



Manager of the Campo Limpo System, the Brazilian reverse logistics system for empty crop protection packaging

## Sustainability Report

# 2022

ABRIDGED VERSION

## CREDITS

Coordination

**Presidency and Sustainability (inpEV)**

GRI technical content, editing and design

**Conecta Conteúdo e Sustentabilidade**

Photos

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# Introduction

This publication brings the main 2022 results and highlights of the Campo Limpo System, the Brazilian reverse logistics system for empty crop protection packaging or that containing post-consumption leftovers, and of the National Institute for Processing Empty Packages (inpEV), the managing entity of the System.

Detailed information and other relevant data for the year can be verified in the unabridged version of the 2022 Sustainability Report.

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**700,000 tons**  
of disposed packaging  
since 2002.

**59 central**  
stations managed by  
inpEV (Integrated  
Management Program  
of the Central  
Stations).

## Message from the president

**W**e usually divide the 21 years of activities of the Campo Limpo System and of inpEV into three phases. During the first, from 2002 to 2007, our main challenge was to structure the reverse logistics model for empty crop protection packaging, which relied on significant investments to install the receiving stations and to start the System operations. Already during this phase, we noticed that, in order to ensure the environmentally-friendly disposal of this packaging, it would be important to rely on the active participation of all agricultural chain links, and this became one of our pillars.

The second phase, which started in 2008, was marked by the expansion of the Campo Limpo System and by showcasing our innovative nature. Precisely in 2008, we shifted paradigms when creating Campo Limpo Packaging and manufactured Ecoplástica®, a packaging produced using post-consumption resins from the System. We closed the life-cycle of these materials by putting into practice the circular economy concept and increased our revenue with Ecoplástica® sales. Also during this period, we increased our commitment towards social-environmental responsibility, going beyond the awareness of farmers and creating, for example, the Campo Limpo Environmental Educational Program (PEA), designed for 4th and 5th grade elementary school students.

In 2017, we kicked off the third and current phase, the maturity of the System and continuation of our innovation strategy. Many milestones have been achieved in these recent years. In 2019, we started to implement the Central Stations' Integrated Management Program, which transfers management of the units to inpEV, allowing retailers and cooperatives to further prioritize their main activity, the sales of crop protection products. During the four years of this program, we have standardized good management practices and have optimized resources, with savings already surpassing R\$ 8 million. We also continued to innovate our processes and are gradually increasing the volume of packaging being recycled, which leverages our revenue and positively impacts the environment.

Among our achievements in 2022, the year in which we reached 700,000 tons of environmentally-friendly disposal of empty crop protection packaging, are the inclusion of more receiving stations in the Integrated Management Program, the System expansion to keep pace with the new agricultural frontiers, with new units already built and ongoing works, and the implementation of a new process that will allow us to recycle 100% of flexible crop protection packaging. Another achievement is related to intellectual property: the National Institute of Intellectual Property (INPI) has approved our second green patent. Furthermore, we also expanded the scope of the first patent, obtained in 2021, which is now also valid in Argentina.

Under the social-environmental pillar, we continue to disseminate the principles of the United Nations (UN) Global Compact and its 17 Sustainable Development Goals (SDG)s. By means of PEA, we have impacted 243,900 students, 25% more than the preceding year, and have reached the mark of 2.3 million participants since 2009. We have also consolidated our e-learning for teachers across Brazil, by expanding the program outreach. On the National Clean Field Day (DNCL), a traditional celebration of the System results which summons all links of the chain, we organized a groundbreaking initiative to collect and plant 150,000 tree seedlings, which in 20 years will sequester 20,000 tons of carbon gas from the atmosphere. It is worth highlighting that the existence of the Campo Limpo System has already avoided 974,100 tons of CO<sub>2</sub>e since 2002.

We have also strengthened our people management practices. As a reflex of the Integrated Management Program, we currently are a team with nearly 400 workers and, to ensure development opportunities for all, we have formalized our internal recruitment program and are structuring our corporate university, uninpEV.

The technical cooperation agreement to transfer our know-how to CampoLimpio, in Argentina, was symbolic and reinforced our position as an international reference in reverse logistics. This recognition also became evident with our presence, for the second consecutive year, at the United Nations Climate Change Conference (COP27), where we demonstrated how Brazilian agriculture, besides being one of the most technology-laden in the world, continues committed to managing solid waste by means of the interconnected and efficient operation of our System.

We can currently affirm that our overall strategic objectives have been addressed: we are a center of excellence and a world reference in managing solid waste and are very close to achieving self-sufficiency. If we only consider the disposal of empty crop protection packaging, the reason for the Campo Limpo System structure, we have practically already balanced our costs to our revenues.

It is with pride that I conclude my cycle as the inpEV leader and reinforce the importance of the partnership work during all these years with our members, the wholesale and cooperative associations, the farmers and the public power. I am certain that the Campo Limpo System will continue to fulfill its mission of supporting Brazilian agriculture, always in a collaborative, innovative, complete and responsible fashion towards people, communities and the planet.

**João César M. Rando**  
inpEV presiding director



# Campo Limpo System

In operation since 2002, the Campo Limpo System has become a global reference in reverse logistics and an example of circular economy. Its success is only possible thanks to the commitment of the various links of the agricultural chain: manufacturing industry, distribution channel (wholesale and cooperative associations), farmers and the public power. Legislation (Federal Law nr. 7.802/1989 and Federal Decree nr. 4.074/2002) regulates the role and responsibilities of each link. Representing the manufacturing industry, the National Institute for Processing Empty Packaging (inpEV) is the entity that manages the System.

In 2022, this recognition allowed for the celebration of a groundbreaking technical cooperation agreement to transfer technology to CampoLimpio, from Argentina. inpEV shared a 300-page guide containing detailed information on all the steps of the System's operations. Furthermore, periodical meetings are held between the Institute and CampoLimpio teams to clarify any doubts.

**390**  
fixed receiving stations throughout  
Brazil – 100 central stations and  
290 outposts<sup>1</sup>.

**4,353**  
itinerant collection  
stations in 2022.

Recycling of **100% primary rigid plastic packaging**<sup>2</sup> (washed and unwashed) and **93% of all plastic packaging** (primary and secondary) received by the System.

<sup>1</sup> Takes into account the stations that handled cargo in 2022.

<sup>2</sup> Packaging in contact with products.

## CIRCULAR ECONOMY

- > The post-consumption resins of crop protection packaging give rise to the **Ecoplástica®** packaging and the **Ecocap®** sealing system.
- > Each **20-liter Ecoplástica®** recipient avoids the emission of **1.24 kg of CO<sub>2</sub>e**.
- > These resins can also be used to manufacture another **33 artifacts** for civil construction, transportation and other sectors.

## SYSTEM EXPANSION IN 2022

- > **Operational startup** of the new central stations in Guariba (SP), Querência (MT) and Balsas (MA), which replaced the older units in these three cities and increased the receiving capacity in the regions.
- > **Works concluded** at the central stations of Mirassol D'Oeste (MT), struck by a fire in 2021, and of São Pedro do Sul (RS).
- > **Inauguration of the Ceasa outpost** in Contagem (MG), thanks to the groundbreaking partnership with the state government, the entity managing Ceasa Minas and the distribution channel.

## PLANNED EXPANSION – 2023 AND FOLLOWING YEARS

- > **New central stations** in Carazinho (RS), Gurupi (TO) and Nova Santa Helena (MT), among other locations.

## Central Station Integrated Management Program

Another seven central stations will be directly managed by inpEV in 2022, totaling 59 units. Among the gains of this program, which started in 2019 after a thorough analysis and approval process by the Institute's Board of Directors, are the cost reduction for the System and for the distribution channel, standardization of compliance, quality and safety processes, besides gains in productivity.

Periodically, the management teams of the central stations are held accountable for the program results by the associations and cooperatives that transfer the administration of their units to inpEV.

## Central stations placed under inpEV management in 2022

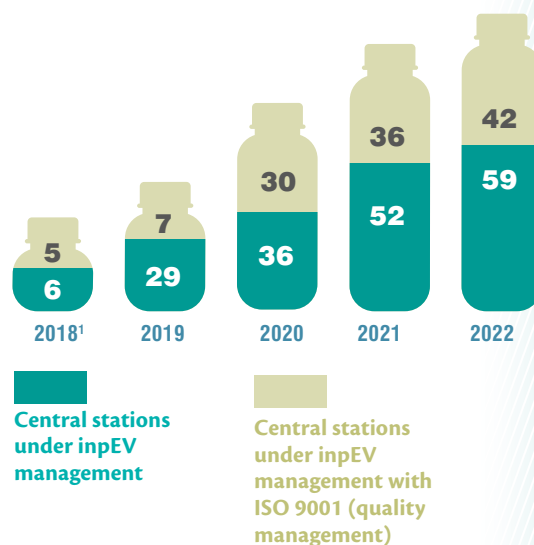


## PROGRESSION OF THE CENTRAL STATION INTEGRATED MANAGEMENT PROGRAM

From 2019 to 2022:

- > Cost reduction: **R\$ 8.7 million.**
- > Productivity gains (packaging processing capacity per operator): **+ 19%.**
- > Workforce training: **41,300 hours** of completed training.

## Central stations under inpEV management



<sup>1</sup> Prior to implementing the integrated model.

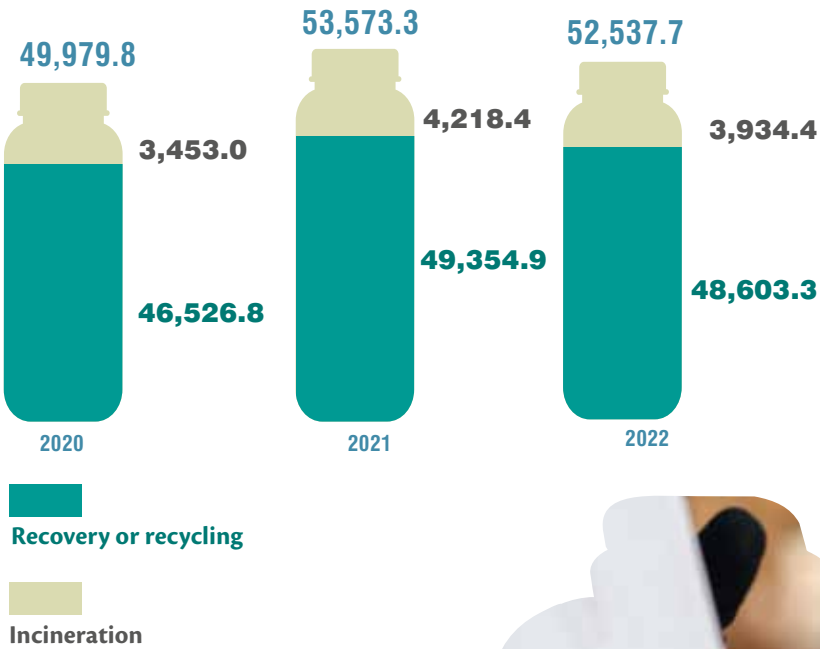
**Performance**

In December, the Campo Limpo System reached 700,000 tons of packaging properly disposed since 2002. 52,538 tons in 2022 alone, a 2% reduction compared to the previous year (53,573 tons disposed).

This result is mainly due to a strategic decision by inpEV to reestablish inventory levels at the receiving stations, which considered in-house studies and market perspectives. For 2023, the disposal goal is 53,100 tons.

The System also disposed of 400 tons of illegal products in an eco-friendly way along the year, thanks to a partnership inpEV has with the Ministry of Agriculture, Livestock and Food Supply (Mapa), the Ministry of the Environment (MMA), the Internal Revenue Service, the Federal Police, the National Union of Plant Health Products Industry (Sindiveg) and Croplife.

**Packaging disposal (t)**







**A** non-profit organization, the National Institute for Processing Empty Packages (inpEV) was created in December of 2001 to be the managing entity of the Campo Limpo System.

With its main office in São Paulo (SP), the Institute finished 2022 with a member roster of 160 companies and ten entities representing the manufacturing industry, the distribution channel and farmers.

### inpEV team

In December, the Institute had 379 workers, a 15.5% increase compared to 2021 and a number almost five times greater than in 2018, the year prior to the start of the Central Station Integrated Management Program.

inpEV has continued to solidify its people management practices, as can be seen in its internal recruitment program, which ensures that any new openings are first disclosed to its internal audience. Another highlight was the start of the uninpEV structuring process, the on-line corporate university, to be officially launched in the first months of 2023.

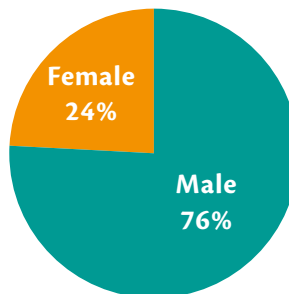
Each worker concluded, on average, **47 hours** of training.

**84 favorable points** in the Great Place to Work (GPTW) survey.

### Total workers



### Gender



### SAFETY

inpEV offered more than 2,000 hours of training on health and safety to central station workers under its management and to professionals from some partnering central stations.

During the fourth edition of the Internal Labor Accident Prevention Week (SIPAT) of the Campo Limpo System, the teams from 99 central stations and 60 outposts, besides the professionals that work in the São Paulo (SP) and Taubaté (SP) offices, were trained.

# Innovation & technology

**T**he year of 2022 represented another important technological breakthrough for the final disposal phase, which will allow, starting in 2023, the recycling of all flexible packaging. With this, the Campo Limpo System will recycle 100% of all plastic packaging received, in addition to the rigid packaging (washed and unwashed), which have been recycled since 2019.

At the central stations, the innovation initiatives developed in preceding years also continued being expanded. An additional 28 units implemented the traceability project, which ensures more assertiveness to operations and allows each bail to be monitored until its final destination. Furthermore, the automated press designed to meet the specific needs of the System arrived at the central stations of Luziânia (GO) and Querência (MT), besides Araraquara (SP), where the pilot project took place in 2021.

## FLEXIBLE PACKAGING RECYCLING

- > Greater volume of empty packaging receives a better destination (recycling).
- > Leveraging the circular economy and lower consumption of fresh raw materials.
- > More jobs and income in the recycling chain.
- > More revenue for the System.

## Central stations with traceability



**The custom-designed press for the System increases by 65% central station productivity.**

## New green patent

The Campo Limpo System received its second green patent, granted by the National Institute of Intellectual Property (INPI). The new patent refers exclusively to the co-extruded (multi-layer) crop protection packaging recycling process.

Furthermore, the patent obtained in 2021 for the recycling process that gives rise to the Ecoplástica® packaging was extended to Argentina.

## LEVERAGING A CULTURE OF INNOVATION

In October, the Good Ideas Program was launched, which encourages the entire inpEV team to identify process improvement opportunities and innovation possibilities.

Until December, from all suggestions, 23 were approved by the committee and forwarded to the areas for evaluation.

# Economic feasibility

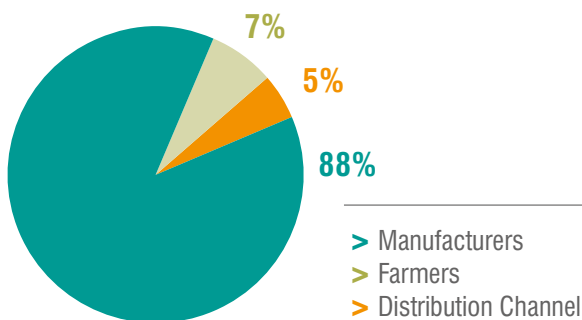
inpEV continued with the array of initiatives to increase revenues and decrease costs of the Campo Limpo System, which addresses the strategic objective of achieving the System's self-sufficiency. Along the year, self-financing corresponded to 76%.

With these actions, the reduction goal for financial contributions established for 2022 was exceeded by almost R\$ 6 million. This was the second consecutive year in which the initially defined value was surpassed and, for 2023, an even more ambitious goal has been set.

Among the efficiency initiatives, flexible packaging recycling, which will start operating in 2023, should represent an annual cost reduction with incineration of around R\$ 15 million.



## System Defrayal – 2022



**+ R\$ 1.8 billion**  
contributed by all links of the  
chain to defray the Campo Limpo  
System since 2002.

ECONOMIC-FINANCIAL PERFORMANCE <sup>1</sup> (R\$ million)	2020	2021	2022
Total asset	165.3	174.2	185.4
Total resources (inpEV + chain links) that defray the program – accumulated since 2002	1,399.0	1,696.6	1,821.1
Net revenue of the activities	146.0	156.5	199.1
Member contributions	69.2	56.4	45.4
Campo Limpo Property Lease <sup>2</sup>	11.2	16.8	23.3
Net equity	112.4	89.9	105.1
Net Indebtedness <sup>3</sup>	2.6	5.6	7.1

1 Since 2021, the accreditation fee, paid by recyclers to receive packaging shipped by inpEV and for technical cooperation with the Institute, has been considered as part of the consultancy revenue, which also includes the inpEV and the partnering central stations' defrayal fees. In 2022, the consultancy revenues corresponded to R\$ 94.3 million (in 2021, the value was of R\$ 79.2 million).

2 Rent paid by Campo Limpo Plastic Transformation and Recycling S.A. to inpEV.

3 Only considers obligations with suppliers, excluding obligations with central stations and outposts.



# Operational eco-efficiency



According to the eco-efficiency study done annually by the Espaço Eco Foundation, The Campo Limpo System has already avoided the emissions of 974,100 tons of CO<sub>2</sub>e to the atmosphere since 2002. If the System had not existed and these emissions had occurred, more than 6.9 million trees would have to be planted to offset them.

Even with the inherent positive environmental impact, inpEV is committed to expanding the eco-efficiency of its operations. The new units of Guariba (SP), Querência (MT), Mirassol D'Oeste (MT) and São Pedro do Sul (RS) were built following the architectural model known as sustainable central station, which foresees solutions such as rainwater harvesting, efficient use of natural lighting and photo-voltaic panels to generate electric power.

The Guariba unit was the first of the System to receive a mini photo-voltaic power plant. The generated clean energy supplies the unit itself and the remainder is converted into credits, which are used to abate the expenses relative to the consumption of the neighboring central stations of Araçatuba, Araraquara, Ituverava and São José do Rio Preto, all in the state of São Paulo.

From March to December of 2022, the mini Guariba plant produced **20.94 MWh**, equivalent to more than **20 tons of CO<sub>2</sub>e** that were avoided to the atmosphere.

With the operational startup of this mini plant, the solar energy auto-generation (until then only available at the Unaí central station in Minas Gerais state) grew **183%** in 2022.

## THE POSITIVE IMPACTS OF THE CAMPO LIMPO SYSTEM TO THE PLANET, ACCORDING TO THE ECO-EFFICIENCY STUDY

### EMISSIONS AND ENERGY – AVOIDED CONSUMPTION



#### From 2002 to 2022

**974,067,000 tons** of CO<sub>2</sub>e = emission volume of **18,409** truck trips around the Planet.

**43 billion** Megajoules of energy = electric energy consumption of **6.3 million** homes during one year.



#### Only in 2022

**74,700** tons of CO<sub>2</sub>e.

**4 billion** Megajoules of energy.

### WATER<sup>1</sup> – AVOIDED CONSUMPTION



#### From 2019 to 2022

**747.3 million** liters of water = daily consumption of **3.7 million** people.

#### Only in 2022

**522.3 million** liters of water.

<sup>1</sup> The eco-efficiency study started to measure the avoided water consumption starting in 2019.



# Education and awareness

**T**he 2022 edition of the Clean Field Environmental Educational Program (PEA) observed significant increases in the number of participating cities (+ 28%), schools (+ 24%), classrooms (+ 87%) and students (+ 25%). Besides the covid-19 pandemic stabilization and the return to in-school classes, with the school calendar back to normal, this growth reflects the efforts of the central station managers, who have worked to include schools from other cities in the central stations' area of influence.

The program continued to offer its e-learning course "Environmental Education: pedagogical theory and practice in solid waste management" to teachers throughout Brazil and not just to those formally participating in the PEA in 2022.

The PEA Connection was also created, a work group counting on ten teachers from different regions across the country, who periodically meet and offer feedback on the program syllabus and activities and also on student response, which helps inpEV improve the pedagogical proposal for forthcoming cycles.

## PEA 2022



**243,912** students impacted from 4th and 5th grades of Elementary School.



**312** participating cities, **2,620** schools and **14,912** classrooms.



**254** educators concluded the e-learning course.



**+ 21,300** accesses to the PEA site, a **49%** increase compared to 2021.

**3,519 enrollments in the e-learning course covering the Campo Limpo System in 2022.**

## CONTRIBUTION TO THE SDGS

Upholding social-environmental responsibility as one of its values, in 2022 inpEV conducted a self-assessment using the SDG Action Manager platform, a tool developed by the Global Compact and B Lab to measure how its actions influence the achievement of the 17 Sustainable Development Goals (SDGs).

The Institute reached 64.9% overall points, a result above that achieved by the agricultural and livestock sector, by Brazil and by companies of similar size.

### **DNCL promotes a unique environmental action**

The National Clean Field Day (DNCL) counted on a unique initiative in 2022, which, by building upon the System capillarity, reinforced inpEV's commitment towards preserving the environment.

With the DNCL Sustainability, 95 central stations were mobilized to collect tree seedlings from the community and identify locations, such as schools, where they could be planted. Exceeding the initial expectations, 150,000 seedlings were donated, which were planted until the month of December. In 20 years, these trees have the potential of capturing more than 20,000 tons of CO<sub>2</sub> from the atmosphere.

Back to the in-school format, 11 cities held official ceremonies on August 18. The events in Rio Verde (GO) and in the São Paulo capital were broadcast live via inpEV's YouTube channel and the Terra Viva television channel.



**32,800 participants  
in 369 actions of the 2022  
DNCL edition.**

**95 central stations  
and 12 outposts,  
in more than 100  
cities, in 19 Brazilian  
states, participated in  
this celebration.**

**218 acknowledged farmers.**

### **SOCIAL NETWORKS**

The contents communicated by inpEV impacted millions of people:



**Facebook:**  
6.8 million.



**Instagram:**  
7.3 million.



**YouTube:**  
1.5 million.



**LinkedIn:**  
103,000.

