

## Grupo Libertad

*First (and only) retail brand to certify ISO 50.001 in Argentina. CEM award 2022 winner with 1<sup>st</sup> superstore (Rivera Indarte). Now presenting three more after expanding scope (with another ten to come in the next two years).*



Branches: Rivera Indarte, Jacinto Ríos, Rosario & Rafaela

### Case Study Snapshot

<b>Industry</b>	Retail
<b>Product/Service</b>	Superstores & Malls
<b>Location</b>	Córdoba (2), Rosario and Rafaela, Argentina
<b>Energy performance improvement percentage (over the improvement period)</b>	23 % improvement over 4 years
<b>Total energy cost savings (over the improvement period)</b>	USD 806 k
<b>Cost to implement Energy Management System (EnMS)</b>	USD 161 k
<b>Total energy savings (over the improvement period)</b>	11,500 MWh
<b>Total CO<sub>2</sub>-e emission reduction (over the improvement period)</b>	4,500 Metric Tons

### Organization Profile / Business Case

Grupo Libertad, a chain of superstores and malls, operates 15 locations spread across various provinces in Argentina. Each facility features both superstores and shopping malls within the same building.

Aligned with the United Nations Organization's 17 Sustainable Development Goals, Grupo Libertad has outlined 15 priorities in its corporate social responsibility policy. Key among these are initiatives to "Reduce greenhouse gas emissions" and "Increase energy efficiency." The company aims to cut scope 1 & 2 greenhouse gas emissions by 18% between 2015 and 2025 and scope 3 emissions by 10% between 2018 and 2025.

Since 2018, Grupo Libertad has pursued a goal of trimming energy costs, not only as a strategic business move but also as a means to reinforce its commitment to reduce its carbon footprint. By comparing energy consumption from 2017 to 2023, the company achieved a 33% reduction year-on-year.

In addition to reducing energy costs and enhancing operational efficiency, Grupo Libertad's energy efforts are deeply rooted in its commitment to addressing climate change, advancing sustainability, and driving decarbonization. By proactively managing energy consumption and investing in renewable sources, the organization not only aligns with global sustainability goals but also sets a precedent within the Argentinian retail sector. Furthermore, by spearheading the ISO certification for retailers in Argentina and continually pushing the boundaries of energy management excellence, Grupo Libertad showcases its dedication to leading by example and driving positive environmental impact at both local and international levels. This holistic approach not only reinforces the company's sustainability agenda but also strengthens its position as a responsible corporate citizen committed to creating a more sustainable future for generations to come.

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Rivera Indarte was the first of the branches to achieve the ISO 50.001 certification. Its first year exceeded all expectations: Not only the branch achieved cost and emissions reduction but was awarded with the 2022 CEM Award, becoming the first Argentinian company to receive this prestigious award. This was the fundamental milestone that boosted the company to expand the ISO 50.001 project to all the branches in the company. This is no small matter considering Argentina as a country where energy has always been extremely inexpensive (and because of this energy efficiency is not established).

In April 2023 the second branch “Jacinto Ríos” joined the certification and was added to the certified energy management system of Rivera’s scope. In this second stage “Replicability” the challenge was to repeat the procedures in a different store. Once this was accomplished, Libertad started the third and most ambitious part of the energy management project: “Scalability”. The goal is to certify other 12 superstores and malls in a period of 3 years. For this purpose, every process had to be redesigned with a scalable scope: meetings, documentation, personnel training, communications, etc. The next two branches joining the certification were Rafaela and Rosario in April 2024.

Libertad is leading the ISO certification for retailers in Argentina, and far from settling for the CEM Leadership award in 2022, Libertad goes for more. In hand with this, Libertad purchases 30% of its energy from renewable sources since 2018 (while regulations only state a need of 20% for 2025) and leads circular economy projects. These three represent the pillars of the sustainability program. These initiatives were recognized, in addition to the CEM leadership award of 2022, by the Ministry of Economy, who awarded the "Efficient Argentina 2022" award and the British Chamber of Commerce in Argentina with the "Leadership in Sustainability 2023" award.

*“Our commitment with the environment is stronger than ever. Based on outstanding results, our formerly ISO 50.001 energy management project in Rivera Indarte has become a regional project for all our branches in Argentina”*

— Octavio Menso, Country Facilities Manager

## Business Benefits

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Achieving ISO 50.001 certification yielded far-reaching benefits for Libertad beyond energy efficiency. While the primary focus of implementing the Energy Management System was to optimize energy usage, the journey of continuous improvement brought additional advantages. This experience established the brand as a **leader in sustainable development**. Libertad stands as a trailblazer brand in Argentina, being the first retailer to achieve the ISO 50.001 certification. This achievement carries significant weight in a country where energy costs are relatively low, and environmental consciousness among consumers is not widespread. Libertad's commitment to sustainability extends to its community, implicitly urging competitors to follow. Leading sustainable projects strengthens the brand especially for young generations, who value companies that care about the environment.

In terms of **costs**, 2024 is the perfect example of the advantage of leading in energy efficiency: Argentina’s new government established aggressive subsidies cut off for energy suppliers. This translated to prices and between January and March of 2024 energy rates have risen to more than 270%. Unlike the competition, Libertad has been working on energy efficiency for more than 6 years and now, has achieved an energy consumption reduction of 33% from its original baseline, resulting in a clear competitive advantage. Compared against the 2019 baseline (starting year of the ISO project implementation), the four branches **energy savings** account for 11,450 MWh by 2023, what translated in **cost savings** of USD 806 k and a **greenhouse gas emission reduction** of 4.5 k tons of CO2 in the last 4 year. These numbers largely surpass the EnMS implementation investment of USD 161 k which include, among others, energy meters, external consultancy, energy audits, labor costs, etc. Monthly energy dashboards depict the equivalent number of trees needed to absorb the saved CO2, making the impact tangible for employees, and facilitating comprehension of energy conservation's real-world significance.

In terms of operation, there is a noticeable increase in **Know-how**. The constant premise of thinking about how to use energy more efficiently leads to a virtuous questioning of how the system works. As a result, people learn more about it and improve it continuously. Prior to certification, energy efficiency and environmental impact were primarily concerns of the facilities department. However, the certification process elevated awareness across the stores regarding energy usage and its environmental contribution. Communication initiatives such as videos, posters, and training sessions played a pivotal role in personnel awareness and training. The Plan-Do-Check-Act cycle is now applied in other areas enhancing organizational agility and even tools that were developed for the ISO 50.001 certification had been used for other purposes. A clear example of this **synergy** is the unsynchronized training platform, formerly used for energy management topics, is now used by the entire company. On the other hand, the energy management team also started using tools that were meant for something else at the beginning. For example, the committee took advantage of the existing internal social media “Conectados Wow”, where communication for energy related tips, projects and results are posted. Furthermore, documentation of procedures and historical data ensures reduced dependency on current personnel bringing **resilience** to the operation. Future employees can seamlessly familiarize themselves with the procedures, while existing staff members serve as internal ambassadors, reinforcing the system's sustainability within the Libertad group. In line with this, expanding the scope to other branches helped to **standardize procedures**. Even the other stores that are not in the EnMS benefit from this. Previously, each branch operated independently, each with its own set of pros and cons. This diversity posed challenges in tracking from a corporate standpoint. Currently, processes designed for the ISO 50.001 are extended to other stores, facilitating control, and narrowing the gap for future expansions of scope and certification of the rest of the company's stores.

As the project progresses, the scope is expanded, having new branches joining the energy management system. Given the positive impact that this project had on the company, every branch now wants to be the next one to join the ISO 50.001 project. It represents an excellent opportunity to show abilities of leadership, particularly those involved in the energy committee. Testimonies reflect **strengthened human relationships** and a shared sense of accomplishment. These outcomes even transcend Libertad's limits and have a **positive impact on its community**. Supplier training initiatives extend energy conservation knowledge beyond Libertad, potentially impacting their respective organizations. Additionally, as the main sources of consumption are lighting, air conditioning and food refrigeration, many of the energy-saving practices can be extrapolated to their own homes. Employees report personal energy-saving practices at home and implicitly became our sustainability ambassadors.

## Plan

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Obtaining ISO 50.001 certification was a natural progression, spurred by Libertad's ongoing energy efficiency initiatives since 2018. During the last years, energy savings had, as expected, nearly plateaued. With the most readily achievable improvements already implemented, the company is reaching what seems to be an optimal level of energy consumption. If further “greedy” goals were to be set, service quality could be compromised (for example by reducing lighting or AC utilization). At this stage, sustaining the attained energy performance became more realistic than anticipating further substantial savings. The certification thus emerged to formalize and consolidate these efforts, ensuring ongoing improvement with a documented methodology.

Libertad's top management is dedicated to advancing business sustainability. Consequently, the certification was in line with their strategic objectives. Presenting ISO 50.001 not merely as a certification but as a foundational framework for future operations garnered immediate engagement and support from corporate leadership. By demonstrating operation enhancements and economic benefits derived from energy management practices, the ISO certification, initially implemented as a pilot project in Rivera, has become a corporate goal. In line with this, executive leaders have given resources and financial support to expand the scope of the EnMS from Rivera to all branches.

The certification process aimed to involve all employees in enhancing energy efficiency, necessitating effective communication tools. At the corporate level, easily comprehensible dashboards were developed, offering insights into EnMS metrics like Energy Performance Indicators (EnPIs), carbon footprint, Significant Energy Uses (SEUs), and costs.

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For broader employee and supplier engagement, softer communication tools such as videos, posters, and interactive training sessions were employed to convey the significance of ISO certification, the EnMS, and collective goals.

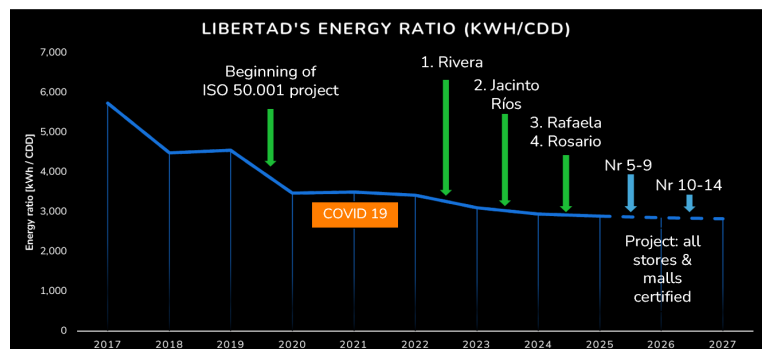
Analyzing energy consumption drivers revealed electricity as the predominant form, warranting focused monitoring and optimization efforts. Monitoring technology installed in 2019 facilitated granular assessment of SEUs, including lighting, air conditioning, and refrigeration systems across both mall and superstore sections.

The energy analysis is based on data analytics where raw data is extracted from the energy meters installed in the stores. Rivera Indarte and Jacinto Ríos have a sophisticated metering system where AC, lighting and food refrigeration consumptions are measured individually for different sections. In the case of Rafaela, with a smaller size, general meters for the whole building were installed and Rosario will install a similar system this year. The goal is to have all 15 branches metered by the end of 2024. Data analysis and machine learning technics enable Libertad to identify anomalous energy patterns, thus, plan actions to remediate deviations. This information, plus investment, payback, CO<sub>2</sub> emissions and impact on total energy are key aspects to prioritize action plans for energy conservation measures.

A crucial premise guiding the energy efficiency project was balancing safety, quality, and comfort considerations. Deviating from these boundaries risked skepticism and compromised outcomes. Ensuring safety-critical installations remained unaffected by energy conservation measures, preserving product quality, and maintaining optimal comfort levels were paramount. Operational metrics and control charts were designed to accommodate these considerations, ensuring that energy-saving measures did not compromise safety, quality, or comfort. For instance, pairing energy consumption metrics with comfort indicators ensured that energy-saving actions did not compromise comfort levels, thereby reinforcing sustainable practices across all operational aspects.

**“Energy efficiency as a means of doing business while protecting the environment is not a cliché for us; it’s at the core of everything we do.”**

—Diego Sabat, Corporate Affairs and Sustainability Director



Energy ratio (kWh/cooling degree days) evolution for the 4 branches since the beginning of the energy efficiency program. Green arrows flag the time each branch achieved the certification. Light blue arrows flag the stores to complete the certification.

## Do, Check, and Act

One critical aspect of our implementation strategy was assembling a strong team. Our energy committee brings together employees from diverse departments, backgrounds, genders, and hierarchical levels. We convene monthly to delve into ongoing projects, scrutinize monthly dashboards, and assess the monthly outcomes of our Energy Performance Indicators (EnPIs).

Each meeting is documented, encompassing presentations on energy measurements, dashboards, ongoing initiatives, and post-meeting summaries. This documentation is shared with top management via email. Additionally, monthly meetings with our energy consultant (Greempact) and management ensure thorough oversight of our Energy Management System (EnMS) in line with ISO 50001 standards.

Our baseline period, anchored in the installation month of our monitoring system (May 2019), provided the foundation for our energy savings calculations. Reports, as mandated by ISO 50001, commenced in June 2021, and undergo rigorous scrutiny annually by the directors, Greempact (external consultant), and the Facilities Manager.

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The creation of dashboards, baselines, and control charts relied heavily on meticulous data processing. Deviations are tracked and analyzed, leading to the formulation of action plans with clear goals, timelines, assigned responsibilities, and resource allocations. Furthermore, it is important for each branch to be compared not only with its baseline but among the others. Even though each building is different, the main sources of consumption are the same and the consumption patterns are consequently comparable. Each location has its own baseline, having weather as determinant variable (cooling & heating degree days and humidity) for thermal equipment (food system and air conditioning – 85% of total energy consumption). For the third large energy consumption sources, lighting, commercial days are considered in the analysis. The EnMS baseline is the result of the summation of each branch individual baseline.

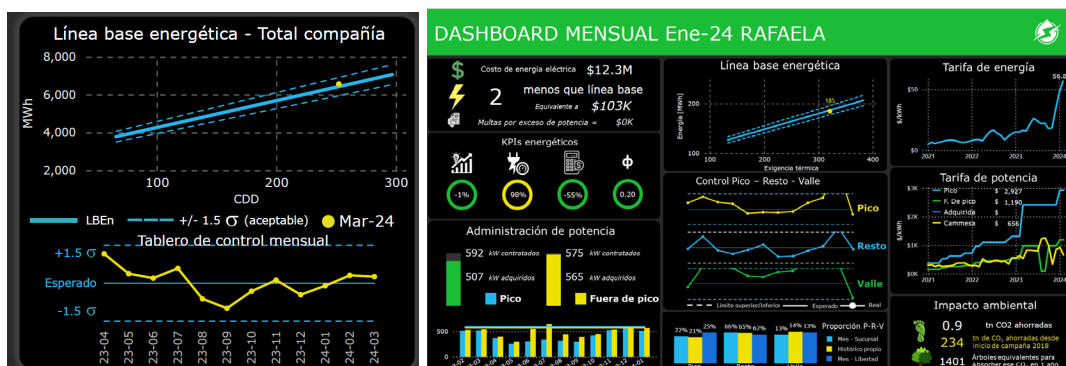
$$EnMS_{baseline} = \sum (CDD * m_{CDD} + HDD * m_{HDD} + Humidity * m_{Humidity} + commercial\ days * m_{commercial\ days} + b)_{branch}$$

Significant energy-saving initiatives, identified by Significant Energy Uses (SEUs), include repairs to refrigeration unit doors, transitioning to dynamic pressure systems for low-temperature refrigeration compressors, and upgrading lighting to LED technology across the facility. Soft measures such as energy efficiency contests and training sessions for employees and suppliers further bolster our efforts. These last ones were the ones that faced more challenges as the project expands. For example, formerly one-to-one training sessions had to be replaced by unsynchronized systems and new communication tools.

Besides the energy data, other measures need to be tracked to ensure the best energy performance. For example, in the food refrigeration system, maintenance is fundamental. Values of suction and discharge pressure in compressors, refrigerant leaks (affecting not only energy performance but also GHG emissions), cold room humidity and temperature are constantly monitored. On the other hand, soft skills are equally important to measure. The new platform Conectados wow allows us to keep track on how many people have already completed the training sessions, how many failed, etc.

In addition of the importance of training our staff, we also believe that it is important to contrast our methods with third parties. In line with this, in 2023 Libertad has participated in the learning network program “Euroclima” with other 15 companies as a way to further improve its EnMS. It has been an enriching experience and also served to address the 2023 energy audits in our branches. In June 2023, all the participants were invited to our facilities to observe how we manage our energy system and bring new ideas, comments and suggestions.

Performance improvements are gauged through before-and-after comparisons of SEU baselines and EnPIs. Annual savings calculations, based on total EnMS baselines, provide precise insights into our progress. Energy savings are quantified relative to baseline consumption, with cooling degree days (CDDs), heating degree days and humidity as significant predictors. This approach strikes a balance between technical accuracy and comprehensibility for all stakeholders. Individual energy savings for each SEU are computed based on expected versus actual energy



EnMS baseline and control chart (left) and local (right) dashboards: data technology used to enhance energy performance.

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consumption, culminating in total energy savings. This approach ensures transparency and accountability throughout our energy management endeavors.

Individual energy savings were calculated for each SEU expected energy consumption (from their individual baseline) as follows:

$$\text{Individual Energy savings (\%)} = \frac{\text{Energy Expected (baseline)} - \text{Actual Energy consumed}}{\text{Energy Expected (baseline)}}$$

Individual savings for lighting, AC and food refrigeration were accounted and a cumulative summation led to total energy savings.

$$\text{Total Energy savings} = \sum_{i=0}^{\text{SEU}} (\text{Individual energy savings})_i$$

## Transparency

Our third certification scope expansion (Rafaela & Rosario joining Rivera and Jacinto Ríos), was approved on May 9th, 2024, marking a significant milestone in the scalability stage of the ISO 50.001 project. This was communicated through Libertad's social media Conectados Wow, boasting a robust following of 3000 employees.

Clients, suppliers and other stakeholders will be communicated in social media platforms like LinkedIn and Instagram, ensuring our broader community is informed and engaged.

## What We Can Do Differently

Reflecting on our journey, one of the biggest challenges we had to face was to start thinking in scale. We did not do that from the beginning and time was lost consequently. When the two branches were selected to join the certification, we first tried to repeat the process (which we were already comfortable and confident with) trying not to change what was right. What we did not see at that moment was that our methods worked well in small systems, however, they would fail to manage 4 branches at one time. In the middle of the job, we had to start over and reconvert our processes (communication, training, datasheets, data processing files, etc.) to be able to work faster. This was the main challenge of this new “scalability” stage.

Communication was another challenge and one of the big changes we faced. At the beginning, we developed all our processes (worksheets, manuals, videos, etc.). Last year, considering the number of people to be reached with different messages (news, training, etc.), we had to adapt to tools that were already available, and we did not notice. We could have saved valuable time if we had used them from the beginning, however we did not.

At the beginning we did not notice that changing the energy committee was fundamental for our implementation of strategy. Formerly, our first energy committee in Rivera comprised individuals from diverse departments, backgrounds, genders, and hierarchies. In total there were 10 members. Trying to replicate this was a mistake and the meetings (with too many members) were not effective as before. We had to change to a smaller global team and one local team per store. This change was not easy to communicate maintaining the motivation towards the EnMS. Some workers might have felt excluded. We could have anticipated this so as to have a smoother transition.

Fortunately, the next step is to add another 5 branches to the EnMS and have them certified by April 2025. These corrections will be key to achieving this. We are looking forward for this ISO 50.001 project to continue growing and we proudly set our goals higher each year. By May 2026 the last 5 will join and the final goal is to have all branches certified by April 2026. We are aware that this is an ambitious plan and lots of work is ahead. However, we truly believe that we are doing this right and are excited about leading the path of sustainability through energy efficiency.



The Energy Management Leadership Awards is an international competition that recognizes leading organizations for sharing high-quality, replicable descriptions of their ISO 50001 implementation and certification experiences. The Clean Energy Ministerial (CEM) began offering these Awards in 2016. For more information, please visit [www.cleanenergyministerial.org/EMAwards](http://www.cleanenergyministerial.org/EMAwards).