



# Gränges Americas, Salisbury, NC – 50001 READY

## BACKGROUND

Gränges Americas is an international supplier of rolled aluminum materials. The company focuses on developing metal that is light, strong, durable, versatile, energy-saving, and infinitely recyclable—in other words, high-performing and sustainable aluminum products. Gränges is committed to minimizing the environmental impact of its operations, upholding ethical business practices, and ensuring the health and safety of its workers. The company has established a sustainability framework and 2025 targets, such as reducing energy intensity by 17% and using at least 20% renewable energy sources in production.

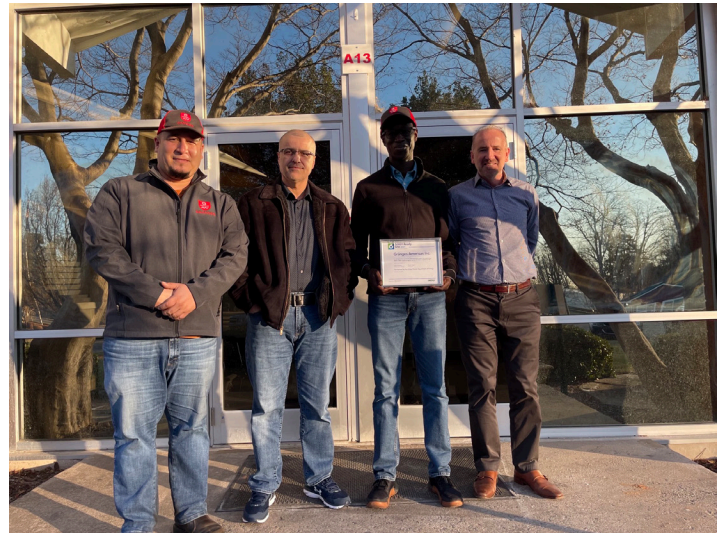
To achieve these ends across all its operations, Gränges Americas is working toward certifying all production facilities in accordance with ISO 14001 (environmental management), ISO 45001 or OHSAS 18001 (occupational health and safety management), the Aluminium Stewardship Initiative’s (ASI’s) sustainability standards, and ISO 50001 (energy management).

The company has three facilities in the United States—Huntingdon, Tennessee; Newport, Arkansas; and Salisbury, North Carolina—that specialize in equipment needed for the HVAC and automotive industries, products used for heat exchangers, and selected niche applications.

Gränges’ Salisbury location has taken the lead on seeking ISO 50001 certification; its 175-person manufacturing site is already certified to ISO 9001 (quality management) and ISO 14001 (as of August 2021). Adding ISO 50001 to this growing list of certifications is part of a five-year plan that will lead to multiple certifications and a site-wide culture of sustainability. To support its pursuit of ISO 50001 certification, Salisbury has become a 50001 Ready facility.

*“We have a pretty motivated team, and we have commitment from our management to give us the time to participate in this type of program, which is really, really good. It’s a big effort from the company to get to these goals and objectives to reduce our carbon footprint and protect the environment—and be efficient as a company as well. Enhanced energy savings equals more money in the company’s pocket, which is also good.”*

*– Jules Diawara, Quality and Technical Manager  
Gränges Salisbury*



The energy management team with the 50001 Ready certificate. Shown from left to right: Manuel Medina (ISO 50001 Representative), Necmi Dogan (Salisbury Site Manager), Jules Diawara (Salisbury Quality and Technical Manager), and Patrick Lawlor (Chief Executive Officer of Gränges Americas).  
Photo credit: Gränges Americas

## SOLUTIONS

In 2020, the COVID pandemic led to a five-month plant closure at the North Carolina facility. Seeing an opportunity to focus on implementing an energy management system compliant with ISO 50001, Gränges headquarters in Europe encouraged Salisbury’s management to use this time productively by participating in the 50001 Ready program.

Gränges’ Salisbury site had already established an energy management team. The team opted to join a strategic energy management (SEM) cohort, i.e., a group of non-competitive industrial organizations that leverage peer interaction and peer-centered learning to drive organizational change. Duke Energy, the site’s electric utility, introduced Gränges Salisbury to the cohort, through which the plant’s energy team began working with Advanced Energy Corporation, an energy consultant.

With assistance from Duke Energy and Advanced Energy, the energy team conducted an overall assessment of the site’s energy use and distribution. The team monitored operations and looked for ways to conduct them more efficiently, doing more with fewer resources, in both maintenance and production areas. The team then began



introducing significant improvements, such as replacing unreliable equipment, thereby improving both energy performance and productivity.

Thanks to its preparedness through 50001 Ready activities, the Salisbury facility has since achieved ISO 50001 certification.

*“Gränges is grateful for the immense and indispensable work via the U.S. Department of Energy 50001 Ready Program cohort. This has helped the company achieve one of its sustainability goals—ISO 50001 certification. Special thanks to Advanced Energy and the entire team that put together this program!”*

*– Jules Diawara, Quality and Technical Manager  
Gränges Salisbury*

### Implementing a 50001 Ready Energy Management System

- ▶ **The 50001 Ready Navigator has a range of useful features.** The team found the Navigator to be a user-friendly project management tool that provides a step-by-step process, with a color-coded overview of what is complete and what remains to be done. Of particular use was the Navigator’s gap assessment tool. The Navigator also provided playbooks that the team downloaded and used as “draft” procedures, which were then customized to the Gränges Salisbury facility. The team also appreciated the ability to access the tool online, with no complicated software to download. The tasks within the Navigator tool helped the team stay focused, despite a fast-paced environment with numerous priorities competing for time and attention.
- ▶ **Leveraging outside expertise is efficient and effective.** The SEM cohort, Duke Energy, and Advanced Energy provided excellent guidance and lessons learned, thanks to years of collective experience. In addition, the regularly scheduled cohort sessions helped the energy team maintain focus and momentum.
- ▶ **Gap assessments helped identify low- and no-cost opportunities.** With the help of Advanced Energy, the Gränges team used the Navigator tool to complete an annual gap assessment of energy use. These results helped the team pinpoint areas of energy loss and select eight energy-saving projects to implement that require minimal investment. The list includes installing LED lighting,

installing variable-frequency drives (VFDs) on cooling tower fans, installing high-efficiency air conditioning units, managing compressed air leaks, reducing compressed air pressure, and improving compressed air storage.

- ▶ **New projects resulted in significant savings through compressed air storage improvements.** The energy team began having an outside provider conduct an assessment of the facility’s compressed air system, including projected savings through improvements to the system. Based on the assessment report, the facility removed some storage cylinders that were not rated for the plant’s air capacity. This removal allowed the team to increase cylinder pressure from 100 PSI to 115 PSI, which decreased the running time for the air compressors and generated approximately \$93,000 in savings over a two-year payback period. The team has also addressed compressed air leaks and removed obsolete piping. A follow-on project will replace three-inch piping with six-inch piping, making it even easier for the compressor to move air through the system. The annual energy savings from these compressed air system optimization efforts is estimated at 382,000 kWh, representing an annual cost savings of \$20,000.
- ▶ **Uncovered energy disparities led to plant-wide safety and operational improvements.** The Navigator tool revealed energy inefficiencies associated with outdated cooling fans, leading the team to undertake a project to replace inefficient cooling fans with updated models. As a side benefit, the new fans run much more quietly than the old ones.
- ▶ **Even no-cost operational improvements have impacts.** By methodically identifying energy loss, the Salisbury team was able to save energy by updating some of the plant’s operations. For example, they have improved the processes for running the plant’s furnaces, which run at very high temperatures and are therefore significant energy users. The plant used to run the furnaces even when they were only half full of aluminum being processed; now there is a procedure in place that calls for a fully loaded furnace for each run. The amount of energy consumed per run is the same, regardless of whether the furnace is half- or fully loaded; so by placing more material into the furnace, less energy is used per item produced. Cleaning the furnaces more consistently also helps reduce the amount of energy needed to melt the metal.



- ▶ **Facilities pursuing multiple certifications should take advantage of redundancies.** The Salisbury site was certified to ISO 14001 before implementing its energy management system. When team members began the 50001 Ready tasks, they discovered a good deal of overlap with 14001 requirements. Having previously satisfied 14001 requirements helped the team accelerate its implementation of 50001 Ready.
- ▶ Assessments revealed opportunities for significant energy and cost savings, both through major projects and through low- or no-cost changes, such as adjustments to operating procedures. Even when a project entailed significant upfront expenses, the payback periods were very reasonable, and the Salisbury team saw savings in the medium and long terms.

## BENEFITS

Implementing energy management has created significant energy and cost savings for the Salisbury plant, as well as some concomitant benefits. For instance, some equipment will have longer life cycles due to running more efficiently. Most notably, improvements to the compressed air system (e.g., removing low-rated storage cylinders) allow the system to run more efficiently while using less force. These improvements also make the system more reliable, reducing downtime and enhancing productivity.

There have also been pluses involving comfort and safety. For instance, the high-temperature furnaces necessitate the use of big fans for cooling, but the old fans ran so loudly that conversation was impossible. With the new more-efficient fans, noise levels are considerably reduced, and coworkers can easily discuss their activities—another boost for productivity.

Gränges is so pleased with the results at its Salisbury facility that corporate leads plan to replicate the 50001 Ready process as a guide to achieving ISO 50001 certification at other U.S. facilities. Benefits uncovered by the Navigator tool will extend beyond the Salisbury site, which will serve as a benchmark for reducing the company's total U.S. energy consumption.

## KEY TAKEAWAYS

- ▶ Participating in 50001 Ready prepared the energy management team for full-on ISO certification.
- ▶ The Navigator tool provided the Salisbury facility with a useful step-by-step guide for finding energy management gaps and implementing energy savings. The steps in the tool helped keep the team focused and on track.