



INNOVATION

YEAR THREE 2021

RHEEM 2021 SUSTAINABILITY PROGRESS REPORT

## always striving for the greater good

What started in 1925 as a dream shared by brothers Richard and Donald Rheem has become one of the most respected businesses in the world, Rheem® Manufacturing Company. And what was true in the beginning is still true today. Our greatest innovations are powered by our greatest resource-our people.

We are still the world's only single-source manufacturer of heating & cooling, water heating and refrigeration products. And now, having added indoor air quality and water softening products into our mix, we truly have comfort covered.

But what drives our people is not being the "only," it's being the first. It's striving for what's just over the horizon-the next great sustainable innovation. The one that will bring comfort to the people of the world, while doing more for the world itself.

And as this report serves as a measure of our progress, Rheem serves as an example, both within our industry and beyond, of what's possible when people work toward the greater good-together.

**G** Sustainability is good for our business, our people and our environment. That's why we are engaging globally across our entire ecosystem.

Chee Wee Gan SENIOR VICE PRESIDENT, STRATEGY AND SUSTAINABILITY

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## fast facts



## a letter from Chris Peel

#### Greetings,

At Rheem, we have a shared belief that a more sustainable future will be powered by innovation. We also recognize that innovation at Rheem is powered by our people. It is with that innovative spirit that we continue to work together towards our 2025 sustainability goals. I want to thank each of you for your continued commitment and significant contributions during 2021.

Since Rheem launched its sustainability initiative, A Greater Degree of Good<sup>™</sup>, in 2019, we have been busy reimagining how we design, manufacture, deliver and support our products. We have also focused on improvements to our supply chain that will result in meaningful improvements to our environmental footprint. While we make the largest environmental impact with our products, we can have a substantial positive ripple effect when we train the trade on how to properly install and maintain our products.

We also know that our end users are increasingly concerned about reducing their own environmental footprint, and our impact grows exponentially when we meet them on their journey. We're not just marketing. We're educating. We're making it easier for end users to select products with the latest eco-friendly innovations. And we are already making a difference. For example, Rheem US water heating products sold since 2019 avoided almost 9 million tons of CO<sub>2</sub> emissions. That's the equivalent of 1.9 million cars taken off the road in a year!

From the launch of our employee-centered GoodWorks program to the progress we achieved with our Zero Waste to Landfill initiative, we continued to make great strides in 2021. We're on track to cut our greenhouse gas (GHG) emissions in half in our manufacturing operations, ahead of the requirements of many governments around the world. We're also launching a new line of products that have a 50% reduction in GHG emissions. Those are noteworthy accomplishments. But there are many more. In the report that follows, you'll learn all about the advances we made in 2021.

To further align us as we headed into 2022, Rheem hosted its first-ever Global Sustainability Summit in December. Hundreds of our people gathered virtually for two days of knowledge sharing, problem-solving and inspiration, including sustainability spotlights from Rheem Australia and Rheem Middle East and Africa.

But the work is not finished. As we look ahead to 2025, Rheem's 100th anniversary, there will be more aggressive goals to meet and our people at Rheem will power the innovations to get it done. As leaders in sustainability, we have no choice. Future generations are counting on us.

**Chris Peel** PRESIDENT AND CEO

## our vision, mission and commitment

Behind every product and every innovation are people with a passion for doing what's right-for each other, for our customers and for our planet. At every level, we conduct ourselves with integrity. And we've created a work environment that is inclusive and not only values the diversity of our people, but celebrates it. From the engineering work station to the factory floor, and all along the journey to the homes and businesses our products serve, people are at the heart of everything we do.

Our values represent the operating principles that guide our conduct with colleagues, as well as our relationships with our customers, partners, vendors and owners.

## vision

It is our vision to be a strong global organization with world-class processes, a robust infrastructure and sound cultural values. It is also our vision to guide the industry in sustainable practices and be a product innovation leader in all key markets served, producing consistently high-quality products-at the right cost, delivered on time, while providing superior value and service through recognition of the diverse needs of our customers.



### mission

We will **RESPECT** the opinions of others and treat people with **DIGNITY**, and act with **INTEGRITY**. We will conduct business activities with sincerity and HONESTY and foster an environment of TEAMWORK, FAIRNESS and TRUST, without bias and free from discrimination. We will rely on one another to do what is right.

## our commitment to environmental responsibility

Rheem® is committed to acting responsibly to protect the environment and ensure a healthy future for our employees, customers and the community. We collaborate with our business partners on climate action, engage our employees in environmental awareness and make responsible investments. Rheem aims to influence meaningful change by minimizing greenhouse gas emissions and implementing more sustainable ways of working throughout the world.

**66** Over the next decade, we will utilize technology to rethink our processes and products to benefit our customers and the environment. **J** 

Alan Machuga **EXECUTIVE VICE PRESIDENT, TECHNOLOGY** 

## expanding our stakeholder research

We know that our purpose goes beyond just building innovative air and water solutions. That's why we use materiality assessments to help us identify and guantify the topics that are most important to our key internal and external stakeholders. It's all done to ensure that we're focusing our sustainability efforts in the right places.

By seeking input from those across the globe, we are able to garner a deeper understanding of what matters most to all the people we serve. In 2021, we began expanding our research globally, interviewing consumers in key markets including Mexico, Canada and Australia. Global audiences rated the majority of environmental, social and governance (ESG) topics even higher than did US homeowners, and across all global markets, products still appear to be the most material. Consistent from prior research, the number-one sustainability priority across consumers, the trade and Rheem leadership remains certified energy-efficient products.

### MATERIALITY MATRIX



**Rheem Leadership** Ability to Impact & Alignment with Strategy

**Strong supplier partnerships** are critical as we align on a shared vision of sustainability and environmental stewardship. **J** 

Chris Havnes VICE PRESIDENT, PROCUREMENT

- 1. Trains the trade on sustainable product practices
- 2. Utilizes sustainable manufacturing processes
- 3. Educates customers on the benefits of sustainable products
- 4. Innovates smart products
- 5. Innovates energy & water efficient products
- 6. Promotes, sponsors and provides scholarships for young contractors
- 7. Utilizes sustainable transportation practices
- 8. Uses sustainably sourced / recycled materials and components
- 9. Offers homeowner / contractor recycling program
- 10. Has recycling program at plants & offices
- 11. Has corporate sustainability program
- 12. Has corporate philanthropy program
- 13. Offers certified energy-efficient products
- 14. Offers certified sustainable products
- 15. Offers recyclable products
- 16. Offers end-to-end sustainable products
- 17. Utilizes environmentally friendly packaging

#### Homeowners

Plumbers & HVAC Contractors

Applies to both categories

# driving a sustainable future

After taking steps to understand our global impacts since the 2019 kickoff of our sustainability program, we've faced those impacts head-on. We have evolved our company culture, because our deeper understanding of our place in this world has led us to implement strategies that bring our global teams together with focus and intent. The looming climate crisis, a global pandemic and the need for greater indoor air quality are all challenges toward which we have unleashed the innovative power of our people.

Together we can lead the industry and make a tangible impact for future generations through our A Greater Degree of Good<sup>™</sup> initiative. The initiative is built on three key pillars, each with its corresponding Rheem® 2025 goal and each aligning with 2030 United Nations Sustainable Development Goals (SDGs).



**We** are accelerating our global investments in renewable energy water heating. Heat pumps, solar, and thermal batteries are key focus areas for innovation.

**Rich Bendure** PRESIDENT, GLOBAL WATER



**DEGREES OF INNOVATION** Our 2025 goal: Launch a line of heating, cooling and water heating products that boast a 50% reduction in greenhouse gas footprint.



DEGREES OF EFFICIENCY Our 2025 goal: Reduce greenhouse gas emissions by 50% and achieve Zero Waste to Landfill in our global manufacturing operations.



DEGREES OF LEADERSHIP Our 2025 goal: Train 250,000 plumbers, contractors and kev influencers on sustainable products or sustainable installation and recycling best practices.





**G** Our people-powered sustainability program has made tremendous progress decarbonizing our products, training installers and influencers and minimizing the environmental impact of our manufacturing.

Mike Branson PRESIDENT, GLOBAL AIR

### JOINING FORCES TO SUPPLY SUPERIOR, SUSTAINABLE SOLUTIONS

With a history of more than 100 years of people-powered of developing and integrating the most cutting-edge, innovation, San Antonio-based Friedrich® Air Conditioning has an efficient IAQ solutions. impact that resonates across the globe. Friedrich is an industry Chuck Campbell, Friedrich's CEO, said, "Partnering with leader that focuses entirely on residential and commercial room Rheem was a natural choice, and we are proud to be working air conditioning solutions. One of our newest additions, Friedrich together toward more innovative and sustainable solutions." joined the Rheem family in 2021.

Regarding the acquisition, Alfredo Zuniga, Friedrich's Manufacturing Operations Manager, said, "We are seeing actionable steps toward quality in manufacturing, sustainability and safety. We are excited about all the new initiatives."

Expand Product Sustainability

Elements Globally

Launch Refrigerant

**Progress Report** 

Training Globally

Lifecycle Assessment

Release Third Sustainability

Extend Refreshed Sustainability

Finalize Pilot

Task Force

The addition of Friedrich both complements Rheem's existing features that all contribute to healthier indoor air. business lines and seamlessly integrates into our sustainability With Friedrich's state-of-the-art products and passion for initiatives. Friedrich's COO Steve Hall explained that indoor air efficiency, reliability and sustainability, it is a perfect addition quality (IAQ) is the driving force behind all the company's product to the Rheem family of brands. development, and Friedrich has been at the forefront

## a path to 2025 Rheem's Sustainability Timeline



- Met with Industry **Thought Leaders** / Internal Stakeholders
- Initiated Materiality Research
- Formalized Sustainability **Business Strategy**

- Launched A Greater Degree of Good and 2025 Commitments
- Captured GHG Baseline in North America
- Completed Waste Audits / Captured North American Diversion Rates
- Began Integrating Sustainability into the Product Development Process
- Launched Sustainability **Product Training**

- Captured GHG Baseline / Waste Diversion Rates Globally
- Released Rheem's First Sustainability Progress Report
- Launched Decarbonization Initiative

- Launched GoodWorks and Sustainability Steer Cos
- Piloted Product Sustainability Elements
- Released Second Sustainability Progress Report
- Kicked Off Lifecycle Assessment Pilot
- Held the Inaugural Global Sustainability Summit

Year Three-

With the first three years of our A Greater Degree of Good initiative behind us and three short years ahead of us to achieve our goals and commitments, we have a clear picture of how far we've come and a strategic plan for where to go next.

Friedrich's entire product line, including its highly reputable VRP Studio application and award-winning FreshAire® PTAC, supports decarbonization initiatives by offering high-efficiency heat pump options. Accessories in their FreshAire IAQ product line include MERV-13 filtration, UV lights and needlepoint bipolar ionization-

## evolving through ongoing activities and accomplishments

## powering responsible environmental action

Across global regions, governments are making aggressive carbon reduction commitments-and will continue to deploy regulations and incentives to achieve these goals. Rheem® is leading the development of next-generation products to not only meet upcoming regulations, but achieve long-term sustainability and environmental outcomes. We see it as the right thing to do to help shape what's best for our customers, the environment and our global communities.

Rheem's regulatory and government affairs experts actively participate in and partner with various industry associations, sustainability-focused coalitions, environmental advocates and other stakeholders to influence and promote:

- Energy efficiency standards for heating, ventilation, air conditioning and refrigeration (HVACR) products and water heating products
- Product certification, verification and testing for product efficiency ratings
- Inclusion of industry standards to enable the adoption of energy-efficient building codes
- Phasedown of high-global-warming-potential (GWP) refrigerants
- Air quality and emissions standards
- Producer recycling programs
- Tax policy and rebate incentives encouraging the purchase and installation of high-efficiency products

## GLOBAL DECARBONIZATION TARGETS IN KEY MARKETS CARBON NEUTRAL BY 2050



CARBON NEUTRAL BY 2070



## pioneering low-GWP refrigerants

Incorporating low-GWP refrigerants in our products and supporting the use of reclaimed refrigerants are just two of the many ways we're promoting a more responsible future. In fact, we are committed to transitioning all Rheem air conditioning products in the US to low-GWP refrigerants by 2025, in line with expected regulations. To help ensure those regulations strike the right balance, we've assumed a leadership role on the Alliance for Responsible Atmospheric Policy, the refrigerant industry advocacy association. Rheem's overarching regulatory goal is to encourage responsible, reasonable and cost-effective climate change policies as we begin shifting to environmentally-friendly refrigerants.

#### **66** By improving the environmental *impact and lifecycle* of our products,

we're meeting customer demand and supporting a brighter future for all. **J** 

**Barbara O'Reilly** GENERAL MANAGER, CANADA



## the changing landscape of energy efficiency standards

We recognize the significant energy demand and associated emissions from the HVACR and water heating sectors. And Rheem is playing a leading role in the industry by ensuring our products meet or exceed the minimum efficiency standards and offering a robust product portfolio of ENERGY STAR®-certified and high-efficiency-rated systems. As the standards evolve, our product offerings will evolve right along with them. So we'll continue to develop new products with the highest efficiency feasible and adjust existing products to bring them up to the new standards.

At Rheem, we engage policymakers and regulators on ways to best and most cost-effectively decarbonize building system products. We also advise how product design, installation, operation and maintenance of HVACR and water heating equipment may inform long-term national commitments to reduce net greenhouse gas emissions. Regulators use a variety of policy tools to take long-term steps toward decarbonization, referred to as "net zero" carbon emissions. In the past decade, nearly all major world economies have committed to reduce greenhouse gas emissions. In every market Rheem serves, we are working to ensure policymakers have the information necessary to plan for this decadeslong transition. We believe this transition requires long-term incentives, customer awareness and information campaigns. It also requires clear regulatory guidance to ensure that the manufacturers who create, contractors who install and customers who operate these systems can all do so confidently.

**66** At Rheem, we strive to influence global climate change policies and product regulations for the health of our planet and future generations.

> Karen Meyers VICE PRESIDENT, GOVERNMENT AFFAIRS



### EMBIZACING SUSTAINABILITY ON A GLOBAL SCALE

Our expertise, product portfolio and commitment to sustainability are empowering governments, developers, utilities and homeowners to embrace a low-carbon future.

#### Intergas<sup>®</sup>, a Rheem company, is providing

measurement, data and cloud products to power a Dutch government field test project of 200 hybrid heat pumps. By making the case for hybrid heat pumps, Intergas could help the Netherlands achieve the European Union's 2030 carbon emissions reduction goal of 55%, while unlocking a huge market opportunity.

Rheem's Solahart® brand, which has sold solar water heaters since 1953, leads the Australian renewable energy market with new smart water heating and energy storage solutions. In the first project of its kind in the country, the Australian Renewable Energy Agency (ARENA) and the South Australian Government funded a nearly \$4 million test that uses Solahart equipment. To attempt to smooth the load on the state's electricity grid, the test is leveraging a mix of 2,400 Solahart water heaters and retrofit devices as thermal batteries.

In the Middle East and Africa, our products and record of sustainability allowed Rheem to be selected to deliver HVAC for the world's most ambitious regenerative tourism development, a low-carbon villa project and the World Expo in Dubai.

**Rheem MEA's Director, Product and Marketing** Strategy, Srinivasan Rangan said, "In many of our deals, sustainability is a key success factor. Rheem's product roadmaps have a robust message of sustainability, and partners see the investments we're making."

We're excited to see the domino effect that these opportunities and partnerships create for Rheem businesses globally, for both our customers and for the health of our environment.





## training global sustainability stewards

Through our training programs, we inform our trade partners not only of the features and benefits of our sustainable products, but also of environmental best practices. And we take that a step further, demonstrating how environmental stewardship isn't just good for the planet-it's good for business.

We know that to effect real change, within our industry and in our world itself, we must continue to reach out to the up-and-coming plumbers, contractors and key influencers to share with them the importance of sustainability. So, in addition to training professionals on how to install our intelligent products, we donate advanced equipment to high schools, technical schools and colleges-because tomorrow's global improvements start today.

**General Section 2018 Control of Control o** Helping them understand, sell and service sustainable products will significantly accelerate adoption.

**Stacey Gearhart** GLOBAL VICE PRESIDENT, PRODUCT MANAGEMENT AND MARKETING



**KEY PLUMBERS** CONTRACTORS AND **INFLUENCERS BY 2025 IN THREE MAIN AREAS:** 

Sustainable product features and benefits and how they will improve customers' everyday lives

Sustainable best practices, including installation, servicing and end-of-life recycling

Rheem's overarching sustainability goals and vision on how sustainability can elevate their business

# 2023 projection 2022 projection

149,566 trained 2019 - 2020 76,889 trained

rojectio

2024 projection

### SUSTAINABILITY TRAINING FORECAST FROM 2019-2025

#### 149.566 TRAINED TO DATE

• Projections show we will meet our 250,000 Sustainability Training Goal in 2023.

In September, Rheem<sup>®</sup> China opened a new Innovation Learning Center (ILC)—a learning environment with interactive classrooms, live demonstration labs and virtual reality stations-in Nanjing. By adding a second ILC in China, we're able to expand our potential audience for sustainability training significantly. In welcoming Friedrich® into the Rheem family of brands, we also added another training facility to our portfolio, the Friedrich Design and Development Center. In addition to our ILCs, we have products installed at affiliate sites for product training.

### MAKING PROGRESS THROUGH CONTINUED SUSTAINABILITY TRAINING

When it comes to our global sustainability training, we focus on familiarizing installers with the advanced technology of newer, highefficiency products and reeducating distributors, contractors and plumbers to think beyond the traditional setups.

A key factor is the push toward electrification and decarbonization in many markets, which is altering the products that trade professionals William Doyle, a Rheem Pro Partner and President / CEO can promote and install. As a result, we're emphasizing heat pumpsof Allied Experts, said, "Ninety percent of the air and water products for both air and water-in our training. Heat pumps are especially we install are Rheem because they help deliver environmental benefit, useful in dual-fuel furnace / heat pump and water heater / heat pump savings, comfort and top rebates from utility and state programs. More configurations, giving homeowners an entry point into sustainability and more customers are concerned about the environment, so offering that's not very different from the traditional systems they know. the most sustainable solutions in the market is a key differentiator."

Tyson Redfern, a Ruud<sup>®</sup> Pro Partner and owner of Gresham Sustainability training empowers heating & cooling and water Heating and Air Conditioning, said, "High-efficiency heat pumps are a heating professionals to feel comfortable educating homeowners powerful offering and an important part of the future of electrification. on the numerous ways our sustainable products can benefit both Training on these products provides the understanding contractors them and the planet.





**ff** The training team's incorporation of sustainability stewardship into curriculum was impressive in speed and significant in its long-term impact with plumbers. **J** 

**Greq Miller** SENIOR VICE PRESIDENT AND GENERAL MANAGER, US WATER HEATING DIVISION

## 2021 accomplishments

In 2021, we set a goal to increase the number of our trainings that include sustainability by 10%, and we met and exceeded that goal by 28%. During the year, we added a new commercial stream of training. We also began updating our training materials across our US businesses with product sustainability elements-Sustainability Standouts and Carbon Reduction Designations-to make it easier for our trade partners to identify and sell sustainable products.

> need in order to educate homeowners and accelerate adoption." Selling products with a great sustainability story distinguishes contractors and plumbers in the marketplace and positions them as knowledgeable, cutting-edge and environmentally responsible professionals.



Launched in 2021, our GoodWorks program-which promotes sustainability engagement, alignment and accountability across our global operations-grew to 17 businesses by year's end. The program gives Rheem® employees a platform for making a difference inside our company and in the world at large. We empower our employee volunteers, called GoodWorks Explorers, to ideate on sustainability and ultimately share their ideas with local sustainability leaders, or GoodWorks Ambassadors. The ideas are then amplified and refined on their way to business unit steering committees for implementation.

GoodWorks Explorers, Ambassadors and other employees from around the globe came together virtually for the inaugural Global Sustainability Summit in December. With hundreds of employees in attendance, the two-day event included opportunities for ideating, sharing progress and learning about sustainability in and beyond Rheem.

for the

ENVIRONMENT.

#### RHEEM PLANTED GoodWorks 3,240 is an impactful program Rheem Chile switched to HTPG that increases sustainability eliminated 100%trees awareness among employees, DISPOSABLE CUPS their families and ultimately the in deforested areas around the world and provided employees with a whole community. with One Tree Planted in honor of our reusable solution. ROBERD TJIAM. GLOBAL SUSTAINABILITY SUMMIT GoodWorks Lead, Rydalmere, Australia attendees 2022 focus GoodWorks Explorers at Rheem MEA's RHEEM'S NUEVO LAREDO **GOODWORKS EXPLORERS, GOODWORKS EXPLORERS** manufacturing facilities planted in Dubai to expand the GoodWorks program to even more global locations. 5()inspire colleagues to 2.5 tons "do one thing" trees

Gour GoodWorks initiative has allowed us to really infuse the passion for sustainability into Rheem's DNA, and this starts with our people.

**Dipa Homer** EXECUTIVE VICE PRESIDENT, GLOBAL HUMAN RESOURCES AND COMMUNICATIONS

every

employee

at a local park to support

their community.

Rheem Sustainability Progress Report 2021

rainwater

FOR TESTING AND WASHING

US Air Conditioning Division GoodWorks Explorers are replacing paper towel dispensers with hand dryers TO CONSERVE PAPER AND

reduce waste.

US Water Heating Division GoodWorks Explorers share weekly

Wasteless WEDNESDAY

tips with coworkers.

passion who don't want to spend a day without having an impact and making a difference for

We are people with

a better tomorrow.

ELIAS HERNANDEZ, GoodWorks Lead, Nuevo Laredo, Mexico

In 2022, we will update even more training materials with product sustainability elements in markets around the globe. In addition, we plan to launch a new learning management system for training, pilot a sustainability certification for the US Water Heating Division and create a closed-loop process to continually increase the effectiveness of our training. We're also planning



## designing sustainable solutions

Since our products are by far our largest environmental impact, we have a responsibility to build sustainability into every phase of product design. To help minimize the environmental impact of our products, we launched a global air and water decarbonization initiative in 2020. By dedicating a team solely focused on decarbonization, we will ensure we meet our bold 2025 product goal.

## 2021 accomplishments

In 2021 we made significant progress on the global rollout of the sustainability elements we developed in the previous year to promote sustainable product design and communicate our sustainable

product attributes to consumers. These elements include:



- Sustainability Strategy Sessions Interactive meetings with the extended launch team at the start of the product development process to ideate on sustainable improvements to new products



 Carbon Reduction Designation – An icon system designed to show how our sustainable products compare to their baseline counterparts in terms of

 Sustainability Standout<sup>™</sup> Seal – A designation to make it easier for customers and professionals to find the best of the best among our sustainable product offerings

carbon emissions reduction

In the first phase of rolling out these elements, we helped US teams determine their criteria for the Sustainability Standout Seal and showed them how to capture carbon reduction impact. We also trained stakeholders and provided them with the required resources to employ a lifecycle perspective to sustainable product design

#### Healthy Building Focus + IAQ Innovation

To address the increased focus on indoor air quality (IAQ) and other factors that contribute to a healthy home or office environment, Rheem® built a team to develop innovative products that make the air we breathe cleaner and healthier. One such product, already deployed at several Rheem facilities, is an air sanitization unit that is approximately 99% effective in disinfecting the droplets that spread COVID-19. Peoplepowered innovations like this are helping us become a leader in comfort that goes beyond heating and cooling.

#### **Engaging with Sustainable Suppliers**

We're always communicating with our suppliers about our sustainability initiative and exploring how we can strategically support each other's sustainability goals. In addition to one-on-one meetings, we host an annual supplier summit. There, we collaborate and develop strategies for reducing waste, improving quality and lowering our collective environmental impact throughout the full lifecycle of our products.

**Energy transition and the digital** transformation are coming together in our business. It's all about innovation. **J** 

Peter Cool CHIEF TECHNOLOGY OFFICER, INTERGAS

## 2022 focus

Across our air and water divisions, we will launch products with sustainability features in 2022, including expanding the award-winning ProTerra® line of heat pump water heaters. We will also continue the global rollout of our product sustainability elements to make finding the "best of the best" easier for customers everywhere.

## products spotlight



Rheem Australia Commercial Heat Pump System: Aids businesses in their decarbonization efforts by drawing energy from the air to heat water-saving up to 75% on water heating costs.

Friedrich® VRP Studio: Precision Inverter® technology helps property owners save up to 60% on operating costs with high efficiency cooling and low-ambient heat pump operation.

Rheem LATAM Wall Mount Water Heater: Al-Smart function built into this electric tank learns homeowners' habits to heat water only when needed, reducing electricity usage up to 30%.

## industry sustainability innovation awards



### DECARBONIZATION DRIVING HEAT PUMP ADOPTION

Rheem is on the front lines of research and development of air and water heating products that use alternatives to fossil fuel to reduce carbon emissions. One technology-heat pumps-is particularly important to decarbonization efforts.

Heat pump products can deliver comfort equivalent to gas furnaces and gas water heaters, but with much less environmental impact by reducing carbon emissions. Rather than relying on greenhouse gas-emitting combustion systems or continuously using high current draw electric resistance coils, heat pumps take heat energy from the air around them and transfer it to air or water utilizing the vapor compression refrigeration cycle, offering much higher efficiency and thus lower emissions.

Heat pumps are critical in our overall strategy. As Tim Shellenberger, Rheem's VP, Product Engineering, explained, "Decarbonization is the number-one priority at Rheem. Our businesses around the world are laser-focused on R&D to reduce carbon emissions from our products."

Chris Day, Rheem's VP, Product Strategy and Engineering, is confident that this focus will pay dividends for the planet and our customers. "With our current slate of heat pumps and innovative products in the pipeline, we're poised to respond to new regulations and legislation requiring the reduction of fossil fuels," Chris said. "Rheem's air and water businesses are committed to working together and leveraging the best technologies globally to meet these goals."



**66** Whether in the engineering lab, on the factory floor or in the sales office, sustainability is front and center in everything we do.

**Faroog Mohammed** VICE PRESIDENT, GLOBAL COMMERCIAL BUSINESS

AWARDS

IANUFACTURER SUPPLIER OF THE YEAR Inverter and VRF

2021 BRONZE AWARD HTPG Slim-Temp ASLA / ASLE Unit Cooler

AUSTRALIT DE TRET **BEST TESTED** IN THE Intergas® Xtreme Boiler



AWARD ProTerra® Hybrid Electric Heat Pump Water Heater HONORABLE MENTIONS RP20/R98V/Maximu



## reducing greenhouse gas emissions

From the moment we set our greenhouse gas (GHG) reduction goal in 2019, we've been working to reduce total GHG emissions in our manufacturing operations by 50%, as compared to our 2018 baseline, by 2025. This goal includes:

SCOPE





Direct emissions from owned or controlled sources

Indirect emissions from the generation of purchased energy

Indirect emissions that occur in the value chain and can include both upstream and downstream activities

**GLOBAL EMISSIONS BREAKDOWN BY SOURCE** 

2021 accomplishments

\*Includes process fuels and onsite vehicles. Percentages based on tCO<sub>2</sub>e (metric tons of CO<sub>2</sub> equivalent)

In the third year of our sustainability program, Rheem<sup>®</sup> expanded upon our base-year (2018) global greenhouse gas inventory to include data for 2019, 2020 and 2021. Many of our sites are leveraging this information to make measurable improvements, including equipment



**It's important we travel every reasonable path toward GHG** emissions reduction, from strategically selecting our energy partners to exploring internal and renewable generation to simply reducing our delivered, per-unit consumption. **J** 

**Terry Davenport EXECUTIVE VICE PRESIDENT, GLOBAL OPERATIONS** 

replacements, LED retrofits and a photovoltaic solar installation. In fact, through energy efficiency retrofits across our global facilities alone, we saved over three million kWh and offset more than 2,000 tCO<sub>2</sub>e emissions-equivalent to planting 35,000 trees.

On the air side, a cross-functional team at HTPG applied capacity modeling, reliability assessment and energy auditing to identify and implement a project to replace hydraulic equipment with servo-electric. In addition to significant energy savings and emissions reductions (180 tCO<sub>2</sub>e annually), this project tripled productivity and improved safety for operators who no longer handle large sheets of metal manually. Meanwhile, our Mexicali, Mexico water heating facility invested in the installation of 1,100 solar panels, which will provide approximately 800,000 kWh per year of clean energy when completed in early 2022.

To promote shared learning on process improvement projects like these and many others that are advancing us to our 2025 goal, we launched quarterly global meetings for our GHG ambassadors. We also streamlined our GHG data reporting process by training GoodWorks Ambassadors on reporting in our sustainability portal.

Additionally, we kicked off a lifecycle assessment (LCA) project at our Fort Smith, Arkansas plant to generate insights on the holistic lifecycle impacts of our products. Once completed, the robust data from this ongoing study will be instrumental in advancing sustainable products, processes and systems design at Rheem.

# 2022 focus

In 2022, we plan to further customize our platform for GHG emissions calculations to generate more timely emission insights. We will complete our LCA pilot at Fort Smith and look to apply learnings to other Rheem facilities across the globe. In addition, we will kick off a demandand supply-side energy management program to facilitate clean energy sourcing and increase energy efficiency in our plants' processes. Finally, our global air and water sites will create a task force to identify ways to continually reduce our fugitive refrigerant emissions.



**Fowering our manufacturing plant** in Chile exclusively with renewable resources is a big step toward achieving our greenhouse gas reduction goal.

Jose Manuel Barroso VICE PRESIDENT AND GENERAL MANAGER, LATAM

#### (LEAN ENERGY FOR A CLEANER TOMORROW

Making strides to reduce carbon emissions requires a multifaceted approach. We took a big step forward in our efforts to shrink our carbon footprint when we signed an agreement with Chile's Enel Generación to meet 100% of our Chilean plant's electricity needs with renewable resources. Since June 2021, Rheem's plant in Santiago-the largest water heater plant in the region-has run entirely on clean energy. This impacts not only the carbon footprint of our production, but also the embodied carbon of our products being delivered to customers.

To achieve this, Enel Generación introduces 2.02 gigawatt-hours of solar, hydroelectric and geothermal energy annually into Chile's National Electric System (SEN). The SEN then provides the electricity needed to power Rheem's operations. This clean energy is certified by International Renewable Energy Certificates (I-REC), a standard recognized by the global Greenhouse Gas Protocol.

Rheem's Sustainability Coordinator for Chile's manufacturing plant, Pilar Lopez, explained that in local factories and homes, it is uncommon to purchase clean energy. Said Lopez, "We are proud and excited to be one of the few manufacturing companies in Chile leading the clean energy transition."

With the support of Enel, Rheem is now able to provide our Latin American clients with dependable, energy-efficient products that deliver the same powerful, innovative technology with less impact on the environment.



## achieving zero waste to landfill

Zero Waste to Landfill (ZWTL) is more than a goal. It's a promise that we will engage in responsible use of resources to ensure that we consume only what we need and make the most of everything we have. It's a combined effort of redesigning, refusing, reducing,

reusing, recycling and composting all that we can until the only output of the manufacture of our products is our products.

As we travel the path to 2025, we're getting a clearer picture of what ZWTL truly means. We define it as diverting 97% of our non-hazardous solid waste away from landfills and incinerators, with up to 7% of that processed with waste-to-energy technology. It's an aggressive goal, and one that requires a concerted effort from all those involved in our production processes. To ensure continuous progress, we will continue to track and periodically audit site data and waste management practices, recognizing manufacturing sites that achieve and maintain ZWTL status.



**G** By prioritizing zero waste in our vision at Rheem, we can positively impact future generations with less trash in landfills. **9** 

MARK EVANS VICE PRESIDENT AND GENERAL MANAGER, HTPG



## 2021 accomplishments

We completed diversion rate baselines and tracked improvements at all our active global manufacturing sites. This helped us create customized waste reduction strategies and goals for each global site, and our GoZero! program is now active at 12 locations. To further inform our waste diversion strategy, our local team completed an in-person ZWTL site audit in Australia.

Rheem® sites around the globe have found ways to do more with waste than simply sending it to a landfill. At our Mexicali, Mexico, plant, GoodWorks team members identified a local recycler for a high-volume waste product at the facilitywaxed paper. The site is now sending an average of 2.6 tons of waxed paper per month for recycling. Our Australia sites have begun reprocessing sludge to make it ready for industrial composting, while also diverting treated timber waste and used gloves to waste-to-energy plants. Helping people while helping the planet, Australia began segregating cans and bottles for recycling and donating the recycling rebate to MS (Multiple Sclerosis) Australia. To make it easier to process waste for recycling, Rheem installed balers at two facilities, for cardboard at our Eemax site and plastics at our Fort Smith plant. Our Eemax, Lewisville, Fort Smith and Australia sites replaced paper towel dispensers in favor of hand dryers to reduce the purchase and waste of paper products. These are just a few of the many ways our sites are diverting waste and avoiding creating it in the first place.

## 2022 focus

In the coming year, we plan to expand our GoZero! program and finalize ZWTL charters globally. We will continue to complete in-person waste audits at our global sites. And at all our facilities, we will continue to promote behavior change centered on creating a culture of zero waste.

### TO THE LAND-INSTEAD OF THE LANDFILL

Efforts to meet our Zero Waste to Landfill goal at all our manufacturing facilities are extending beyond the factory floor. The spirit of wasting less recently spurred a composting program at our Raypak<sup>®</sup> facility in Oxnard, California. Upon observing that the onsite cafeteria was sending loads of waste to landfills, GoodWorks team members recognized an opportunity to turn that trash into treasure.

In early October, Raypak implemented an Earth Cube composting system. After just a few months, the facility was diverting a quarter of its food waste, along with manufacturing sawdust, and turning it into rich fertilizer.

**Raypak's Industrial Engineer, Hector Herrera**, said they are on track to convert 3.6 tons of organic waste annually—equivalent to the weight of two midsize cars.

Raypak has already put the compost to good use, incorporating it into the soil for landscaping around the facility's grounds. Herrera estimates that as they divert more and more material, they will generate more compost than they can use.

This will give Raypak the opportunity to offer the nutrient-rich compost to employees to nourish their own gardens and to local nurseries to support the surrounding community.

For now, Raypak has started small but is thinking big. As **Director** of **Operations Art Markaryan** said, "We're going to work toward diverting 100% of our food waste from landfill. Our goal is always to shoot as high as possible."

**Sustainability is not just** about implementing a series of initiatives; it's about changing the way we all think and behave at work and at home. **J** 

CHRIS TAYLOR MANAGING DIRECTOR, ANZ





Visit **Rheem.com/Sustainability** to learn more about how Rheem's commitment to sustainability benefits the environment, customers and home & business owners.



We are committed to delivering A Greater Degree of Good<sup>™</sup> across the globethrough our intelligent products, responsible processes and inspired people.