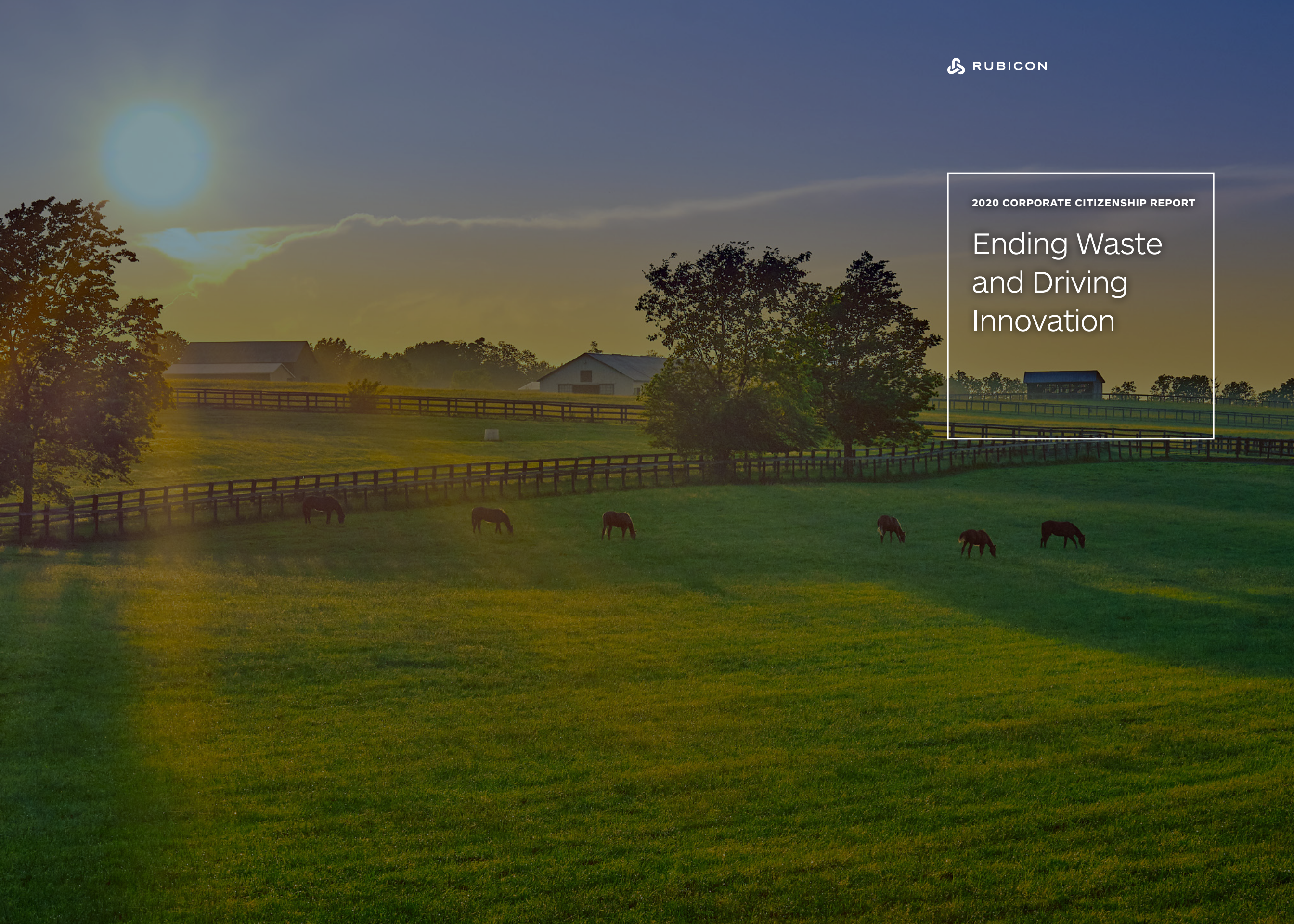


2020 CORPORATE CITIZENSHIP REPORT

Ending Waste and Driving Innovation



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Letter from Rubicon's CEO

Over the last eighteen months, we have learned much about the fragility of life and discovered the resiliency of America. In dealing with the pandemic and the devastation it has caused, I am so proud of Rubicon, our people, and our mission.

At Rubicon, we are building something special. We can and *will* end waste. This past year and a half has made it clear that nothing, not even a pandemic, can stop us.

We never stopped innovating. We rolled out new products and services. We built our network and our scale. We changed minds. We educated the next generation. We helped drive new outcomes.



We can and *will* end waste. This past year and a half has made it clear that nothing, not even a pandemic, can stop us.

That is what it will take—progress, innovation, and intense focus on the next challenge. We have to be on task every day of every month of every year—even when other urgent issues demand our attention. After all, this is the right time to solve the critical problem of waste.

Rubicon switched almost immediately to remote operations and became a remote-first enterprise. We built the tools we needed to manage our business, and we produced incredible value for our customers. We made it possible for our partners—small haulers who rarely have long-term, stable contracts—to be economically resilient during the pandemic on the strength of the major national contracts we provided them. We helped government leaders build efficiency into their waste removal infrastructure. We closed the gap of services—especially waste removal and recycling services—within various socioeconomic sectors of our economy. We delivered proven, relevant, job-creating solutions to the public and private sectors. And we drove this innovation from our homes across the country, with a network of employees, haulers, and essential customers.

Our future depends on maintaining this focus and momentum. Environmental issues are currently at the forefront of priorities in the United States and around the world, but they have been the cornerstone of Rubicon's DNA since its founding. We believe that expanding the parameters of corporate citizenship is essential to our innovative character, which includes national security for America, economic empowerment for the American worker, and responsibility to the American taxpayer. At Rubicon, we believe that every company and organization has a responsibility to manage their waste impact—and we know they agree. We are helping knowledge-sector companies better manage their electronic and digital waste. We are helping food and consumer goods companies find second lives for their organics. We are reducing the health and economic impacts of waste in neighborhoods and communities of underrepresented groups often hit hardest by environmental degradation.

Rubicon is taking an active role in stimulating an essential discussion about the national security risks attached to waste, whether it is the issue of e-waste and data security, or the impact of waste on scarce fresh water supplies.

We are returning to the birthplace of our company with our new headquarters in Lexington, Kentucky. This decision was driven by our firm faith in America's ability to renew itself, and Rubicon will be a part of a new story of prosperity that will be driven outside the coastal boundaries. We see significant opportunity in the interior of this nation, not only in the biggest cities, but also here in one of the most storied and historic regions of the country—we look forward to making Lexington our home for many years to come.

Everywhere, people are waking up to new and more responsible choices when it comes to waste. The old “burn or bury” model—as old as the ruins of Rome—is no longer the only choice. We can reduce waste and create a circular economy today. Rubicon is demonstrating that market forces are driving these outcomes and processes.

All of these concepts have limitless opportunities. We at Rubicon are so excited to be shaping them every day—and we have never felt more certain in our vision and mission. Please join us on this journey.





Sincerely,



NATE MORRIS
FOUNDER AND CEO
RUBICON

About Rubicon

Rubicon is a software platform that provides smart waste and recycling solutions for businesses and governments worldwide. Creating a new industry standard by using technology to drive environmental innovation, the company helps turn businesses into more sustainable enterprises, and neighborhoods into greener and smarter places to live and work. Rubicon’s mission is to end waste. It helps its partners find economic value in their waste streams and confidently execute on their sustainability goals.

<p>2021</p> <p>8 million</p> <p>USER SERVICE LOCATIONS</p>	<p>2021</p>  <p>HYBRID WORK MODEL</p>
<p>2018 – 2022</p> 	<p>2012 – 2021</p> <p>Certified</p>  <p>Corporation</p>
<p>2021</p> <p>50+ patents</p>	<p>2021</p> <p>20 countries</p>
<p>2021</p> <p>50 states</p>	<p>SOCIAL MEDIA</p> 

The COVID-19 Pandemic

Nobody was spared the virus's impact. It was an external event that made clear that we share a common future on this globe, and when a crisis occurs, every aspect of society—national, regional, local, institutional, corporate, nonprofit—is responsible for building a sustainable, equitable, and resilient future.

But as challenging as it has been, COVID-19 will be a relatively short stint in time—one with a fixed beginning, a difficult middle, and, we hope, a final ending.

This is not true for the waste crisis. These challenges will be with us for the foreseeable future but, if we uphold our commitment to our customers and meet our own internal goals, subsequent generations will reap the benefits.

Though the environmental challenges preceded us, we nevertheless must be part of the solution. All of us are accountable. All of us can do better. And here at Rubicon, we intend to make our mark with bold action, fresh thinking, and new solutions—an approach that is already producing measurable results.

We are fortunate to be building this company and the movement to end waste at a time when we have the full attention of the business leadership community. In today's world, corporate citizenship is an integral part of strategy, informing leadership, investment, and operational decisions, as well as driving business transformation and measurement outcomes.

These issues are driving business leaders to think and act differently. They are central to the purpose of for-profit companies and corporate citizenship.

Rubicon is, at its heart, a company dedicated to improving the world. What we do addresses one of the biggest issues over which companies and businesses have significant control. Waste is a choice—and for years, it was believed to be the most efficient choice. We now know that is not true. We have other, better choices that directly contribute to both operational efficiency and profitability.

Our business model seeks to address two related environmental challenges. We need to reduce emissions to stave off catastrophic environmental challenges, and we also need to transition to a model of economic activity that makes far better use of our natural resources to support the world's economic needs. Our goal is to establish tools to help do both.

We have set ambitious goals. **In emissions, we are aiming to achieve net zero annual carbon emissions by 2040.** In 2020 our emissions (Scope 1, 2, and 3) totaled 2.34 million MTCO₂e. Nearly all of those emissions were Scope 3 emissions largely stemming from transporting and managing our customers' waste. These Scope 3 emissions declined by 13 percent in 2020 due in large part to the impact of the pandemic on economic activity globally. Given the complexity of this undertaking, we are building a credible and sustainable roadmap by 2025 to achieve net zero emissions by 2040. The roadmap and our efforts will be focused on three critical areas of opportunity:

- 01 Decarbonizing the hauler and recycling network:** With greater efficiency, use of alternative fuels, and other measures, we believe we can turn an emissions-intensive activity into one with neutral emissions impact.
- 02 Continuing to reduce landfill dependence:** We aim to remove hundreds of thousands of metric tons of carbon dioxide from annual emissions through recycling and other landfill alternatives. Doing so will take planning, innovation, and cooperation with our customers.
- 03 Promoting circular economy practices and infrastructure:** Recycling and circularity are critical to the goal of ending waste as we know it. By connecting recyclable users to recyclable producers and their materials, we aim to be the market maker of the circular economy.

Our work depends greatly on the strength of social and governance functions and institutions. We have an active environmental, social, and governance (ESG) Committee made up of a diverse team that guides our development of goals and action plans to assure proper reporting and governance. In addition, the committee works closely with our Sustainability and Human Resources teams to help us maintain vigorous Diversity and Inclusion programs.

Our goal is to act on our responsibility with the resources and opportunities we have as corporate citizens. We will meet our corporate standards as any business meets any metric: By proving it every day, and then raising the bar. This report shows what we have done and where we are going.

This report outlines the pillars of our sustainability strategy, our 2020 and 2021 accomplishments, our near-term priorities, and the foundations we are laying for our action moving forward.

Materiality assessment: Our role to play

There are many ways to define Corporate Citizenship, and it is critical for a company to focus on the ones most material to its business operations and competitive landscape. As such, one of the more important organization-wide activities we undertook in 2020 was to conduct a formal materiality assessment to provide all of our stakeholder groups an opportunity to tell us what kind of value, broadly speaking, we should be creating through our business operations.

The assessment included topics from the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI) Sustainability Reporting Standards. We established key sustainability issues, which were ranked by 26 internal and 21 external stakeholders through a survey—and for additional input, our outside provider, Quantis, conducted 10 interviews across 21 participants.¹ The assessment helped us create a focused, structured approach to environmental impact metrics.

They fall into three broad categories of focus:

📈 PROSPERITY

Items closely linked to our business practices

- Transparent reporting on sustainability goals
- Customer expectations for meeting their own ESG goals and setting sustainable practices
- Responsible sourcing and procurement practices

🌍 PLANET

Items closely linked to environmental outcomes

- Reducing greenhouse gas (GHG) emissions
- Reducing food waste and promoting composting
- Supplier assessment using environmental criteria

👤 PEOPLE

Items closely linked to our team and our culture

- Providing adequate benefits for employees
- Promoting diversity and practicing non-discrimination
- Identifying risks to data services and security
- Promoting a corporate culture of learning, inclusion, and professional growth

Each of these items has corresponding metrics so that we can establish a baseline of performance, set goals for improvement, and monitor performance to promote accountability. In certain cases, the materiality assessment highlights an area where we had established a range of practices and outcomes. In other cases, the assessment has prompted us to set goals. In short, we undertook this process to point us to those areas where we could provide the most value for stakeholders in the future.

Materiality matrix: Impacts of Rubicon— GRI compliant matrix

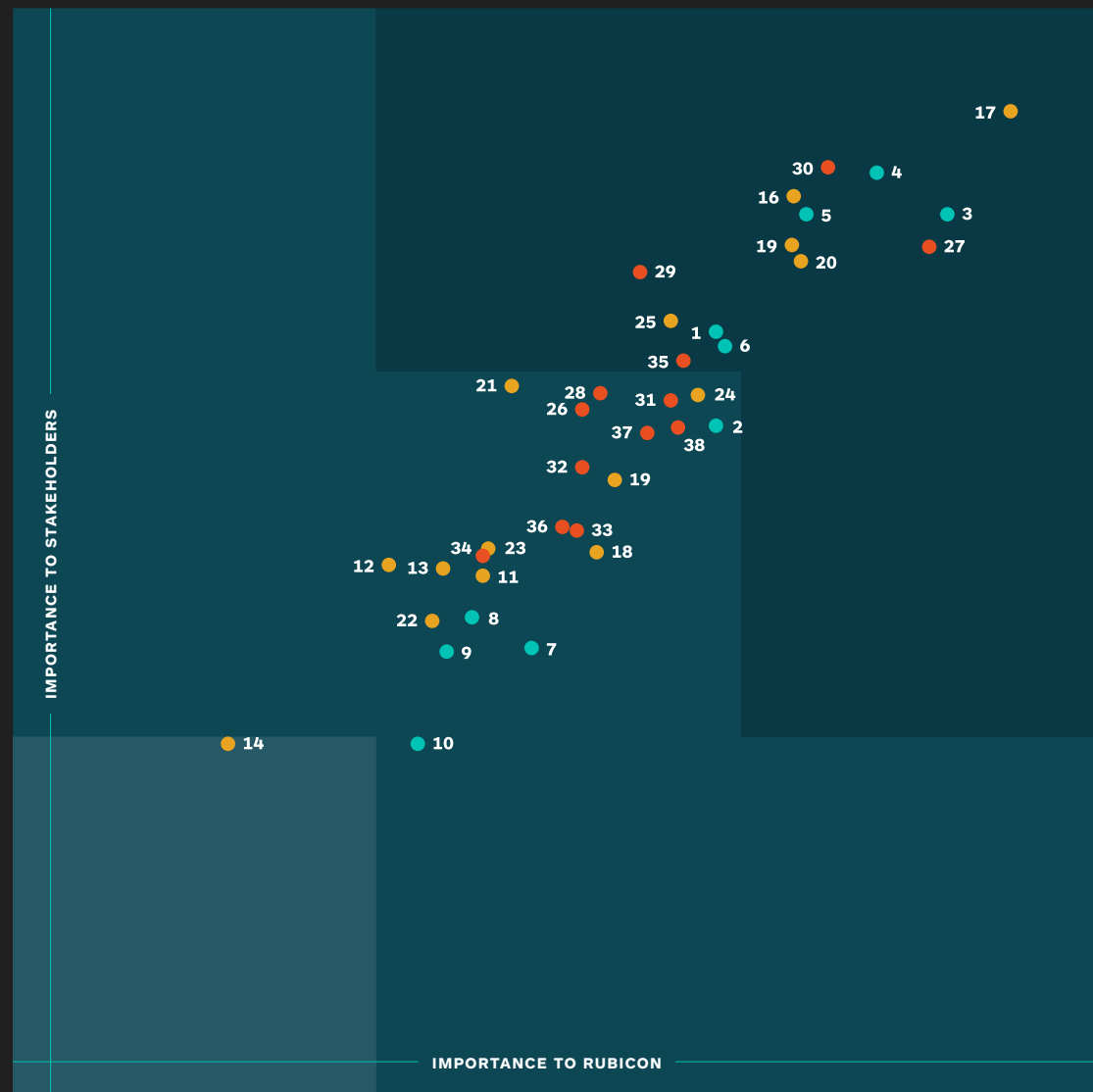
INTERNAL STAKEHOLDERS

Employees from various departments were involved and asked to fill out the questionnaire.

EXTERNAL STAKEHOLDERS

External views were gathered from various stakeholders such as: Board of Directors, Partners, Suppliers, Customers, Cities

- PROSPERITY
- PEOPLE
- PLANET



- 01** Economic performance: Financial implications and other risks and opportunities due to climate change
- 02** Economic performance: Direct economic value generated and distributed
- 03** Market presence: Addressing customer concerns over sustainable practices
- 04** Market presence: Leading the way toward sustainable environmental, social, and governance (ESG) business practices, in partnership with suppliers and retailers
- 05** Transparency: Transparent performance reporting and communication
- 06** Procurement practices: Use of responsible procurement and sourcing practices
- 07** Anti-competitive: Taking measurements against anti-competitive behavior
- 08** Anti-corruption: Operations assessed for risks related to corruption
- 09** Marketing and labelling: Incidents of non-compliance concerning product and service information and labelling
- 10** Tax: Tax governance, control, and risk management
- 11** Energy: Use of energy in own operations
- 12** Energy: Use of energy outside of Rubicon operations
- 13** Energy: Implementing structured energy reduction practices
- 14** Water: Water use and water use reduction
- 15** Emissions: Measuring greenhouse gas (GHG) emissions
- 16** Emissions: Reduction of greenhouse gas (GHG) emissions and reduction targets
- 17** Waste: Proper transportation, handling, and recovery of waste and recycling streams
- 18** Waste: Waste processed as waste-to-energy
- 19** Waste: Food waste processed as waste-to-energy
- 20** Waste: Food waste processed as compost
- 21** Transport: Use of alternative fuel vehicles in hauler network
- 22** Transport: Employee business travel (considering mode of transport, frequency, and distance)
- 23** Biodiversity: Identifying and reducing significant impacts of operations, solutions, and the entire value chain on biodiversity (the variety and abundance of life)
- 24** Environmental compliance: Monitoring and solving incidents of non-compliance with environmental laws
- 25** Supplier environmental assessment: New suppliers screened using environmental criteria
- 26** Employment: New employee hires and employee turnover
- 27** Employment: Providing adequate benefits for full-time employees
- 28** Training and education: Upgrading employee skills and tracking training time
- 29** Diversity and equal opportunity: Having diverse governance bodies and employees
- 30** Non-discrimination: Recording and taking action against discrimination
- 31** Local communities: Operations with local community engagement, impact assessments, and development programs
- 32** Local communities: Operations with significant actual and potential negative impacts on local communities
- 33** Product safety and quality: Incidents of non-compliance concerning the health and safety impacts of products and services
- 34** Supplier social assessment: Ensuring suppliers have gone through a social assessment
- 35** Corporate governance: Corporate governance, control, and risk management
- 36** Data privacy: Transparent description of policies and practices relating to behavioral advertising and user privacy
- 37** Data security: Transparent approach to identifying and addressing data security risks, including use of third-party cybersecurity standards
- 38** IP protection and competitive behavior: Management of intellectual property protection and anti-competitive business practices

SECTION 01

Waste and recycling in the circular economy

Waste is a direct outcome of the way our global economy currently works, but it is becoming clear that waste also threatens the way in which it needs to function in the future.

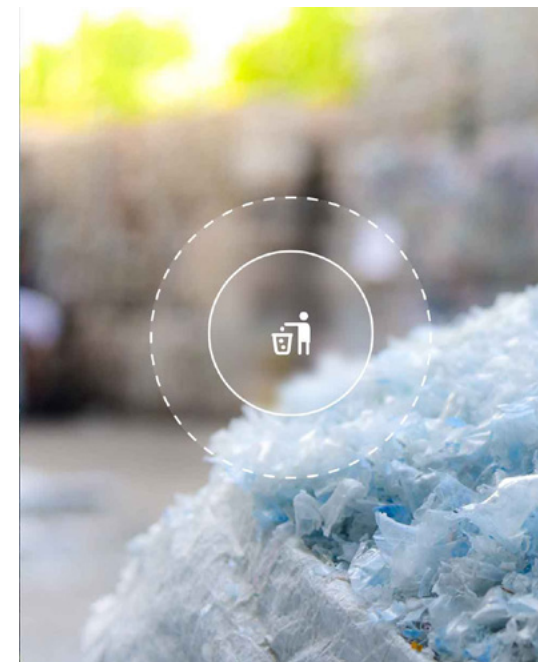
The world produces more than two billion metric tons of municipal solid waste each year—a figure that is estimated to grow by 70 percent by the year 2050.²

Throughout history, people believed that our only choice was to burn or bury this waste—and several industries and businesses grew out of that assumption. But waste is also undermining our way of life. Plastic, microbeads, and other toxins end up in our water and in the food we eat. The damage incurred by harmful byproducts of waste can last for centuries. As waste degrades, it gives off emissions that threaten our quality of life and the world's ecosystem.

We believe there is a better way: More recycling, more reduction of waste at its source, better and more efficient handling of waste, and more innovative approaches to building a circular economy at scale. A circular economy encourages and rewards the reuse of natural resources and man-made materials.³

At the core of our business, Rubicon seeks to support the creation of a circular economy.

We help governments and businesses avoid the increased costs and measures required to reduce and remove waste and increase recycling—funds that can be redeployed elsewhere.



+70%

estimated growth
by 2050

2 billion

metric tons of municipal
solid waste each year
produced by the world

OUR HAULER NETWORK

Haulers are at the heart of our efforts, and we are proud to be their champion. We have thousands of suppliers providing recycling, upcycling, and reuse services, and we intend to continue to grow that network annually.

These haulers do not enjoy the same kind of stable, long-term contracts that the major national haulers have. In fact, during the COVID-19 pandemic, many small haulers have been at risk of going out of business, as traditional customers—restaurants, retailers, small businesses—reduced their contracts amid a steep decline in business activity. We were able to stabilize the revenue base of small haulers by connecting them to contracts with our national customers, such as Best Buy (BBY) and Starbucks (SBUX). By putting our network to work on these national contracts, we were able to provide significant economic value alongside our environmental mission.

Our goal is to become the circular economy's market maker—connecting customers and their recyclable material, which is the feedstock of a circular economy, to the haulers who can help divert waste from landfills.

Our hauler network consists mostly of small business owners who each can encourage the creation and sustainment of the circular economy. Our goal is to strengthen them, provide them with business opportunities, give them access to cutting-edge technologies that extend the life of

their equipment, and promote purchasing and procurement opportunities to reduce costs. By digitizing their infrastructures, we are making small haulers into a far more efficient and effective source of value and economic opportunity. Each small hauler's truck is now connected to a nationwide, linked system capable of major gains in customer service and waste reduction.

In addition, we regularly survey and screen our haulers through our hauler portal to be sure they are following relevant laws and observe responsible and sustainable business practices. We also seek out haulers and other suppliers that are minority-, veteran-, or women-owned businesses.

AMERICAN PRIVATE SECTOR: WE EARN MORE WHEN WE DIVERT MORE

Many of our customers have established zero-waste goals and invested staff and resources behind those efforts. And many of our contracts with these customers incentivize us to divert more waste from landfills. This approach goes to the heart of how we develop a circular economy: It must be a sustainable, profit-driven system with measures built in for accountability.

HOW IT WORKS IN PRACTICE

We want to partner with our customers so they can better manage the complexities of prioritizing sustainability while still meeting their operational needs. A large enterprise customer of ours set an aggressive zero-waste-to-landfill goal by the middle of this decade—along with carbon and water neutrality by the middle of the next decade. So we set out to work. A dedicated Rubicon team comprised of five members, including a data analyst and vendor liaison, tracked diversion goals against monthly KPI reporting with careful attention to individual site operations. The team also held quarterly business reviews to discuss progress on annual diversion goals. These efforts worked. In 2018, the customer diverted more than 40 percent of its waste from landfills managed by Rubicon; by 2020, that figure rose to more than 50 percent.

+40%

diverted from landfills

IN 2018, THE CLIENT DIVERTED MORE THAN 40 PERCENT OF ITS WASTE FROM LANDFILLS MANAGED BY RUBICON

+50%

diverted from landfills

BY 2020, THAT FIGURE ROSE TO MORE THAN 50 PERCENT

WASTE AND NATIONAL SECURITY

An often overlooked but important aspect of our industry is the role that poor waste management practices have on national security interests. As General Joseph Votel, President and CEO of Business Executives for National Security (BENS) noted, “As ESG challenges become increasingly significant factors for our national security, I am confident that the private sector is well-positioned to face these issues head on.”

For instance, waste mismanagement can exacerbate regional water shortages and create water stress, a significant cause of conflict globally. Intentional dumping of dangerous or hazardous waste can despoil natural resources, including fisheries and arable land, for generations. According to the United Nations, approximately 50 million tons of electronic waste are produced each year—the same weight as all commercial aircraft ever built.⁴ Much of this waste is sent to developing Asian and African countries, often through illegal smuggling or dumping. The quasi “recycling” process of the illegally dumped waste—using open fires to burn plastic off valuable metals—has devastating effects on the health of local populations and the environment.

Electronic waste, if poorly handled, can also contribute to the rise of identity theft and economic crime, not to mention security lapses. In 2020, the Identity Theft Resource Center identified 78 “physical attack” data compromises—14 percent of which were from improper disposal of electronic waste.⁵ In addition, the U.S. military has found that it has purchased hardware that was supposedly sourced from new materials, but which actually included recycled electronics—a risk of immense proportions, since counterfeit or damaged materials can compromise the effectiveness of electronic systems.⁶ One possible solution to this is outlawing export dumping of electronic waste, which would significantly curtail the waste from ending up in the hands of our adversaries. Leading electronic waste certification bodies such as the Responsible Recycling (R2) Standard, and e-Stewards, created by Basal Action Network (BAN), play a key role in ensuring the safe and secure recycling of this material stream. We must prioritize circularity in our electronic waste when possible, while also building supply chains that guarantee new materials when necessary.

“As environmental, social, and governance (ESG) challenges become increasingly significant factors for our national security, I am confident that the private sector is well-positioned to face these issues head on.”

GENERAL JOSEPH VOTEL
PRESIDENT AND CEO OF BUSINESS EXECUTIVES
FOR NATIONAL SECURITY (BENS)

The next frontier of waste: Space

Former President Lyndon B. Johnson once said:

“If I could get one message to you it would be this: The future of this country and the welfare of the free world depends upon our success in space. There is no room in this country for any but a fully cooperative, urgently motivated all-out effort toward space leadership.”

Waste and national security in space represent Rubicon's next frontier. Space debris is composed of man-made objects orbiting Earth that do not serve a useful function—such as defunct satellites and pieces of rockets used to launch and propel spacecraft. NASA estimates that there are roughly 20,000 pieces of debris larger than a softball orbiting the planet today. Solving the space waste crisis is another critical piece to protecting our national security interests, and it is an integral part of America's current and future infrastructure plans. President Ronald Reagan understood the importance of space in winning the Cold War through his Strategic Defense Initiative, nicknamed “Star Wars,” an understanding by which we must carry forward today in recognizing the strategic importance of addressing space waste.

Practically speaking, low Earth orbit (LEO) debris poses a threat to the roughly 2,000 active satellites that are critical to the global economy (enabling everything from modern conveniences like cell phones and TVs to national security interests like our nuclear arsenal), not to mention the International Space Station, which has had to maneuver around space waste dozens of times

since 1999.⁷ A recent NASA study estimates that there are currently 8,000 metric tons of debris floating in space, and the amount is growing. This debris began accumulating following the world's first satellite launch in 1957.⁸ Unlike on Earth, space waste cannot just be thrown “away”—there is no “away” in space, so debris accumulates by the second. It cannot also be picked up and hauled away like it can on Earth—it travels at approximately 17,500 miles per hour.⁹ Just a small amount of space waste can immobilize even the most advanced satellites, which could have catastrophic consequences for telecommunications and national security interests.

Symbolically, space waste highlights our globe's larger, failed approach to disposing of or reusing the waste that we currently emit into our atmosphere. No nation governs or administers its own space waste, and no international body can require its removal.¹⁰ With no truer allegory to the “tragedy of the commons,” common space waste exists because of our absence of authority, accountability, and ownership.

To address the problem of space waste, an issue which grows more serious by the day, Rubicon was proud to announce in May 2021 a new initiative called Project Clear Constellation™. The centerpiece of the program is the Clear Constellation competition, a year-long event in which accredited colleges and universities across the country are invited to submit their concepts for solutions that will confront this pressing

problem. The submissions will be judged by a panel of experts—Jonathan C. McDowell, an astrophysicist at the Harvard-Smithsonian Center for Astrophysics; Mike Rogers, a former Congressman and now head of the Center for the Study of the Presidency and Congress's National Security Space Program; Marla Geha, a professor and astrophysicist at Yale University; Rick Ambrose, Executive Vice President of Lockheed Martin

Space; Nobu Okada, founder of Astroscale; and Nate Morris, founder and CEO of Rubicon. The winning proposal, which will be announced in 2022, will be awarded a cash prize, and their program will commence. This competition will be the stimulus needed to elevate the issue of space waste and drive solutions.

 RUBICON

CLEAR
CONSTELLATION™

WASTE AND RECYCLING AND OUR CITIES

Our cities are major stakeholders in our efforts—they not only set the rules for recycling, but are also major processors of waste. City governments understand that this is an environmental issue upon which all citizens can agree. They are central to our efforts to promote the circular economy. That means our relationships with municipal authorities are critical to our mission and business. We are particularly focused on deploying our technology solutions to help city recycling and waste systems become more resilient and efficient in the face of future crises; our technology is helping to create efficiencies and control costs in these circumstances.

When we are more effective in helping cities capture and control waste, we are helping taxpayers in multiple ways. They are getting more efficient and effective services that they already pay for, their cities are more desirable places to work and live—and more economically competitive due to reduced blight—and they enjoy a higher quality of life due to the removal of waste from public spaces. These outcomes are particularly important for cities that serve primarily low-income communities.

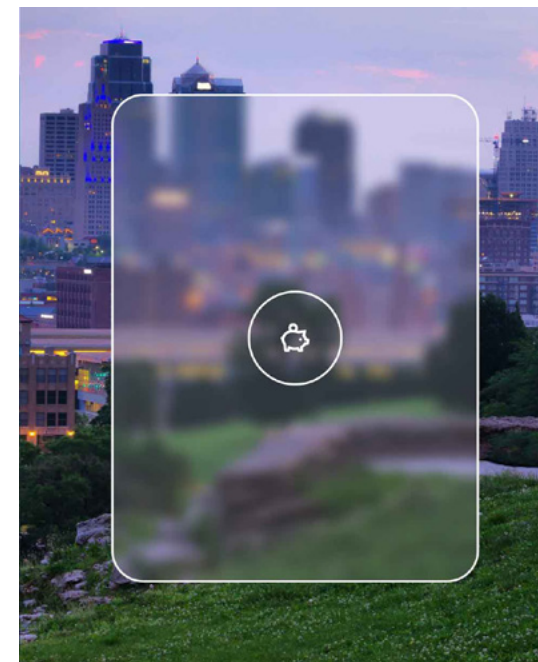
For too long, these communities have been overlooked in the broader effort to improve quality-of-life measures as basic as regular waste removal and environmental health indicators. We aim to help these communities where it matters most. In moving our headquarters to Lexington, Kentucky, we are making an additional statement about our commitment to America's cities: We believe once-thriving cities can be renewed by fresh investment and new corporate growth, and we are making those investments.

Rubicon's technology tools are helping municipalities address their collection and sorting challenges. Like many cities, the City of San Antonio, Texas, struggles with recycling and organics contamination, which arises when non-recyclable and non-compostable items in curbside containers, such as plastic bags, get mixed into curbside loads. With RUBICONVision™, San Antonio's organic waste trucks can address contamination at the source. High-definition cameras placed inside the hoppers capture images and automatically flag material that might contaminate the load—all without driver interaction. In a month-long evaluation period, RUBICONVision identified contamination in four out of every 10 routes—data that will help the City take action to educate residents and cut down on rejected loads.

In the City of Kansas City, Missouri, Rubicon has implemented dispatch and routing capabilities for every vehicle in the City's Department of Solid Waste. Rubicon's software is integrated with the City's bulky waste scheduling application, as well as its 311 hotline for non-emergency issues. When residents make a bulky waste collection request or submit a new work order, the request flows digitally to Rubicon's platform, where the job is scheduled and added to a route. The software then optimizes that route and sends it to the driver. Once the driver completes the job, the platform sends back a completion notification to the customer. This digital chain dramatically reduces staff time, while the route optimization

reduces both staff time and greenhouse gas emissions.

Rubicon has also helped Kansas City expand service to areas that were previously outsourced—increasing the department's solid waste and recycling collection responsibility from 60,000 to 160,000 residential locations. Thanks to this expanded view, City staff are now able to bring the efficiencies of their department to a greater number of Kansas Citians. The enhancements have resulted in more than \$2 million in annual taxpayer savings in waste and recycling collection costs, and it won the Rubicon and Kansas City partnership a [Smart 50 Award](#) for 2021.



Kansas City, MO

THE ENHANCEMENTS HAVE
RESULTED IN MORE THAN

\$2M

IN ANNUAL TAXPAYER SAVINGS
IN WASTE AND RECYCLING
COLLECTION COSTS

THE CHALLENGE OF PLASTICS

Plastics is one of the most prominent challenges facing those seeking to build a circular economy. Plastic is ever-present in our economy, constituting the single largest source for consumer packaging, and its impact on the environment—especially our oceans—is well-documented.¹¹ In addition, despite significant efforts, recycled plastic remains relatively low-value in our economy.¹² Any effort to promote a circular economy must take account of the problem of plastics.¹³

At present, only 14 percent of plastic packaging is collected for recycling, with the majority of it being landfilled, incinerated, or leaking into the natural environment.¹⁴ Plastic that is not properly collected and managed impacts natural ecosystems and finds its way into our oceans and other waterways.

We recognize that some materials are particularly difficult to recycle—yet an effort must be made in every case possible. We partnered with g2 Revolution to provide specialty recycling solutions for businesses. Customers order collection boxes, fill them, and mail back the containers to be processed.

14%

ONLY 14 PERCENT OF PLASTIC PACKAGING IS COLLECTED FOR RECYCLING

We are making efforts both as an organization and in our business to confront the serious threat of plastic waste to our economy and environment. In October 2018, Rubicon was among the first 250 signatories of the Ellen MacArthur Foundation's New Plastics Economy Global Commitment.¹⁵ By promoting increased accountability and supporting innovation throughout the plastics supply chain, the New Plastics Economy envisions a world without plastic waste—a world where all plastic packaging is reused, recycled, or composted.

In our own business, Rubicon achieved a 40 percent increase in the volume of recycled plastics from 2018 to 2019. In 2020, the economic slowdown caused by the spread of COVID-19 produced contractions in commercial recycling volumes across the United States, slowing our progress. While domestic recycling began to show signs of life towards the end of 2020, our net plastic tonnages decreased 2.2 percent compared to 2019.

+40%

RUBICON ACHIEVED A 40 PERCENT INCREASE IN THE VOLUME OF RECYCLED PLASTICS FROM 2018 TO 2019

Innovating away from plastics

Since 2019, Rubicon has partnered with [rePurpose Global](#), a platform that helps companies go plastic neutral. The movement helps customers measure their plastic footprints and fund vetted impact projects that remove and recover an equivalent amount of plastic waste from the environment. In addition, rePurpose Global helps companies reduce plastic in their supply chains through tips and access to packaging innovators.

Rubicon has connected rePurpose Global to potential customers by way of our customer base, creating opportunities for both the platform and the customers.

For instance, rePurpose Global has heightened consumer awareness—allowing customers to round up purchases at point-of-sale locations in order to balance the plastic footprint of their purchases. In regions across Southeast Asia, rePurpose Global has also supported workforce development—employing waste workers to reclaim low-value plastic waste that would otherwise end up in landfills, be burned, or get washed into waterways or oceans. These efforts have strengthened recycling markets and boosted the circular economy.



WASTE AND RECYCLING, AMERICA'S CITIES, AND THEIR TAXPAYERS

By necessity, the COVID-19 pandemic ushered in a wave of single-use, disposable items, and designing a resilient recovery will require a commitment to circular practices. That includes the ways cities collect and divert their waste, how manufacturers package their goods, and how food producers manage their carbon footprints.

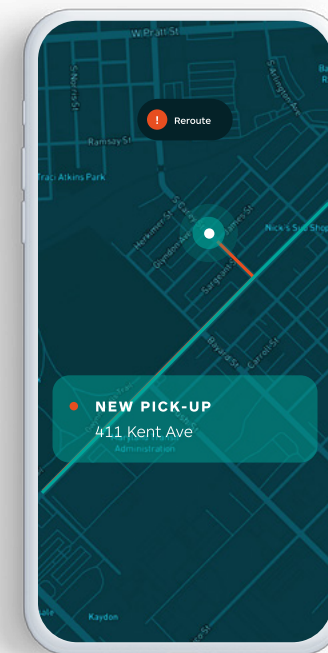
In the City of Baltimore, as with many municipalities across the country, solid waste and recycling personnel were considered essential workers at the onset of the COVID-19 pandemic. As residential waste and recycling volumes ballooned with more people sheltered in place, the outbreak hit the City's solid waste drivers and dispatchers, sidelining many of the workers. As a result, Baltimore was forced to suspend curbside recycling collection for six months. A complicating factor in Baltimore was its reliance on individual driver memory and printed schedules for pickup routes. The pandemic made it clear that the city needed to digitize its operations so drivers could cover the routes as efficiently as possible.

Rubicon's solution includes an in-cab interface and a small device that plugs into the diagnostic port in each of the city's 159 garbage collection vehicles. The tools create a digital map of all routes, allowing fill-in drivers to follow a digitally generated schedule of pickup locations. There is also dynamic rerouting of vehicles in case a driver is delayed, assigning a helper vehicle to cover the stops. These investments have enabled Baltimore to use remote technology to operate its sanitation department—helping the city deliver on its core mission in the face of a catastrophic event.

These kinds of technologies will, we believe, allow for the collection and analysis of data essential to unlocking new solutions to support the circular economy. The more we know about waste and how it is handled, the easier it will be to create smart infrastructure critical to the proper handling, recycling, and disposal of waste. This will create a stronger platform for the circular economy and create new economic opportunities and jobs.

Rubicon is also helping customers address these challenges in the midst of unprecedented economic upheaval. Consider, for instance, that sales of hand sanitizer surged 600 percent in 2020 compared to the prior year, making it one of the most in-demand products since the onset of the pandemic.¹⁶ But the products have been subject to numerous manufacturer recalls because of poisoning risk.¹⁷ Rubicon stepped in to help a national retailer return the defective product for refunds—designing a program that complied with hazardous waste laws.

Separately, for the same national retailer, we manage a personal protective equipment (PPE) mail-back and recycling program for more than 270 of the company's stores. Rubicon sends the PPE to a steam- and electricity-generating waste-to-energy (WTE) plant. This program utilizes a carbon neutral shipping program which redirects shipping surcharges to green funds in order to offset the carbon footprint of the shipments.¹⁸



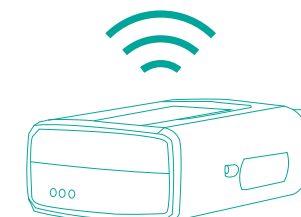
Baltimore, MD

159

GARBAGE COLLECTION
VEHICLES

94

POTHOLES ON
ROUTE 07



RURAL WASTE CASE STUDY: UNIVERSITY OF PIKEVILLE RURAL WASTE INNOVATION CHALLENGE

Rural America will always be the heart of our nation. Unfortunately, it is also a dumping ground for much of our trash. Without economic incentives to clean up the garbage, the problem will not end. The abundance of waste is one of the key struggles in generating economic development in rural America.

Eastern Kentucky has been home to coal miners and their families for generations, but with regulatory burdens and a decreased demand for coal, the area has been left without this economic engine. Rubicon believes waste cleanup can play a pivotal role in the region's economic revitalization and generate momentum for attracting further private investment into the area—and will launch this effort in the City of Pikeville.

Earlier this year, the top county executive in Pike County lamented that despite excitement for and investment in adventure tourism in Eastern Kentucky, “People are not going to come here... when they see garbage and illegal dumps along the trail[s].”¹⁹

Research shows that the poorest counties in Kentucky—most of which are in Appalachia—have the highest number of illegal dumps. The lack of public trash pickup services combined with the cost of disposing of waste at the landfill has turned illegal dumping into a regional challenge. Trash gets dumped along the roadside or in creeks, where it quickly washes up along the shore or fills up the waterways. All of this poses a long-term risk to Eastern Kentucky's economic ambitions, not to mention its beauty.

That is why Rubicon and the University of Pikeville will soon launch the Rubicon Rural Waste Innovation Challenge, inviting University of Pikeville students to submit concepts for solutions, products, or programs to promote sustainability on campus, in the community, and in the Appalachian region at-large. These will be community-driven and community-centric approaches. Our panel of experts will judge submissions, and the winning entry will be awarded a cash prize.



Furthermore, Rubicon will work with the University of Pikeville to implement a university-wide sustainability program. As a student-driven effort, and with campus-wide engagement from University of Pikeville's faculty and staff, Rubicon will lend its expertise in sustainable materials management. For example, the dining hall, which has been using single-use polystyrene cups, containers, and utensils, will look at implementing sustainable alternatives.

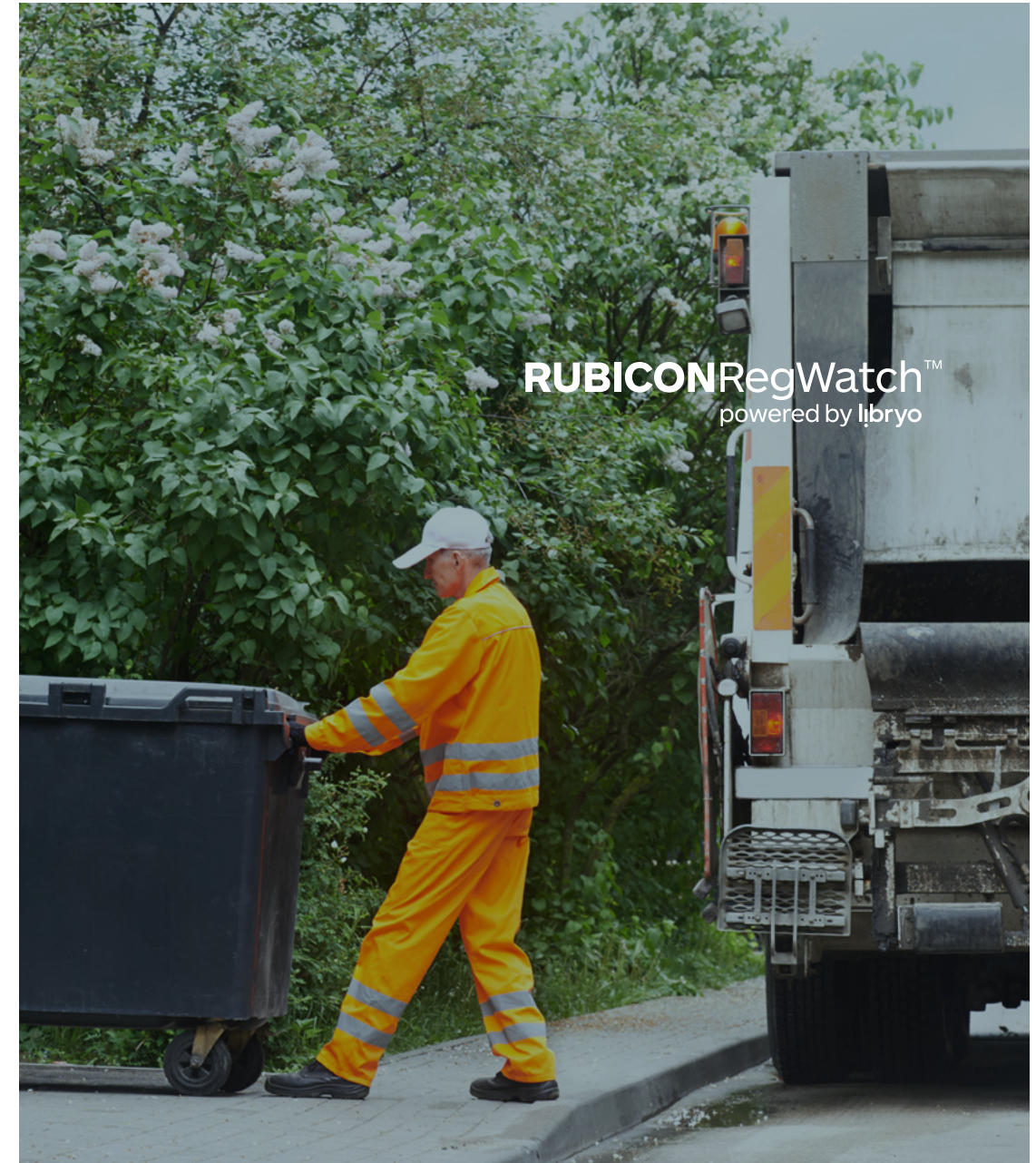
In the near future, Rubicon plans to partner with additional colleges and universities throughout Kentucky to replicate the successes at the University of Pikeville. To start, Rubicon will work with Kentucky State University, a historically black college and university (HBCU) based in Frankfort, to develop solutions for urban waste, particularly food waste. This effort will build upon Rubicon's food waste efforts in other parts of the state, including at the Keeneland racecourse located in Lexington.

PROMOTING TRANSPARENCY, INSIGHTS, AND ACTION

One key challenge for businesses in addressing waste is staying current with solid waste and recycling requirements at the local, state, and federal levels. Our [RUBICONRegWatch™](#) application provides a one-stop solution: Digital libraries to help businesses comply with regulations specific to their locations through a single platform.

The software-as-a-service (SaaS) tool translates complex guidelines into simple, easy-to-follow language. It also helps users audit their businesses against evolving waste-related regulations. Whether companies operate in multiple jurisdictions or have distinct types of worksites such as warehouses and retail stores within their portfolio, RUBICONRegWatch™ tracks the legal obligations relevant to their waste streams so they can turn those insights into action.

We also provide customers with a clear sense of how their waste diversion efforts reduce their net carbon emissions and environmental impact. This supports them as they evaluate their own environmental impact efforts. To do so, we use the Environmental Protection Agency (EPA) Waste Reduction Model (WARM), a trusted calculation tool.²⁰ WARM takes a baseline scenario for a given organization and compares it against an alternative waste management practice such as source reduction, recycling, anaerobic digestion, waste-to-energy, and/or composting.²¹ With this analysis, an organization can quickly see how much carbon emissions it avoids by adopting an alternative to landfilling.



SECTION 02

Waste and recycling and environmental impact

Many people do not think their trash can be an environmental hazard, but waste is a powerful source of greenhouse gas emissions.

Landfills are the third-largest industrial emitter of methane, a greenhouse gas approximately 25 times more potent than the carbon dioxide emissions of automobiles.²² Simply put, it is impossible to address the environmental threats without addressing the problem of waste.

Many businesses and governments have set out to achieve net zero emissions by 2050, and circularity will play a critical role in hitting these milestones.²³ Fifty-five percent of emissions can be reduced using renewable energy and energy efficiency, while the remainder would be achieved through circular practices in manufacturing and food production.²⁴ We are still far from that target. According to one estimate, the global economy is

only 8.6 percent circular, down from 9.1 percent circular the year prior.²⁵

Rubicon supports the reduction of emissions from waste and the waste reduction process in two ways.

First, by reducing the amount of waste our customers send to landfill—in particular food waste—we can dramatically impact methane emissions.

Second, by reducing the use of carbon fuels and carbon-emitting processes in the collection, sorting, and disposal of waste, we can support global goals for carbon reduction.



METHANE IS A GREENHOUSE GAS THAT IS


25x


MORE POTENT THAN THE CARBON DIOXIDE EMISSIONS OF AUTOMOBILES


Rubicon’s commitment to environmental innovation

In December 2020, Rubicon signed The Climate Pledge, co-founded by Amazon and Global Optimism, committing to regular reporting and measuring of greenhouse gas emissions, carbon elimination, and neutralizing any remaining emissions to achieve net zero annual carbon emissions by 2040.²⁶

THE CLIMATE PLEDGE COMMITMENTS

- 01 **Regular Reporting**  Measure and report greenhouse gas emissions on a regular basis.

- 02 **Carbon Elimination**  Implement decarbonization strategies in line with the Paris Agreement through business change and innovations, including efficiency improvements, renewable energy, materials reductions, and other carbon emission elimination strategies.

- 03 **Credible Offsets**  Take action to neutralize any remaining emissions with additional, quantifiable, real, permanent, and socially beneficial offsets to achieve net zero annual carbon emissions by 2040.



Net zero

OUR GOAL:
ACHIEVE NET ZERO
ANNUAL CARBON
EMISSIONS BY 2040

THE CLIMATE PLEDGE

Since its creation in 2019, a growing number of major companies and organizations have signed on to join The Climate Pledge. These businesses are committed to improving our environment and will play a critical role in stimulating investment in the development of low-carbon products and services.²⁷

In order to be in line with the Science Based Targets Initiative (SBTi), a 2030 goal, Rubicon must decrease its Scope 1, 2, and 3 (operations) emissions by 46.2 percent from a 2019 baseline by 2030.²⁸ We are committed to achieving these cuts.

Rubicon's business, by definition, is not carbon intensive since we do not own landfills or vehicles. However, it is important to Rubicon to measure our impact and to reduce our emissions where we can.

Rubicon conducted our first greenhouse gas emissions inventory in 2020, with 2019 as our baseline. We used the World Resources Institute's Greenhouse Gas Protocol and operational approach to track our Scope 1, 2, and 3 emissions.²⁹

In looking at the emissions impact of our business, there is a single category that is most critical—Scope 3 Category 1 emissions from transporting, processing, and disposing of our customers' waste.³⁰ These categories of emissions constitutes nearly all of our total emissions. We include these emissions in this category because our business is focused on working with our customers to evaluate their service needs, arrange for payment, hire haulers, and arrange for appropriate disposal of waste. By 2025, we are going to develop a credible plan to achieve net zero emissions including Scope 3 Category 1 emissions. This will require close partnership with our customers, many of whom have their own emissions reduction goals. In addition, we will continue to innovate and promote low- and no-emissions practices in the waste hauling industry.

GHG emissions inventory

GHG PROTOCOL USING OPERATIONAL CONTROL APPROACH³²

SCOPE ³³		2019 GHG EMISSIONS (MTCO ₂ E)	2020 GHG EMISSIONS (MTCO ₂ E)
Scope 1	Natural Gas Usage	734	892
Scope 2	Electricity Usage – Location-based	464	388
Scope 2	Electricity Usage – Market-based	532	284
Scope 3	Purchased Goods and Services	—	2,578
Scope 3	Purchased Goods and Services – Transportation, processing, and disposal of waste	2,678,038	2,336,776
Scope 3	Fuel and Energy Related Activities	276	301
Scope 3	Employee Commute	755	161
Scope 3	Employee Teleworking	—	262
Scope 3	Business Travel	1,355	261
Scope 3	Waste Generated in Operations	5	1
TOTAL (LOCATION-BASED)		2,681,627	2,339,042
TOTAL (MARKET-BASED)		2,682,227	2,341,513

SCOPE 3 STANDARD REPORTING

Customers are also asking us to help them understand their environmental footprint in relation to their Scope 3 Category 5 emissions from waste generated in operations—often one of the most challenging hurdles to achieving net zero emissions and therefore an area where Rubicon can play an important role. The GHG Protocol provides an internationally accepted method for companies to account for emissions that occur from sources owned or controlled by other entities in a value chain, such as materials suppliers, third-party logistics providers, or waste management suppliers.³¹ The majority of total corporate emissions typically originates from Scope 3 sources, so it is crucial that companies are able to accurately report them. These also happen to be the most complex to accurately track and are scrutinized closely by stakeholders. We are therefore working to make sure that the data we collect is accurate, credible, and compatible with the reporting needs of our customers.

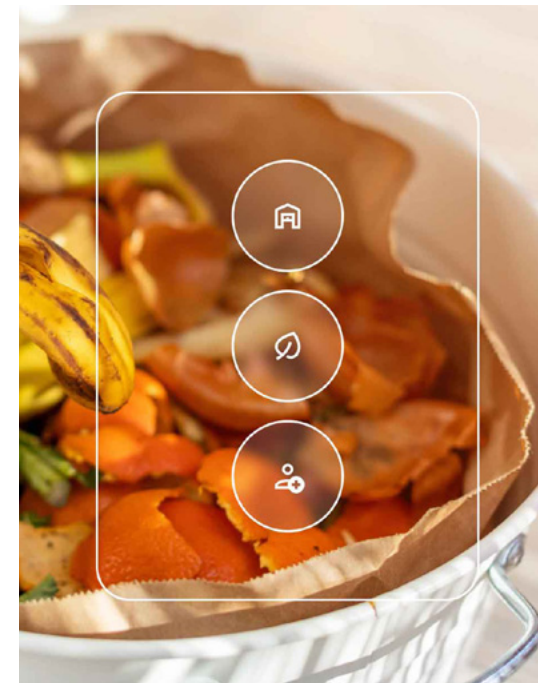
Our efforts to support our customers helps them meet stakeholder and regulatory requirements for waste reduction and better understand how their efforts translate into reducing carbon emissions.

SMALL BUSINESS INNOVATION: RUBICON'S HAULER AND RECYCLER NETWORK

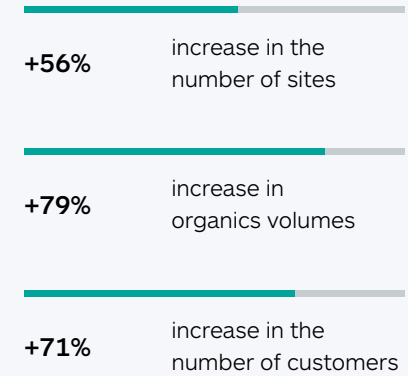
We are developing an alternative fuel vehicle program for independent waste and recycling haulers through a partnership with XL Fleet Corp., a leader in electrification solutions for commercial and municipal fleets. The partnership will bring to life Rubicon's desire to provide alternative fuel vehicles to our extensive network of waste and recycling hauler partners. XL Fleet's offerings of hybrid electric, plug-in hybrid, and all-electric solutions (to be introduced in 2022), as well as charging infrastructure through its XL Grid division, can significantly accelerate fleet electrification by reducing upfront costs and complexity while also providing environmental benefits.

Transportation makes up approximately five percent of our customers' waste related emissions each year. If we are able to greatly reduce the emissions of diesel-fueled refuse trucks, which emit 101 metric tons of carbon dioxide equivalent (MTCO2e) per year, we could contribute meaningfully to a reduction in total carbon emissions.³⁴

Because most of our haulers are small, independent businesses, access to adequate financing to convert their fleets to electric or renewable natural gas is often an issue. We are therefore working to develop an independent hauler financing program. This is the power of leverage.



GROWTH OF RUBICON'S ORGANICS BUSINESS: 2018-2020



ENDING FOOD WASTE

Addressing the world's biggest environmental challenges cannot happen without focusing on food production. In line with the values and spirit of the Good Samaritan Act of 1996, Rubicon believes the American private sector and business community have an obligation to focus on excess food production and food waste.³⁵ This essential activity generates one quarter of global greenhouse gas emissions.³⁶

The United Nations estimates that loss and waste of food contributed to between 8 and 10 percent of global warming between 2010 and 2016.³⁷

The cumulative effects are similarly stark: The United Nations estimates that loss and waste of food contributed to between eight and 10 percent of global warming between 2010 and 2016.³⁷

There is growing awareness among the general public, and consequently among our customer portfolios, about the relationship between wasted food and emissions. As a result, we are seeing growing interest in our organics recycling services.

Between 2018 and 2020, we saw a 56 percent increase in the number of sites, a 79 percent increase in organics volumes, as well as a 71 percent increase in the number of customers. This growth has allowed us to expand our organics footprint and develop partnerships with a number of organics recyclers who are making meaningful social and environmental impacts.

One company that is benefitting from these partnerships is Beyond Meat. The company, whose plant-based meat alternatives are available at tens of thousands of food service and retail locations worldwide, has consolidated its circular practices through a Rubicon-designed organics recycling initiative. Beyond Meat houses its products in

cold storage facilities owned by another Rubicon customer. Thanks to that referral, Rubicon was able to design a process to divert Beyond Meat's food waste bound for landfills to depackaging facilities instead.

As part of the process, organics recyclers separate the food waste from its packaging and convert it into resources such as animal feed, renewable natural gas, or compost. Since the project began in 2020, Rubicon has helped Beyond Meat avoid 513 metric tons of CO2 emissions.³⁸ In addition to the far-reaching environmental benefits, this process is cost competitive with landfilling—another incentive for food producers to look for innovative ways to make their systems more sustainable.

Atlanta's State Farm Arena, the home of the Atlanta Hawks, has been driving a positive impact in the Atlanta community for years.

Operations staff at the LEED-certified arena sought Rubicon's help in finding an environmentally friendly solution for expired soda and beer, a result of events cancelled because of the pandemic. Together, State Farm Arena and Rubicon developed and executed a way to transport expired products offsite, and as a result, converted the beverages

643

GALLONS OF ETHANOL

396

POUNDS OF RECYCLED ALUMINUM

into biofuel and recycled the aluminum. The reuse project resulted in 643 gallons of ethanol and 396 pounds of recycled aluminum.

Keeneland, an internationally renowned racecourse in Lexington, Kentucky, and the thoroughbred industry's leading auction house, is focused on becoming a sustainability leader in the thoroughbred industry.

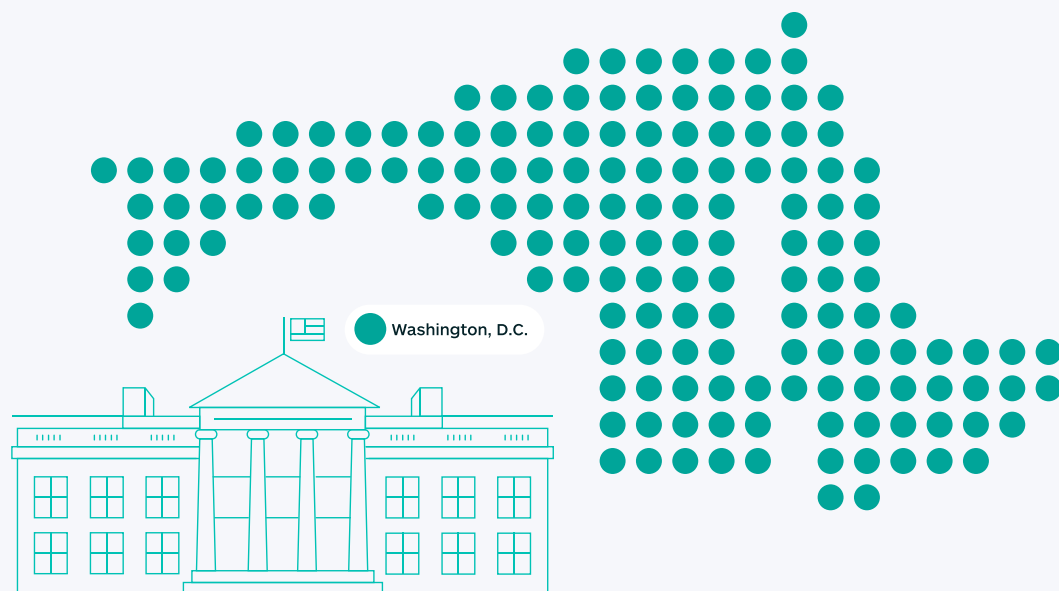
As a constant innovator, Keeneland engaged Rubicon as its exclusive sustainability partner in order to minimize their environmental footprint. The work ahead will be considerable: Keeneland is the site of many well-attended events such as spring and fall race meets, thoroughbred auctions, numerous special community events, and next year's 2022 Breeders' Cup World Championships. In total, Keeneland can see hundreds of thousands of visitors and house more than 300 horses at a time, translating to many complex and high-volume waste streams. Rubicon's partnership with Keeneland involves looking at all operations and implementing a sustainable materials management program with a spectator-facing mixed recyclables program, a food scrap donation and diversion program, and numerous food service improvements, such as replacing non-reusable, single-use materials like polystyrene cups and minimizing other single-use containers. Rubicon will also assist with implementing non-landfill material recovery options for harder-to-recycle materials, such as tires and e-waste. Rubicon has already assisted Keeneland with organics guidelines focused on food waste and food donation protocol and

in recycling 184 bales of OCC, most commonly referred to as cardboard—helping to capture thousands of dollars in rebates.

In a separate effort, Rubicon has helped manage a national retail chain's waste stream, including plastics, metal, and organics. When the retailer began distributing its own milk, Rubicon helped the company create distribution centers to convert expired milk into energy, fertilizer, and animal feed. Rubicon diverted more than 17,000 tons of dairy waste from the landfill by redirecting the majority of the material to regional producers of animal feed. Compared to a landfill scenario, this helped avoid more than 9,000 tons of CO2e (carbon dioxide equivalent) emitted into the atmosphere—equivalent to nearly 2,000 passenger cars off the road for one year.³⁹



Hauler spotlight: F&L Construction, Inc.



Nate Morris, Rubicon's Founder and CEO, interviewed Mr. Freddie Winston, the Founder of [F&L Construction, Inc.](#), a minority-owned general contracting, construction management, and solid waste and recycling services corporation.

In addition to running a great company entering its fourth decade, F&L manages the waste and recycling for the most famous house in the world: The White House. He also happens to be part of the Rubicon family of haulers. We are grateful for his time discussing his career history, servicing The White House and other government buildings, and the importance of family and faith that inspire his life every day.

Nate Morris: Tell us about the story of F&L Construction. How was the company founded?

Freddie Winston: I began my minority-owned firm at the age of 29. I started my career in construction working with my family, and I improved my craft over the years, working various odd jobs.

I spent my summers learning the craft while I was doing school. After school I would go work at various construction companies building. At the early age of 19 I started managing cleaning companies as a part time job. My full-time job was with Fairfax Hospital working at the engineering department from 1981-87. I left in 1987 and went to work with a few different companies that were

doing government contracts in the construction field. I started my company in 1991, in Northern Virginia and focused primarily on providing carpentry services to local small businesses in my community. I spent many years growing and establishing my brand as reliable and affordable, emphasizing quality service.

“Diverting waste from the landfill through recycling protects our planet and conserves our valuable resources.”

**HAUL OF FAME INTERVIEW:
FREDDIE WINSTON, OWNER & FOUNDER,
F&L CONSTRUCTION**

After about 12 years working for the federal government, I became SBA (Small Business Administration) certified, allowing me to get sole-sourced contracts under the SBA program. After working in that program, I was awarded Business of the Year, and presented with an award by congresswoman Eleanor Holmes Norton. I visited the White House and met with Marie Johns, the Administrator of the SBA, to talk about the program and how the program could be better for businesses in the program. It was a great experience for me, and I would like to say that any businesses that want to get certified, I would suggest before they get certified they should

work with the government for 3-4 years to understand how the government works and operates before learning that hard lesson while enrolling in the program.

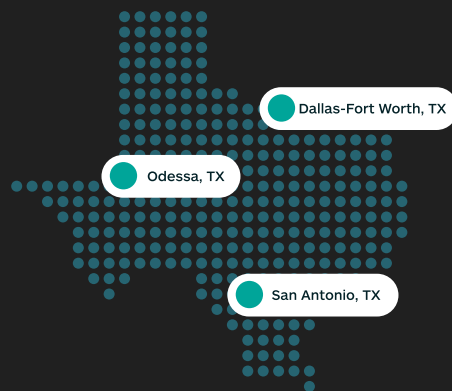
After about 20 years of doing business on a smaller scale, I decided to get my SBA certification, and things accelerated quickly. I went from being a one-man shop that sub-contracted work when needed to hiring and maintaining full-time staff.

After setting up a professional office with staff, an opportunity presented itself that allowed me to expand my company's services from construction and add on a Solid Waste and Recycling division. This new division allowed me to bid and take on large-scale contracts with the Government's General Services Administration, the White House, and the Justice Department, to name a few. The company's accelerated growth combined with exemplary work ethic and community activism meant the company was nominated and received many awards. F&L was listed as a TOP 100 Minority Company, and I was awarded "Entrepreneur of the Year." This afforded me the opportunity to be interviewed by Black Enterprise Business Report and more. I've been blessed to be able to affect other people's lives to afford them a job and opportunity.

[Read the full article on LinkedIn.](#)

Haul of Fame feature

We are proud of our hauler network. To honor them, we created the “Haul of Fame,” an interview series with our hauler partners who serve on the front lines of our industry every day.



WEST TEX DISPOSAL ODESSA, TX

“We take pride in our duties, and with Rubicon being a major industry player we look up to them as a role model, and are inspired by their mission to end waste.”

[Hauler Website](#)

[Haul of Fame Interview](#)

COMPOST QUEENS SAN ANTONIO, TX

“Rubicon has been an incredible partner in supporting us as we’ve grown and scaled up, and we’re looking forward to working with them as more companies recognize the importance of sending their organic waste to harness the power of compost rather than becoming a liability in the landfill!”

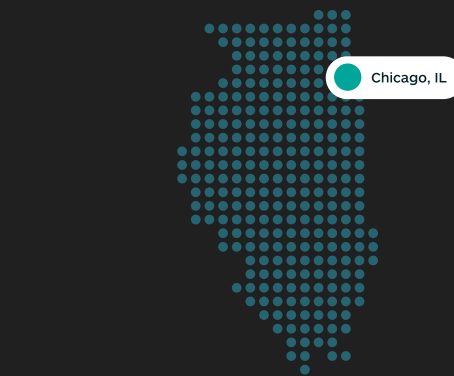
[Hauler Website](#)

CHAMPION WASTE & RECYCLING SERVICES DALLAS-FORT WORTH, TX

“We feel that the key is to educate our customers on the importance of reducing our waste, followed by the potential to reuse products and materials. Education and development of end markets is the single most important thing we can do as recyclers and processors.”

[Hauler Website](#)

[Haul of Fame Interview](#)



Chicago, IL

LAKESHORE RECYCLING SYSTEMS CHICAGO, IL

“Lakeshore was founded on a mission of sustainability, much like Rubicon. We’re looking to change the way waste is handled from the moment it is put out at the curb to the moment it makes its way to one of our seven materials recovery facilities (MRFs).”

[Hauler Website](#)

[Haul of Fame Interview](#)



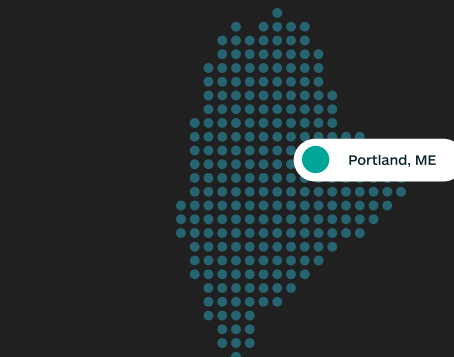
Aberdeen, MD

VETERAN COMPOST ABERDEEN, MD VETERAN OWNED

“At Veteran Compost, we have a saying: “homegrown by heroes.” We want to continue to focus on making high-quality compost, hiring veterans and their family members, and growing our collection and processing capacity.”

[Hauler Website](#)

[Haul of Fame Interview](#)



Portland, ME

AGRI-CYCLE ENERGY PORTLAND, ME

“Our process is entirely full circle. Operating a farm-based anaerobic digester means that when we collect organic waste from our clients, we are also supporting 2,000 dairy cows, and more than 3,000 acres of crop-lands. Our motto is “Food Full Circle,” and we live by it!”

[Hauler Website](#)

[Haul of Fame Interview](#)



Gloucester, MA

BLACK EARTH COMPOST GLOUCESTER, MA

“Composting is at the intersection of several major problems. We have a waste crisis, and food waste accounts for a third of the waste. Food waste collection is getting attention now. It’s obvious and low hanging fruit.”

[Hauler Website](#)

SECTION 03

America's communities

B CORP STATUS

We are proud to be among the first companies to be certified by B Lab, an organization which recognizes companies that meet the highest standards of verified social and environmental performance, public transparency, and legal accountability. We were first certified in 2012 and are now undergoing our fourth recertification. Each year, our B Corp score has risen. In 2017 and 2018, we received recognition for Best for Governance, and in 2018, 2019, and 2021 we were recognized for Best for Environment.

BUILDING THE WORKFORCE OF THE FUTURE

The extraordinary challenges over the past year have shaken businesses to the root. Uncertainty over the pandemic, the global economic slump, and widespread social unrest in response to racial injustice are among the pressures affecting companies and their employees. Rubicon has felt these forces, too, and they have served as a reminder of the importance of helping our people thrive no matter the circumstances. That is reflected in our recognition as a Certified B Corp, demonstrating our adherence to fostering a culture of innovation; our participation in the largest CEO-driven initiative for opportunity for all in the workplace; and our financial literacy training for all workers.⁴⁰ We introduced a permanent remote work policy in 2020 to limit the spread of COVID-19, and we continue to look for other ways to ensure the wellbeing of our people.

CULTURE, BENEFITS, AND PROFESSIONAL GROWTH

Our company's commitment to our people is grounded in the belief that our policies should support physical and financial health—and they should evolve as those needs change. Rubicon's comprehensive benefits package includes paid family leave, flexible work hours, and a 401(k) company match after the first 90 days on the job. In addition, we are part of the growing number of companies offering unlimited paid time off.

We have complemented these benefits over time with numerous team-building and educational events. In 2019, we began offering periodic financial wellness seminars on topics such as managing credit. The pandemic forced us to quickly change course. We launched RUBI, an intranet site where departments can share news and updates across the company. And we moved from in-person to virtual programming to maintain engagement with our teams. Now, events such as our Earth Day Challenge, in which we encourage employees to do something meaningful for the environment—such as planting a garden—have moved online.

George Washington Carver Award

GREAT PLACE TO WORK CERTIFIED

87%

OF EMPLOYEES RECOGNIZE RUBICON AS A GREAT PLACE TO WORK

Rubicon employees overwhelmingly approve of these efforts. In the Great Place to Work® survey on workplace culture, 87 percent of employees recognize Rubicon as a great place to work, compared to 59 percent at the average U.S.-based company surveyed. This year marks the fourth-consecutive year that Rubicon received this certification from Great Place to Work.⁴¹

Each year, we recognize one employee with the George Washington Carver Award to spur innovation on our teams. Rubicon employees are given an opportunity to nominate a fellow employee who they believe exemplifies incredible creativity and leadership, and who upholds George Washington Carver's legacy of innovation and challenging the status quo. Carver was one of this nation's foremost inventors and it could be said that he was one of the early adopters of Rubicon's mission to end waste. He created more than 325 different methods for repurposing the humble peanut, taking fibers from the peanut plant to make different types of paper, early plastics, and dyes. "George Washington Carver was the embodiment of excellence and creativity, and through this award we honor an employee each year who exhibits that spirit," says Rubicon's Founder and CEO, Nate Morris. The 2021 winner is Jordan Pilsch, and we congratulate her and prior-year winners, Jason Jones and Ryan Cooper. Winners receive a \$10,000 cash prize.



2021
WINNER

Jordan Pilsch



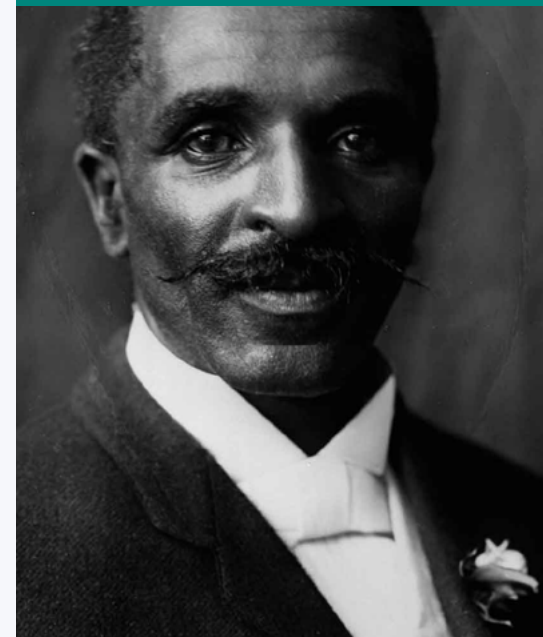
2020
WINNER

Jason Jones



2019
WINNER

Ryan Cooper



"George Washington Carver was the embodiment of excellence and creativity, and through this award we honor an employee each year who exhibits that spirit."

NATE MORRIS
FOUNDER AND CEO

A CULTURE OF LEARNING AND INNOVATION

Learning and development is another area of focus at Rubicon. In 2020, we partnered with Lessonly to launch an internal learning management system. Managers within the company can create and assign lessons on software use or soft skills such as time management. The platform includes a workforce development program that touches on continuing education, allowing for cross-skills training for promotions or job transitions—further proof of our commitment to investing in our employees' lifelong career advancement.

RUBICON X-LABS: A CULTURE OF RESEARCH AND DEVELOPMENT

Our Intellectual Property committee is tasked with making sure that we collect, document, and protect all intellectual property created by our employees. We incentivize this innovation by awarding employees cash rewards at various stages of the patent application process. These programs and the culture inside Rubicon are driving the big ideas that will reimagine the waste industry for decades to come. We are also seeing the latest thinking on artificial intelligence reflected heavily in the work of our Research and Development (R&D) teams.

Ryan Cooper, Director of Circular Economy and Organics Recycling Lead, created a patent for a waste receptacle with a false bottom. "I have the U.S. patent award letter mounted on my wall," says Ryan. "It is amazing how many patents the tremendous folks at Rubicon have obtained. So many of them contain groundbreaking innovative ideas that will someday shape our reality."

COMMITMENT TO OPPORTUNITY FOR ALL

Our ESG Committee plays a central role in developing goals and action plans aimed at achieving a culture of diversity and inclusion. Environmental threats disproportionately affect people of lower socio-economic status and disadvantaged groups, including rural and urban communities. This explains why we are committed to diversity and inclusion in our recruiting, hiring, pay, and promotion practices. In 2020, the ESG Committee reviewed our progress across these areas and is working on ways to ensure that diversity and inclusion efforts include ambitious targets, and top leaders are held accountable to these objectives.

These objectives include our ongoing efforts to recruit and retain more individuals from underrepresented groups so that we have a more diverse and inclusive workforce. We are also aiming to improve our leadership development efforts and leadership training so that all of our managers are effective leaders of diverse teams. And, as always, we are constantly reviewing our pay policies to ensure that they are fair and reflect our performance goals. In addition, we are seeking ways to empower our employees to connect with and help develop each other through affinity groups. To date, Rubicon has established the following affinity groups: African American, Asian American and Pacific Islander (AAPI), Latin American and Caribbean, LGBTQ+, Women and Leadership, and Veterans. Rubicon also has a Parents Resource Group for employees.

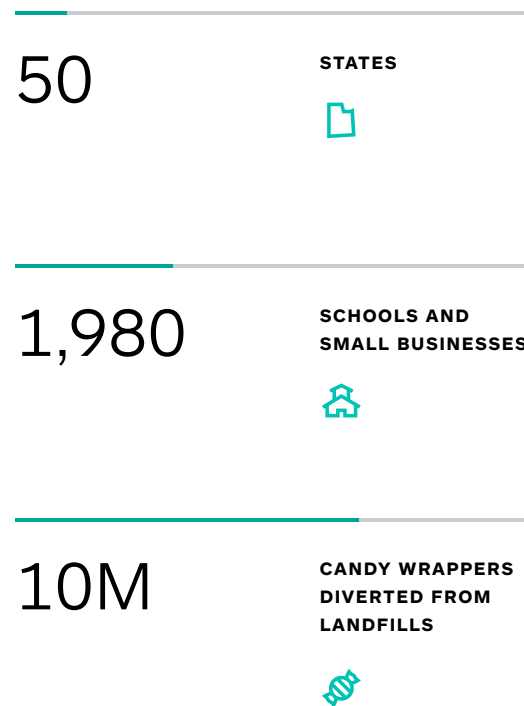
Affinity Groups

- African American Affinity Group
- Asian American and Pacific Islander Affinity Group
- Latin American and Caribbean Affinity Group
- LGBTQ+ Affinity Group
- Women in Leadership Affinity Group
- Veterans Affinity Group
- Parent Resource Group

COMMUNITY PARTNERSHIPS AND OUTREACH

Overall, we strive to educate the next generation of thinkers and doers to be responsible and take ownership over their future. As one of our leading engagement programs in youth development, in October 2021, we launched our third annual Trick or Trash campaign, providing free, specialty recycling boxes for discarded candy wrappers to 1,980 schools and small businesses in all 50 states. Early reporting indicates that once all of this year's boxes have been returned for processing, they will have diverted an estimated 10 million candy wrappers from landfills. The scope of this year's campaign also expanded to include carbon neutral shipping, advanced reporting, and landfill diversion for candy wrappers and any other materials that should accidentally enter the recycling box. This program is important both for waste reduction and consumer awareness: By participating in the education of a new generation ready to confront the cost of waste and make more responsible choices, we are making an investment in a more sustainable future.

Recognizing that education is crucial to inspiring a lifelong passion for recycling, Rubicon collaborated with the National Wildlife Federation to create circular economy lesson plans and educational materials for all Trick or Trash participants.



Among the organizations Rubicon has aligned with to address environmental challenges is the Arbor Day Foundation. As the official sustainability partner of the 2020 and 2021 Annual Concordia Summit, and through our partnership with the Arbor Day Foundation, Rubicon opted for a green, “swag”-less sponsorship—planting one tree in the State of Georgia for every event attendee.

To date, Rubicon has planted more than 12,000 trees in Georgia, Florida, and California as part of event sponsorships and customer appreciation campaigns, making a positive impact on ecosystems that are recovering from pollution, deforestation, and natural disasters. For future events, Rubicon is developing a carbon footprint calculator to show attendees' carbon impact based on their mode of transport, as well as the number of trees needed to sequester that amount of carbon. In 2021, the partnership with the Arbor Day Foundation expanded to include both reforestation projects as well as urban tree planting, an important effort to address urban heat islands.

Rubicon has also partnered with the National Wildlife Federation across several programs, including Campus Race to Zero Waste, a competition in which colleges and universities vie for the highest rates of recycling and other campus sustainability efforts. As the official technology partner of the program, Rubicon provides campuses with RUBICONView™, a technology suite designed to support waste

stream audits and landfill diversion efforts. In 2021, Rubicon and the National Wildlife Federation have grown their partnership to include EcoCareers, a green jobs education and mentorship program, and Eco-Schools, an education program empowering K-12 schools with nature-based learning.

RUBICON.ORG: EMPOWERING PHILANTHROPY THROUGHOUT AMERICA

We took an important step in 2020 by launching a community giving platform, [Rubicon.org](https://www.rubicon.org), to support other organizations that share our vision for a people-centric, environmentally conscious society. Our giving priorities include national organizations such as the American Red Cross, sustainability-focused organizations such as the Arbor Day Foundation, and local organizations such as Hands on Atlanta.

Also, at the local level, the Rubicon team volunteers on the ground to support organizations addressing environmental problems facing disadvantaged communities—demonstrating our belief that a cleaner environment creates safer and more prosperous communities.

Commitment to America's veterans

Six percent of the U.S. workforce are veterans.⁴² Every day, hundreds of veterans enter the workforce looking for mission-driven, challenging companies and organizations to continue their lives of service. At Rubicon, we think being mission-minded and service-oriented, putting larger values above ourselves, is core to our company culture.

One of the cornerstones of Rubicon's culture is our Veterans Affinity Group. Rubicon is proud to support our veteran employees with a place to meet, collaborate, and educate others.

The Veterans Affinity Group also advises executives and human resource professionals on events, policies, and protocols to recruit, retain, and grow veterans in the workforce.

Externally, one of Rubicon's most exciting partnerships is with USA CARES, an organization dedicated to providing "post-9/11 military veterans, service members, and their families with financial assistance and post service skills training to create a foundation for long-term stability." In April and June of 2020, Rubicon supported USA CARES through various "stay active" campaigns that raised awareness and support for physical and mental health issues of veterans. Later in 2020, Rubicon.org helped support specific housing and rehabilitation needs of five separate veteran families in USA CARES programs. Later in 2021, Rubicon stood proudly with USA CARES at their annual gala, providing support for a number of veteran causes.

Relatedly, Rubicon Founder and CEO, Nate Morris, is an active member and national advocate for [Business Executives for National Security \(BENS\)](#). BENS is a nonprofit comprised of more than 400 senior business and industry executives who volunteer their time and expertise to address the national security community's most pressing challenges. Specifically, BENS is focused on conducting research, hosting events, and utilizing their resources to grow and retain the U.S. military's talent and people power. By working directly with the U.S. military on talent management issues through BENS, Rubicon is able to obtain a unique perspective on issues affecting our men and women in uniform, including when and how they enter the workforce and how best to integrate their public and private careers.

Rubicon aims to elevate and partner with our hauling partners that are veteran-owned and/or veteran-operated. The same mission-driven and service-oriented culture mentioned earlier is clearly seen in our hauling partnerships. Rubicon is proud of our veteran partnerships in the waste management and recycling industry.

Bold action for a cleaner and better future

Prior to Rubicon, the waste industry had not changed for thousands of years. We are setting a new standard for the industry and we have an unrelenting commitment to ending waste by helping our customers prevent it, recycle it, and divert it from landfills. We are proud of our experience working with cities to deploy next-generation technology in their waste and recycling fleets, innovating alongside haulers to make their collection efforts more efficient. This work not only saves money—it gives our communities a cleaner and safer future.

We are innovating in ways we could not have foreseen during a pandemic that has upended our world, and we recognize that there is still a massive opportunity to give people a better choice on waste. We also acknowledge that we all can play a critical role in elevating the voices of vulnerable communities disproportionately affected by waste.

We are excited to lead the challenge that will define the global agenda in the coming decades: ensuring that successive generations prosper in healthy and safe environments.



Full report matrix

DESCRIPTION	GRI	SASB	RESPONSE
COMPANY OVERVIEW			
Organization name	102-1	—	About Rubicon
Activities, brands, products, and services	102-2	—	About Rubicon
Location of headquarters	102-3	—	About Rubicon
Location of operations	102-4	—	About Rubicon
Reporting period	102-50	—	January 1 – December 31, 2020
Reporting cycle	102-52	—	Annual
Contact point for questions regarding the report	102-53	—	sustainability@rubicon.com
ENVIRONMENTAL			
Greenhouse gas emissions			
Direct (Scope 1) GHG emissions	305-1	IF-WM-110a.1	GHG emissions inventory
Energy indirect (Scope 2) GHG emissions	305-2	—	GHG emissions inventory
Other indirect (Scope 3) GHG emissions	305-3	—	GHG emissions inventory
Reduction of GHG emissions	305-5	—	GHG emissions inventory

DESCRIPTION	GRI	SASB	RESPONSE
Managing waste			
Expanding composting	306-2	TC-WM-420a.3	Ending food waste
Expanding plastics recycling	306-2	TC-WM-420a.3	The challenge of plastics
Supply chain			
New suppliers that were screened using environmental criteria	308-1	—	Our hauler network
Negative environmental impacts in the supply chain and actions taken	308-2	—	Our hauler network
Reduction of GHG emissions in Scope 3	305-5	—	Our hauler network
SOCIAL			
Employee benefits			
Remuneration policies	102-35	—	Culture, benefits, and professional growth
Benefits provided to full-time employees that are not provided to temporary or part-time employees	401-2	—	Culture, benefits, and professional growth

DESCRIPTION	GRI	SASB	RESPONSE
Parental leave	401-3	—	Culture, benefits, and professional growth
Workforce development program			
Average hours of training per year per employee	404-1	—	Culture, benefits, and professional growth
Programs for upgrading employee skills and transition assistance programs	404-2	—	Culture, benefits, and professional growth
Local community			
Operations with local community engagement, impact assessments, and development programs	413-1	—	Community partnerships and outreach
GOVERNANCE			
Governance structure			
Governance structure	102-18	—	The COVID-19 Pandemic
Consulting stakeholders on economic, environmental, and social topics	102-21	—	Materiality assessment: Our role to play

DESCRIPTION	GRI	SASB	RESPONSE
Stakeholder engagement			
Identifying and selecting stakeholders	102-42	—	Materiality assessment: Our role to play
Approach to stakeholder engagement	102-43	—	Materiality assessment: Our role to play
Key topics and concerns raised	102-44	—	Materiality assessment: Our role to play
Data security			
Substantiated complaints concerning breaches of customer privacy and losses of customer data	418-1	—	https://www.rubicon.com/compliance

Endnotes

- 01** Rubicon engaged Quantis, a sustainability consulting group, to conduct a materiality assessment from July - November 2020. Quantis guided Rubicon through a stakeholder mapping exercise to identify the stakeholders to include based on their influence and interest in Rubicon's ESG strategy. Quantis created a survey to send to participants and conducted in-depth interviews to gather additional insights. Then, Quantis synthesized all of the information to determine Rubicon's key material topics.
- 02** <https://www.ifc.org/wps/wcm/connect/dfbceda0-847d-4c16-9772-15c6afdc8d85/202006-COVID-19-impact-on-waste-sector.pdf?MOD=AJPERES&CVID=na-eKpl>
- 03** <https://www.ellenmacarthurfoundation.org/circular-economy/concept>
- 04** http://www3.weforum.org/docs/WEF_A_New_Circular_Vision_for_Electronics.pdf
- 05** <https://notified.idtheftcenter.org/s/2020-data-breach-report>
- 06** <https://www.govinfo.gov/content/pkg/CHRG-112shrg72702/pdf/CHRG-112shrg72702.pdf>
- 07** <https://www.nhm.ac.uk/discover/what-is-space-junk-and-why-is-it-a-problem.html>; <https://blogs.nasa.gov/spacestation/2020/09/22/station-boosts-orbit-to-avoid-space-debris/>
- 08** <https://orbitaldebris.jsc.nasa.gov/faq/>
- 09** https://www.nasa.gov/mission_pages/station/news/orbital_debris.html
- 10** https://www.nasa.gov/centers/hq/library/find/bibliographies/space_debris
- 11** [https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/containers-and-packaging-product-specific-data#:~:text=EPA%20estimated%2014.5%20million%20tons,are%20classified%20as%20nondurable%20goods\),;https://www.nationalgeographic.org/article/whopping-91-percent-plastic-isnt-recycled/#:~:text=The%20new%20study%2C%20published%20Wednesday,nine%20percent%20has%20been%20recycled.](https://www.epa.gov/facts-and-figures-about-materials-waste-and-recycling/containers-and-packaging-product-specific-data#:~:text=EPA%20estimated%2014.5%20million%20tons,are%20classified%20as%20nondurable%20goods),;https://www.nationalgeographic.org/article/whopping-91-percent-plastic-isnt-recycled/#:~:text=The%20new%20study%2C%20published%20Wednesday,nine%20percent%20has%20been%20recycled.)
- 12** <https://blogs.ei.columbia.edu/2020/03/13/fix-recycling-america/>
- 13** <https://www.theguardian.com/us-news/2019/jun/17/recycled-plastic-america-global-crisis>
- 14** https://www.ellenmacarthurfoundation.org/assets/downloads/publications/NPEC-Hybrid_English_22-11-17_Digital.pdf
- 15** <https://ellenmacarthurfoundation.org/global-commitment/overview>
- 16** <https://www.wsj.com/articles/hand-sanitizer-sales-jumped-600-in-2020-purell-maker-bets-against-a-post-pandemic-collapse-11611311430>
- 17** <https://www.fda.gov/drugs/drug-safety-and-availability/fda-updates-hand-sanitizers-consumers-should-not-use>
- 18** <https://supplychaindigital.com/logistics/what-you-need-know-about-ups-green-shipping-and-carbon-footprints>
- 19** https://news-expressky.com/news/jones-illegal-dumps-littering-hampering-tourism/article_bf812140-a732-11eb-8836-4709f33e8834.html
- 20** In 2017 and 2020, Rubicon partnered with Trucost, part of S&P Global, to verify the methodology Rubicon employs to determine landfill diversion rates and how much carbon our customers avoid by choosing non-landfill diversion solutions.
- 21** <https://www.epa.gov/warm/basic-information-about-waste-reduction-model-warm>
- 22** <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>
- 23** <https://unfccc.int/news/commitments-to-net-zero-double-in-less-than-a-year>
- 24** <https://ellenmacarthurfoundation.org/completing-the-picture>
- 25** <https://www.circularity-gap.world/2020>
- 26** <https://www.theclimatepledge.com/content/amazonclimatepledge/us/en/Signatories/rubicon.html>
- 27** <https://www.theclimatepledge.com/us/en/about>
- 28** <https://sciencebasedtargets.org/>
- 29** <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>
- 30** Rubicon considers Scope 3 Category 1 to include the emissions associated with the transportation and disposal of its commercial customers' waste and recycling. Rubicon currently calculates the emissions associated with the transportation and disposal of waste and recycling using an assumed average distance traveled and typical practices at materials recovery facilities (MRFs) and landfills using the [EPA's GHG Emission Factors Hub](https://www.epa.gov/ghgemissions/ghg-emission-factors-hub). Rubicon is continually exploring methods to improve the accuracy and preciseness of this calculation and will include any necessary changes in future reports.
- 31** <https://ghgprotocol.org/scope-3-technical-calculation-guidance>
- 32** Rubicon's 2019 and 2020 greenhouse gas emissions data have received limited assurance by Stacks Data.
- 33** Rubicon uses the GHG Protocol Corporate Accounting and Reporting Standard for compiling data and calculating Scope 1 and 2 emissions data. Rubicon receives total building energy usage from its landlords and calculates its portion based on square footage. Rubicon calculates emissions from the following GHGs: CO₂ (carbon dioxide), N₂O (nitrous oxide), and CH₄ (methane) and uses the IPCC's Fifth Assessment Report (AR5 - 100 years) greenhouse warming potential (GWP). Rubicon also uses the EPA's GHG Emission Factors Hub for natural gas emissions factors and the EPA's eGrid for electricity emissions factors.

For 2020, Rubicon purchased 400 MWh of Green-e certified Renewable Energy Certificates (RECs). A REC represents the environmental benefits of 1 megawatt hour (MWh) of renewable electricity.

For Scope 3 emissions, Rubicon uses the GHG Protocol's Corporate Value Chain (Scope 3) standard to compile data and calculate Scope 3 emissions.

For 2020, Rubicon calculated additional Scope 3 categories. Rubicon added the emissions associated with purchased goods and services using internal spend data. Additionally, Rubicon added the emissions associated with teleworking due to the impact of COVID-19 on operations. Rubicon used [EcoAct's whitepaper "Homeworking Emissions"](#) to guide its methodology. Rubicon assumed base case assumptions.

34 The annual emissions from a refuse truck was calculated using national averages for refuse trucks from the U.S. Department of Energy and the assumptions found within the EPA's methodologies for calculating the emissions associated with waste disposal.

35 <https://www.govinfo.gov/content/pkg/PLAW-104publ210/pdf/PLAW-104publ210.pdf>

36 <https://science.sciencemag.org/content/360/6392/987>

37 <https://unfccc.int/news/fighting-food-waste-means-fighting-climate-change>

38 The carbon emissions avoided from diversion were calculated using the EPA's Waste Reduction Model (WARM) v15 methodology and emissions factors.

39 The emissions avoided were calculated using EPA WARM and the equivalency was calculated using the EPA's Greenhouse Gas Equivalencies Calculator.

40 <https://www.ceoaction.com/>

41 <https://www.greatplacetowork.com/certified-company/7005929>

42 <https://www.bls.gov/news.release/empsit.t05.htm>



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