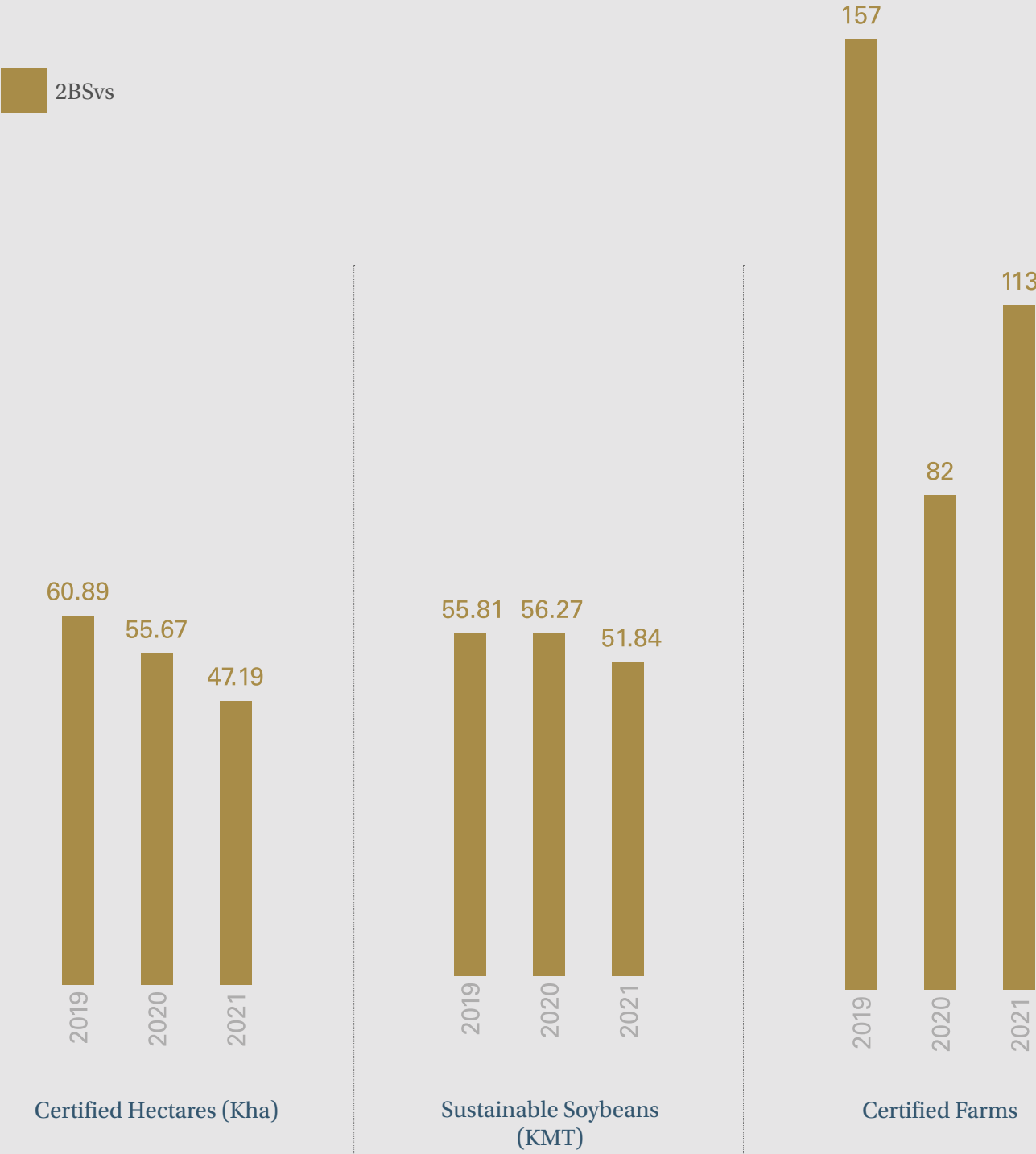


Key Figures

Argentina



Paraguay



Looking to the Future

In 2022 and beyond, we will implement our new deforestation and conversion verification methodology developed in 2021, as a basis to further focus supplier engagement and due diligence in identified priority regions and explore innovative incentive schemes for conservation beyond legal requirements.

We will also continue to contribute to strategic initiatives in Latin America to advance sectoral transition toward sustainable soy production.

Targets

Expand preferential financing program in Brazil’s Cerrado & Argentina’s Gran Chaco biomes



Completion: 2020-2025
Status: In progress

New Targets

Establish our baseline and annual targets for deforestation- and conversion-free soy



Completion: 2022

100% traceability to farm for direct sourcing in high-risk regions as defined in our deforestation risk assessment regions



Completion: 2023

Deploy additional supplier incentive schemes in Latin America to support native vegetation conservation beyond legal requirements



Completion: 2023

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