



CASE STUDY · GREENHOUSE GAS VERIFICATION

Advancing Climate Action through Landfill Gas Recovery and Verification

Biogás de Juárez transforms landfill emissions into renewable energy with third-party verified carbon credits.





Perspective

Since 2007, Biogás de Juárez has operated the Ciudad Juarez Landfill Gas to Energy Project, converting methane emissions from landfill waste into a dependable source of renewable energy. With proven, long-term technical reliability, Biogás de Juárez stands as a leading example of waste management and climate action. With an estimated capacity of 18,000,000 Nm³/y and a footprint of 79 hectares (nearly 200 acres or 151 football fields), the landfill’s collected gas is used for electricity generation on-site.

Operating since	Estimated landfill gas extraction	Site footprint
2007	18,000,000 Nm ³ /year	79 ha

Ciudad Juarez Landfill Gas to Energy Project started reporting and verifying carbon credits in 2007 and was initially registered under the United Nations’ Clean Development Method (CDM) from 2007-2021. Recognizing both the growing impacts of climate change and the intensifying demand for innovative solutions, the Biogás de Juárez project team planned to elevate environmental performance with accountability by ensuring that its greenhouse gas reductions were measured and independently verified to exacting international standards, such as the Climate Action Reserve’s Mexico Landfill Protocol.

Reporting and verification as a carbon offset project began in **2007 with significant updates starting in 2021**

Standard applied as of 2021:
Climate Action Reserve’s Mexico Landfill Protocol



Challenge

Biogás de Juárez understands the vital distinction between claiming to make a difference in the world versus demonstrating that difference in a way that strengthens communities, enhances credibility, and diminishes environmental impacts. With increasing scrutiny placed on the global carbon credit market, Biogás de Juárez prepared to take the appropriate steps to maintain credit buyer confidence and demonstrate the integrity of its greenhouse gas reductions. What the company needed, then, was an independent verifier with deep expertise, strict methods, and a strong reputation that could match the technical complexity of the Biogás operations with credibility in the carbon market.

Biogás de Juárez turned to the SCS Global Services Greenhouse Gas (GHG) Verification Team to conduct independent, third-party verifications under the Climate Action Reserve program.

SCS Global Services has been performing landfill verifications under Climate Action Reserve and other registries like Verra and ACR for more than fifteen years. As a verification body, SCS Global Services provides thorough assessments to ensure the resulting credits are accurate and in conformance with the criteria and, therefore, low-risk to the project proponent and ultimately, the buyers.





Process

To step into a new era of innovative GHG reductions, Biogás de Juárez implemented a structured, transparent project aligned with Climate Action Reserve's protocol requirements, and SCS Global Services verified the operation's conformance against the criteria.

This process took place through a series of verification cycles. During each cycle, the Biogás de Juárez project team compiled the required monitoring data, including landfill gas collection volumes, methane destruction records, electricity generation information, and supporting operational documents such as calibration certificates. These materials were then submitted to the SCS Global Services audit team for independent review.



CLIMATE
ACTION
RESERVE





“SCS Global Services has been a trusted partner in verifying the environmental integrity of our project. Their technical expertise, independence, and rigorous approach have strengthened buyer confidence and helped us bring high-quality carbon credits to the market.”

Nancy Herrada Garibaldi

Director of Operations | Biogás de Juárez S.A de C.V.



SCS Global Services also conducted on-site assessments to observe project operations, inspect measurement and monitoring equipment, and interview plant personnel. These visits provided the necessary assurance that the facility was operating as reported, and that key systems and procedures were functioning effectively. In addition to the onsite activities, SCS Global Services evaluated monitoring reports, data management systems, regulatory conformance, and supporting evidence to confirm that emission reductions have been accurately quantified in accordance with Climate Action Reserve requirements.

Throughout each verification cycle, the Biogás de Juárez project team responded to SCS Global Services' requests for clarification and supporting evidence, demonstrating conformance with the requirements of the Climate Action Reserve protocol.





Value of Verification

Around 20% of global anthropogenic methane emissions originate from the waste sector, primarily due to organic waste decomposition in landfills. One of the most common GHGs emitted from landfills, methane is a superpollutant with a warming impact 86 times stronger than carbon dioxide over a 20-year period. Because methane persists in our atmosphere for about 12 years, reducing methane can bring short-term climate impact, effectively buying humanity more time to limit atmospheric warming.

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86x

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~12 yrs

methane's persistence in the atmosphere

With potential for such positive climate outcomes comes great responsibility: High-impact methane reductions are best paired with credible, independent verification, which offers assurance to credit buyers and the general public about the claims being made.



Major Milestones & Achievements

The successful completion of each verification cycle enabled Biogás de Juárez to issue and commercialize verified carbon credits, creating a sustainable revenue stream that now supports the long-term operation of the project and its ongoing climate benefits. This meticulous approach also contributed to Biogás de Juárez maintaining a consistent verification record, demonstrating the integrity, transparency, and reliability of its carbon credits. Major milestones and achievements resulting from this project included:

High-integrity carbon credits verified under Climate Action Reserve

Emission reductions were independently verified by SCS Global Services under the Climate Action Reserve program, giving buyers added confidence in the quality, transparency, and environmental integrity of the credits.

Tier 1 rating from Calyx Global

Credits issued to the project between 2021 and 2023 received the highest tier rating (Tier 1) from Calyx Global, reflecting strong environmental integrity and low delivery risk.

Direct ownership and full operational control

Biogás de Juárez designed, financed, developed, and continues to operate the project, retaining full ownership of the carbon credits while ensuring complete traceability and minimal counterparty risk.

Long-standing verification with SCS Global Services

The project has successfully completed consecutive verification cycles with SCS Global Services for more than three years, demonstrating operational consistency and strong environmental compliance.



In Their Words

"We're proud to play a part in the important work of the Ciudad Juárez Landfill Gas to Energy Project as they've set a remarkable new precedent for landfill innovation and performance in México.

Verification of impactful methane reductions ensures the reductions are actually happening, in real time and in a proven way, at this pivotal moment. By pairing Biogás de Juárez's more than 18 years of operational excellence with our rigorous third-party verification, the project has reinforced its contribution to climate action and demonstrated the value of landfill gas recovery as a practical, scalable solution."

Heather Rosa

Program Director, GHG Verification, Energy, Industry, and Agriculture, SCS Global Services

"We've reviewed thousands of carbon projects in our 10 years and only 65 have met our standards for scientific integrity, climate impact, financial stewardship, and community benefits. Biogás de Juárez delivers strong environmental and social impact, which stood out during the verification process with SCS Global Services. We share SCS Global Services' commitment to integrity and feel that the project developer, Biogás de Juárez, has distinguished itself as a trusted leader in developing high-quality landfill methane projects. We look forward to their future growth on behalf of people and planet."

Jodi Manning

CEO, Cool Effect

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