



BurCell Technologies

Sustainable Fuel Industry

Company Description

BurCell Technologies, Inc. (BurCell) is a mission-driven environmental technology company focused on transforming municipal solid waste into valuable, low-carbon energy feedstocks and recyclable materials. BurCell's proprietary BurCell® System (BurCell System) processes mixed waste streams to recover organics and convert them into highly digestible feedstock for renewable natural gas (RNG) and other energy products, while maximizing diversion from landfills and reducing methane emissions. The results of this assessment are based on scaled operational performance data provided to Boundless by BurCell, representing their projected manufacturing and recovery operations at commercial facilities, including the company's existing sites in Cordele, Georgia, and South Fulton, Georgia, and planned expansions in serving additional regional waste-to-energy projects.

Headquarters	Kennesaw, GA, USA
Founded	2018
Business model	C-Corp
Employees	10-20
Website	burcellteam.com

Alignment with the United Nations (UN) Sustainable Development Goals (SDGs)



Industry, Innovation, and Infrastructure

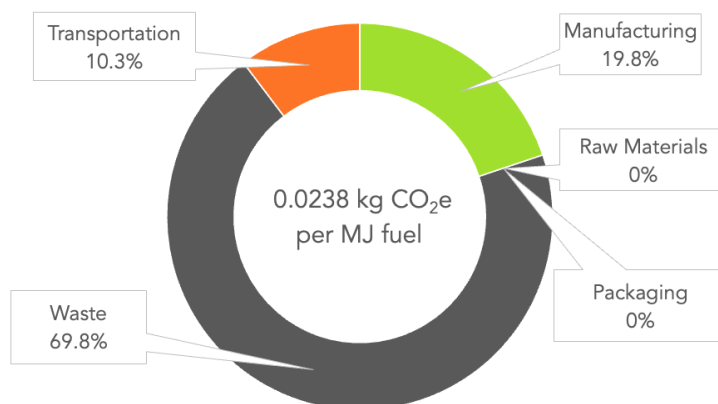


Responsible Production and Consumption



Climate Action

BurCell GHG Footprint*



*GHG Footprint is based on a cradle-to-gate system boundary.

Boundless Analysis

- ▶ This report provides a Life Cycle Assessment (LCA) of BurCell's BurCell System for RNG and Solid Fuel production.
- ▶ The assessment applies a cradle-to-gate system boundary.
- ▶ The LCA is based on a functional unit of one megajoule (MJ) of fuel produced, including RNG and Solid Fuel.
- ▶ Impact categories include Greenhouse Gas (GHG) Footprint, Fossil Energy Footprint, Water Footprint, and Particulate Matter Footprint.
- ▶ BurCell's fuel production has an estimated GHG Footprint of 0.0238 kg carbon dioxide equivalent (CO₂e) per MJ of fuel produced. When accounting for avoided emissions, the GHG Footprint decreases to -0.0576 kg CO₂e per MJ of fuel produced.
- ▶ When assessed on a functional unit of one MJ produced, the BurCell System demonstrates the best performance across GHG Footprint and Water Footprint.

Management Team

- Ron Barmore, CEO, and President - Ron Barmore is BurCell's President and CEO, Ron is an experienced senior executive and developer of renewable energy projects and has been involved in the waste-to-energy and biofuels industries for over 35 years.
- Luca Zullo, CTO - Luca Zullo is BurCells CTO, Luca holds a Degree in Chemical Engineering from the University of Padova, Italy, and a Ph.D. in Chemical Engineering from the Imperial College of Science, Technology, and Medicine of London, United Kingdom.
- Brad Hoecker, CFO - Brad Hoecker is BurCell's CFO, Brad has been employed in the financial services industry since 1989. For the past several years, Mr. Hoecker has provided financial services to numerous companies and real estate projects, including financings and realizations, legal structuring, book keeping, and tax advice.

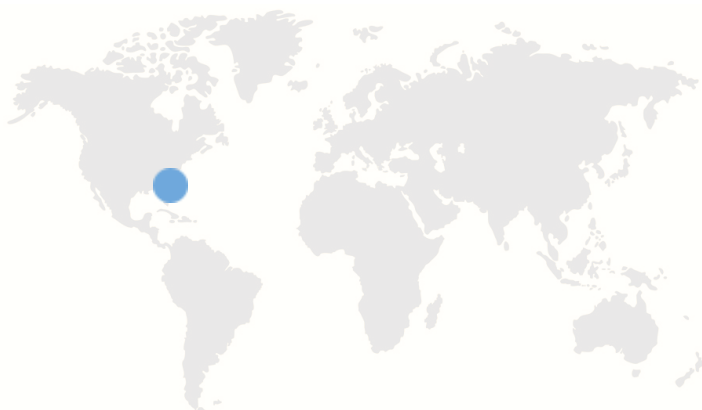
Technology

- BurCell's BurCell System processes mixed municipal solid waste using a proprietary mechanical and biochemical treatment to recover organic material and convert it into a highly digestible feedstock suitable for anaerobic digestion and other waste-to-energy pathways.
- The modular and scalable system can be deployed at or near waste generation sites, enabling on-site preprocessing while minimizing transportation and landfill disposal requirements.
- The process is designed to increase biogas and renewable natural gas yields while reducing lifecycle greenhouse gas emissions relative to conventional landfill disposal or incineration, and while maximizing recovery of recyclable materials.

Operations and Milestones

- BurCell is headquartered in the United States, with commercial operations based in Kennesaw, Georgia. The company operates its BurCell System at an active municipal solid waste processing facility, with additional projects under development.
- BurCell has developed its proprietary BurCell System with patents granted and pending, and has demonstrated the technology at commercial scale. The company's operational milestones include successful deployment of the system to process mixed municipal solid waste and support downstream renewable natural gas and alternative fuel production.

Current Operations



Environmental Highlights

Summarized below are the most relevant impact categories and codes that refer to the UN [SDGs](#). The present section highlights the most important factors that explain how this technology impacts the environment and society.

Waste-to-Value Innovation



UN SDG 9, specifically Target 9.4, highlights the need to “retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes.” By developing a waste-to-value system that upgrades mixed municipal solid waste into high-quality organic feedstock for RNG production, BurCell is innovating within the waste management and renewable energy sectors. The BurCell System enables more resource-efficient use of existing waste infrastructure, reduces lifecycle greenhouse gas emissions through avoided landfill methane, and integrates modular, scalable clean technology into established municipal and industrial waste processing operations.

Relevant code: [SDG 9](#), Industry, Innovation and Infrastructure.

Circular Economy



BurCell’s BurCell System advances UN SDG 12 by integrating clean, resource-efficient technology into existing waste management operations. The system converts mixed municipal solid waste into valuable organic feedstock for RNG production while recovering recyclable materials. By valorizing waste streams and displacing landfill disposal and fossil-based energy, the BurCell System exemplifies circular economy principles such as waste reduction, resource efficiency, and closed-loop material flows. This approach enables scalable, low-carbon waste-to-value production and demonstrates how discarded materials can be reintegrated into the energy value chain, supporting responsible consumption and production practices.

Relevant code: [SDG 12](#), Responsible Consumption and Production.

Decarbonization



BurCell’s BurCell System supports climate action by reducing greenhouse gas emissions associated with municipal solid waste management and energy production. By diverting organic waste from landfills and converting it into feedstock for RNG production, the system avoids methane emissions while displacing fossil natural gas in downstream use. These combined effects significantly reduce lifecycle GHG emissions across the waste and energy value chains. At scale, the BurCell System offers a high-impact decarbonization pathway and demonstrates how innovative waste-to-value technologies can transform a major emissions source into a low-carbon energy solution.

Relevant code: [SDG 13](#), Climate Action.

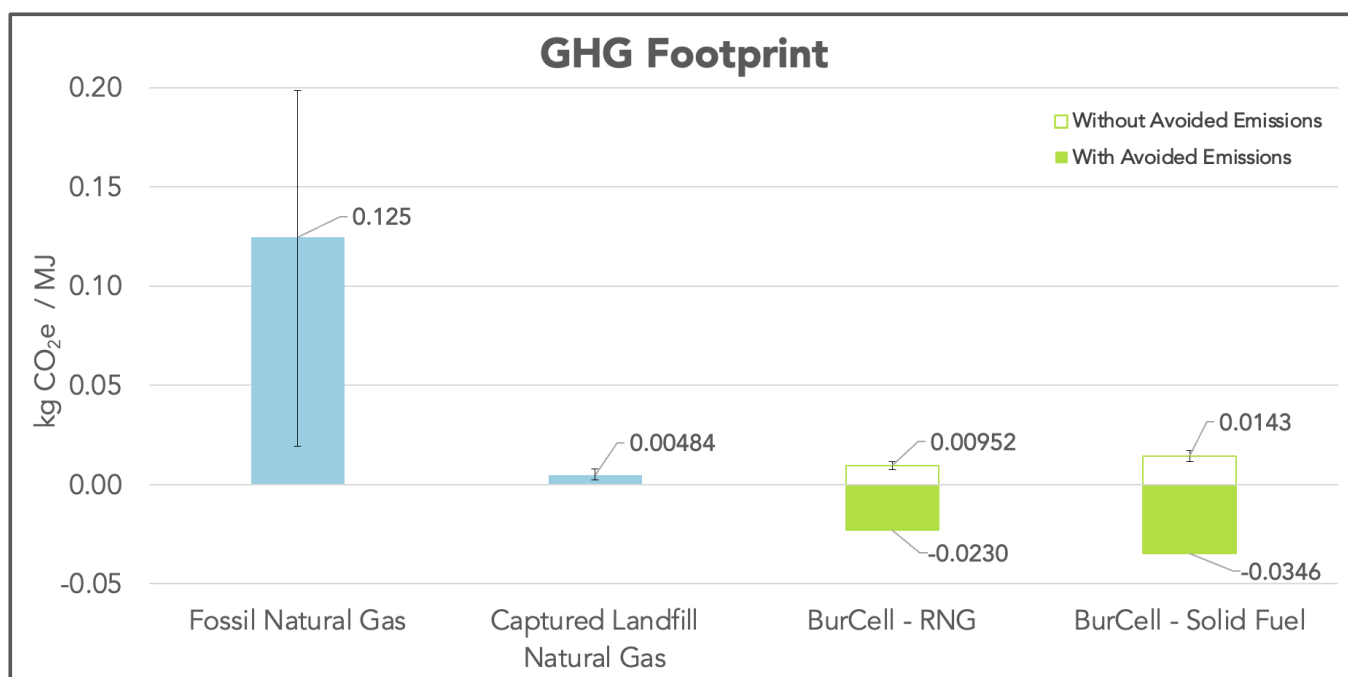
Environmental Key Performance Indicators

Boundless compared BurCell's RNG and solid fuel to fossil natural gas and captured landfill natural gas using a functional unit of 1 MJ of fuel produced. The assessment accounts for the environmental impacts associated with raw materials, transportation, and manufacturing. In this section, the environmental performance of BurCell's RNG and solid fuel is evaluated alongside fossil natural gas and captured landfill natural gas.

Greenhouse Gas Footprint

GHG Footprint is a measure of the cradle-to-gate GHG emissions resulting from the production of 1 MJ of fuel; it is reported in kg CO₂e per MJ. GHG Footprint accounts for all raw materials, energy, water, and transportation.

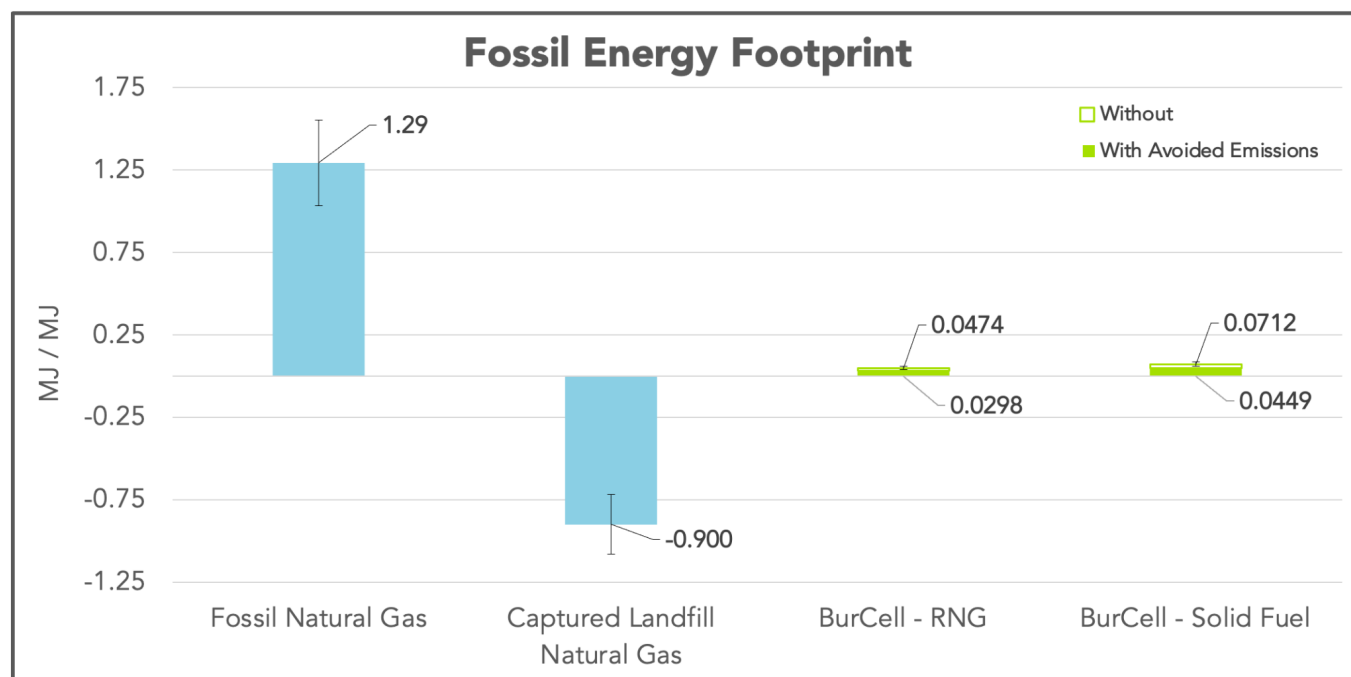
- ▶ BurCell's RNG and solid fuel have a cradle-to-gate GHG Footprint of -0.0230 kg CO₂e per MJ of fuel and -0.0346 kg CO₂e per MJ of fuel, respectively. These results outperform fossil natural gas and captured landfill natural gas with respect to GHG Footprint.
 - As shown in the chart below, BurCell's GHG Footprint reflects avoided emissions from displacing municipal solid waste and mixed waste plastics that would otherwise be landfilled. Without accounting for avoided emissions, BurCell's RNG and solid fuel have GHG Footprints of 0.00952 kg CO₂e per MJ of fuel and 0.0143 kg CO₂e per MJ of fuel, respectively.
- ▶ For comparison, fossil natural gas and captured landfill natural gas have GHG Footprints of 0.115 kg CO₂e per MJ of fuel and 0.00484 kg CO₂e per MJ of fuel, respectively, including raw materials, processing, manufacturing, and transport.
- ▶ Waste treatment is the primary source of emissions for BurCell's production process, representing 69.8% of the total. Of this, the treatment of DS Heavies alone contributes approximately 59.0% of the total emissions.



Fossil Energy Footprint

Fossil Energy Footprint represents fossil fuel energy inputs per MJ fuel, as a result of the mining and/or feedstock collection processes, embodied energy of materials, production, and transportation steps through the supply chain, reported in MJ fossil energy per MJ fuel.

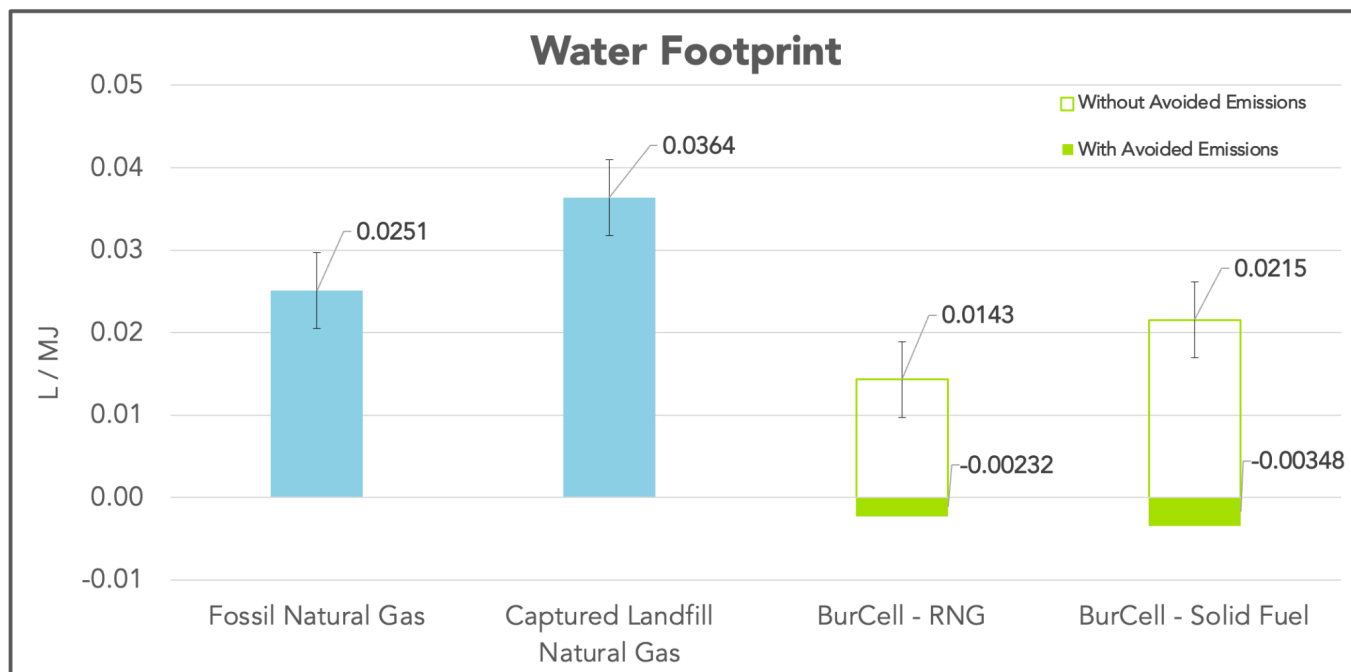
- ▶ BurCell's RNG and solid fuel have a cradle-to-gate Fossil Energy footprint of 0.0298 MJ per MJ of fuel and 0.0449 MJ per MJ of fuel, respectively. These results outperform fossil natural gas with respect to Fossil Energy Footprint, however captured landfill natural gas outperforms both BurCell's RNG and solid fuel.
 - BurCell's RNG and solid fuel Fossil Energy Footprint without accounting for avoided emissions is 0.0474 MJ per MJ of fuel and 0.0712 MJ per MJ fuel, respectively.
- ▶ For comparison, fossil natural gas and captured landfill natural gas have Fossil Energy Footprints of 1.29 MJ per MJ of fuel and -0.900 MJ per MJ of fuel.
- ▶ Manufacturing is the primary source of Fossil Energy Footprint for BurCell's production process, representing 59.3% of the total. Of this, the consumption of electricity from the grid accounts for 58.8% of the total emissions.



Water Footprint

Water Footprint represents the water consumption for raw material extraction and processing, and the manufacturing process of BurCell's RNG and solid fuel. It is reported in L per MJ of fuel produced.

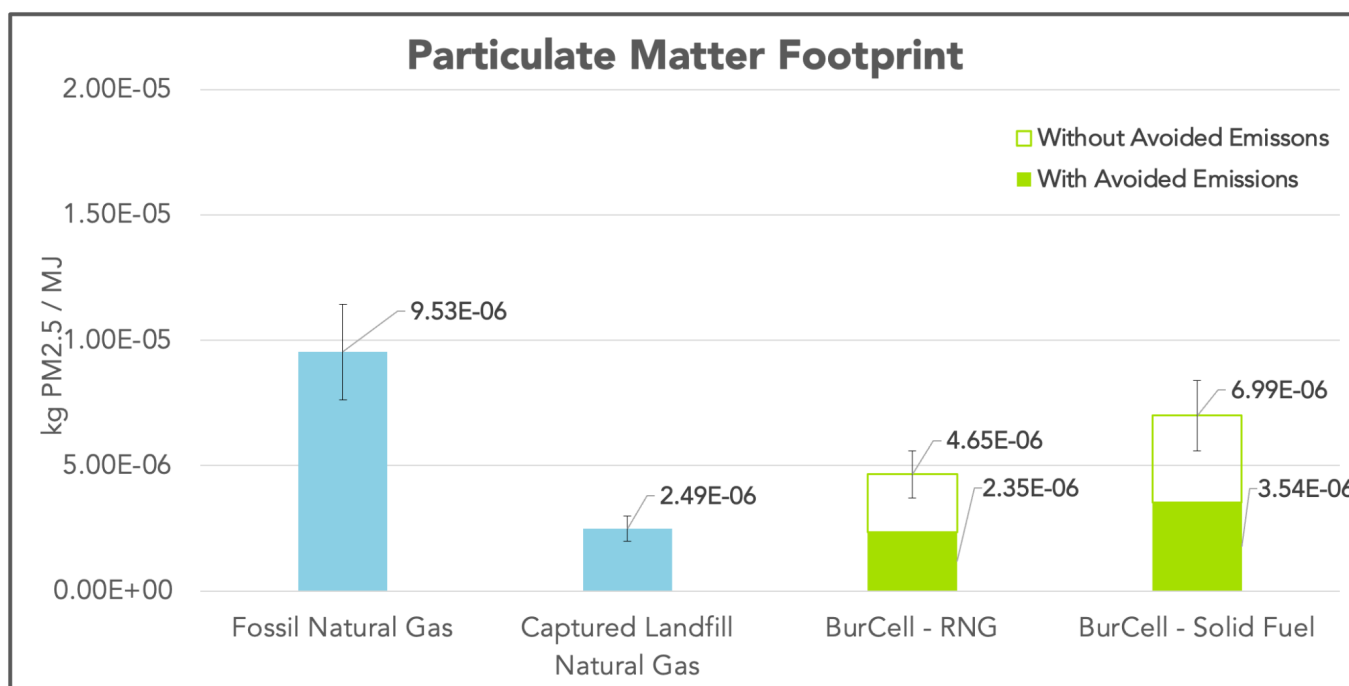
- ▶ BurCell's RNG and solid fuel have a cradle-to-gate Water Footprint of 0.0232 L per MJ of fuel and 0.00348 L per MJ of fuel, respectively. These results outperform fossil natural gas and captured landfill natural gas with respect to Water Footprint.
 - BurCell's RNG and solid fuel Water Footprint without accounting for avoided emissions is 0.0143 L per MJ of fuel and 0.0215 L per MJ fuel, respectively. Whether or not we account for avoided emissions, BurCell's RNG and solid fuel outperform both competitors.
- ▶ For comparison, fossil natural gas and captured landfill natural gas have Water Footprints of 0.0251 L per MJ of fuel and 0.0364 L per MJ of fuel.
- ▶ Manufacturing is the primary source of Water Footprint for BurCell's production process, representing 54.8% of the total. Of this, the consumption of electricity from the grid accounts for 54.2% of the total emissions.



Particulate Matter Footprint

Particulate Matter Footprint represents the release to air of suspended fine particles, 2.5 micrometers in size or smaller, that can originate from anthropogenic processes such as combustion, resource extraction, and manufacturing; it is represented in kg of particulate matter (PM2.5) per MJ of fuel.

- ▶ BurCell's RNG and solid fuel have a cradle-to-gate Particulate Matter Footprint of 2.35×10^{-6} kg PM2.5 per MJ of fuel and 3.54×10^{-6} kg PM2.5 per MJ of fuel, respectively. These results outperform fossil natural gas with respect to Particulate Matter Footprint, however captured landfill natural gas outperforms both BurCell's RNG and solid fuel.
 - BurCell's RNG and solid fuel Particulate Matter Footprint without accounting for avoided emissions is 4.65×10^{-6} kg PM2.5 per MJ of fuel and 6.99×10^{-6} kg PM2.5 per MJ fuel, respectively.
- ▶ For comparison, fossil natural gas and captured landfill natural gas have Particulate Matter Footprints of 9.53×10^{-6} kg PM2.5 per MJ of fuel and 2.49×10^{-6} kg PM2.5 per MJ of fuel.
- ▶ Manufacturing is the primary source of Particulate Matter Footprint for BurCell's production process, representing 69.1% of the total. Of this, the consumption of electricity from the grid accounts for 68.4% of the total emissions.



Conclusions and Recommendations

BurCell's RNG and solid fuel production pathways demonstrate a strong environmental performance relative to conventional fuel alternatives. Using a functional unit of 1 MJ of fuel produced, BurCell's RNG and solid fuel exhibit negative cradle-to-gate GHG Footprints of -0.0230 kg CO₂e/MJ and -0.0346 kg CO₂e/MJ, respectively, when accounting for avoided landfill emissions. These results indicate that BurCell's process not only produces usable energy from municipal solid waste and mixed waste plastics, but also delivers net climate benefits by displacing landfill disposal and fossil fuel production.

Across additional environmental indicators—including Fossil Energy Footprint, Water Footprint, and Particulate Matter Footprint—BurCell's fuels consistently outperform fossil natural gas. Compared to captured landfill natural gas, BurCell's performance is competitive, with landfill gas demonstrating advantages in certain categories (e.g., Fossil Energy and Particulate Matter Footprints), while BurCell's fuels show advantages in GHG and Water Footprints. These results reflect the different system boundaries and process configurations of engineered waste-to-fuel systems versus passive landfill gas capture.

The greatest opportunity to further reduce the GHG footprint lies in optimizing manufacturing and residual waste management processes, particularly electricity consumption and the treatment of DS Heavies. Implementing targeted energy efficiency measures, such as transitioning to renewable electricity, and exploring alternative recycling or recovery pathways for DS Heavies could further improve the environmental performance of BurCell's fuel production system. These improvements would lower overall emissions and strengthen the carbon-negative profile of BurCell's RNG and solid fuel.

About Boundless Impact Research & Analytics

Boundless Impact Research & Analytics is a market intelligence and impact analytics firm that provides quantitative and evidence-based research and data for investors, companies, and funds. Driven by the latest research from independent industry and academic experts, Boundless Impact Research & Analytics offers analysis, market trends, and evidence of best practices in a growing number of emerging sectors that address significant environmental challenges. Our research into emerging technologies, impact assessment of companies, and thought leadership provide investors with the latest and most relevant information to drive their investment decisions.

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