safisana

UPCYCLING WASTE FOR GOOD

2024 Annual Review

SAFISANA IN 2024

2024 was a pivotal year for Safisana—marked by ambitious progress, real-world challenges, and powerful impact. We took bold steps toward scaling our model, developing the Renewable Natural Gas (RNG) business case, inaugurating our second waste treatment facility in Kumasi, and securing COCOBOD's approval to supply our organic fertilizer for cocoa seedlings—a milestone that directly supports Ghana's most important agricultural sector.

At the same time, we navigated headwinds including inflationary pressures, national elections, and extreme weather. While we secured new funding, the loss of a key funder left us with a financial gap to address in 2025. Even so, **we delivered strong operational performance—achieving 100% break-even across the first three quarters of the year** and maintaining 90% by year-end despite major digester maintenance. Biogas and electricity production increased, partnerships deepened, and our engagement with local communities continued to grow.

Advocacy efforts have played a crucial role in promoting all that Safisana does across the Sustainable Development Goals spectrum, with national and local engagements, including participation in the Ghana WASH Week, the 35th Mole National Conference, and the commemoration of World Toilet Day. These platforms enable Safisana to promote circular economy approaches, influence policy discussions, and drive awareness on sustainable sanitation practices and waste management. Through strategic partnerships with the Assembly and community-driven solutions like the *Stronger Together* Project with Plan International Ghana, the evidence of impact of the Safisana solution continues to foster climate resilience, economic empowerment, and improved public health engagement in Ghana.

Looking ahead, we are preparing for a transformative year in 2025. The new composting site near Ashaiman, developed under the World Bank GAMA project, will come online to expand our production capacity. In Greater Kumasi, the upcoming Oti recycling plant offers another opportunity to scale impact.

Our strategic priorities for 2025 are clear: maintain stable operations, secure a consistent 100% coverage rate, and launch the RNG project with an offtake agreement in place. Alongside this, fundraising will remain central to bridging the financial gap and fuelling future expansion.

Despite the challenges, 2024 reaffirmed Safisana's resilience, innovation, and ability to deliver lasting impact for people, communities and the environment.

IMPACT ON PEOPLE AND CLIMATE

In 2024, we reached 54,000 people, comparative to 2023 but with a slight dip due to challenges with irregular organic waste supply and digester. Looking ahead, with the GAMA project and our Kumasi plant expected to be fully operational by Q2 of 2025, we anticipate a significant increase in waste intake and compost production, which will further boost our overall impact and expect to serve 82,000 people by the end of 2025.

safisana

YEAR 2024

OPERATIONS IN GHANA

The trend for an increase of production and sales increased in 2024 leading to operational coverage of 99% in October. This period included the challenges of a temporary shutdown of the digester and no biogas production during November and December as essential maintenance was carried out on the digester. This digester maintenance is required every four years and thanks to applied learning, it is now a smooth planned process with minimal disruption.

STRONGER TOGETHER PROJECT

In 2024, Safisana collaborated with Plan International Ghana under the *Stronger Together* Project to promote safe sanitation, sustainable waste management, and climate-resilient agricultural practices in Ashaiman Municipality.

PLAN INTERNATIONAL

Through this pilot project, 314 community members, including farmers, toilet operators, schoolchildren and vacuum truck operators, were sensitized on organic and fecal waste management.

The project focused on capacity building for female farmers, training 85 women on the use of organic fertilizer to improve soil health and agricultural productivity. These training sessions were facilitated by subject matter experts, including the Safisana Agronomist who promoted sustainable farming methods and demonstrated the essence of using organic fertilizer as opposed to using chemical fertilizers that harm the environment.

safisana

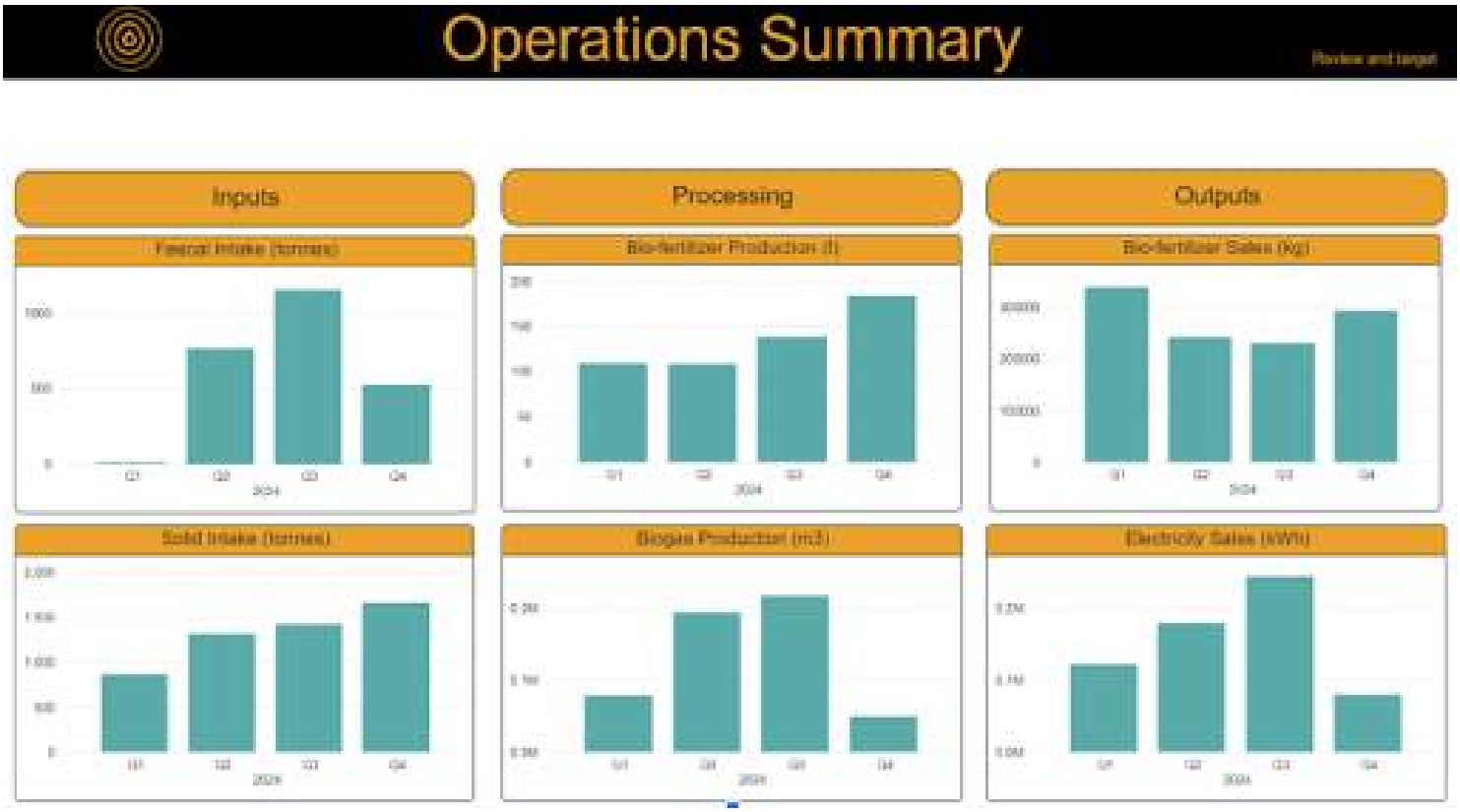
YEAR 2024

Sourcing and production

In 2024, waste sourcing was a top priority as we tested the digester's full capacity under the Ashaiman Max pilot. Despite early delays in organic waste deliveries, new suppliers like Fan Milk and Equator Fruits helped stabilize intake. By mid-year, biogas production rose sharply, confirming the digester can operate at full capacity—a key milestone for scaling.

In 2024, market waste collection increased despite occasional truck breakdowns, which we mitigated by partnering with commercial transport operators. From April 2025, we will operate our own truck, reducing costs and reliance on external services. Audit requirements at industrial suppliers initially reduced organic waste deliveries, forcing us to scale down faecal waste intake; by year-end, faecal waste intake reached 31% of target (780 tonnes), while organic waste improved from 53% in Q1 to 102% in Q4. Stronger supplier relationships and more efficient operations now provide a solid foundation for further improvements in waste transport and processing in 2025.

2024 waste intake targets: 780 tons fecal waste/m and 540 tons organic waste/m
Actuals: fecal 224 tons (monthly average) and organic waste: 420 tons/month



COMMUNITY IMPACT

World Toilet Day

Safisana co-sponsored World Toilet Day in Ashaiman alongside **Plan International Ghana**, engaging communities, schools, health officers, and local leaders to promote safe sanitation. The event, themed **“Toilets Are a Place for Peace,”** reinforced our commitment to sustainable waste management and improved public health.

safisana

YEAR 2024

Biogas and electricity production

In 2024, we set a target of 110 MWh per month to fully utilize our two CHPs. While we met this target in biogas production, actual electricity generation averaged 57 MWh (51%) due to grid instability, as the national grid could absorb only half of our output. Grid stability improved in the final quarter, though a scheduled digester shutdown in November briefly reduced production.
Because of restrictions in our Power Purchase Agreement with the Electricity Company of Ghana, we prioritized increasing biogas production. Some excess gas had to be flared, but trials between May and August demonstrated the plant's readiness for future expansion into compressed Renewable Natural Gas (RNG). Despite a Q4 dip during scheduled maintenance, the digester was successfully restored, setting us up for a stronger 2025.

The December maintenance was a success, informed by lessons from the 2022 shutdown. With detailed documentation, advance preparation of tools and parts, and step-by-step manuals for each phase, the intervention was executed seamlessly and on schedule.

2024 Production target: Electricity 110 MWh / month
Actuals: 57 MWh / month

safisana

YEAR 2024

Fertilizer production

We were able to reach the required levels to meet our sales target for 2024. In addition, we've made progress towards a more lean production strategy, focusing on minimizing stock and following sales forecasts.

In 2024, fertilizer output recovered strongly after early disruptions, reaching 45 tons in Q3 and peaking at 65 tons in October. Even during the Q4 digester shutdown, production continued using only market waste, underscoring Safisana's resilience and efficiency.

The GAMA Sanitation and Water Project, funded by the World Bank, is set to further increase our production capacity by 60 tons per month towards Q4 2025. This will also help to absorb the fluctuations we have seen in production in the past year.

2024 Production target: Fertilizer 92 tons / month
Actuals: 45 tons / month

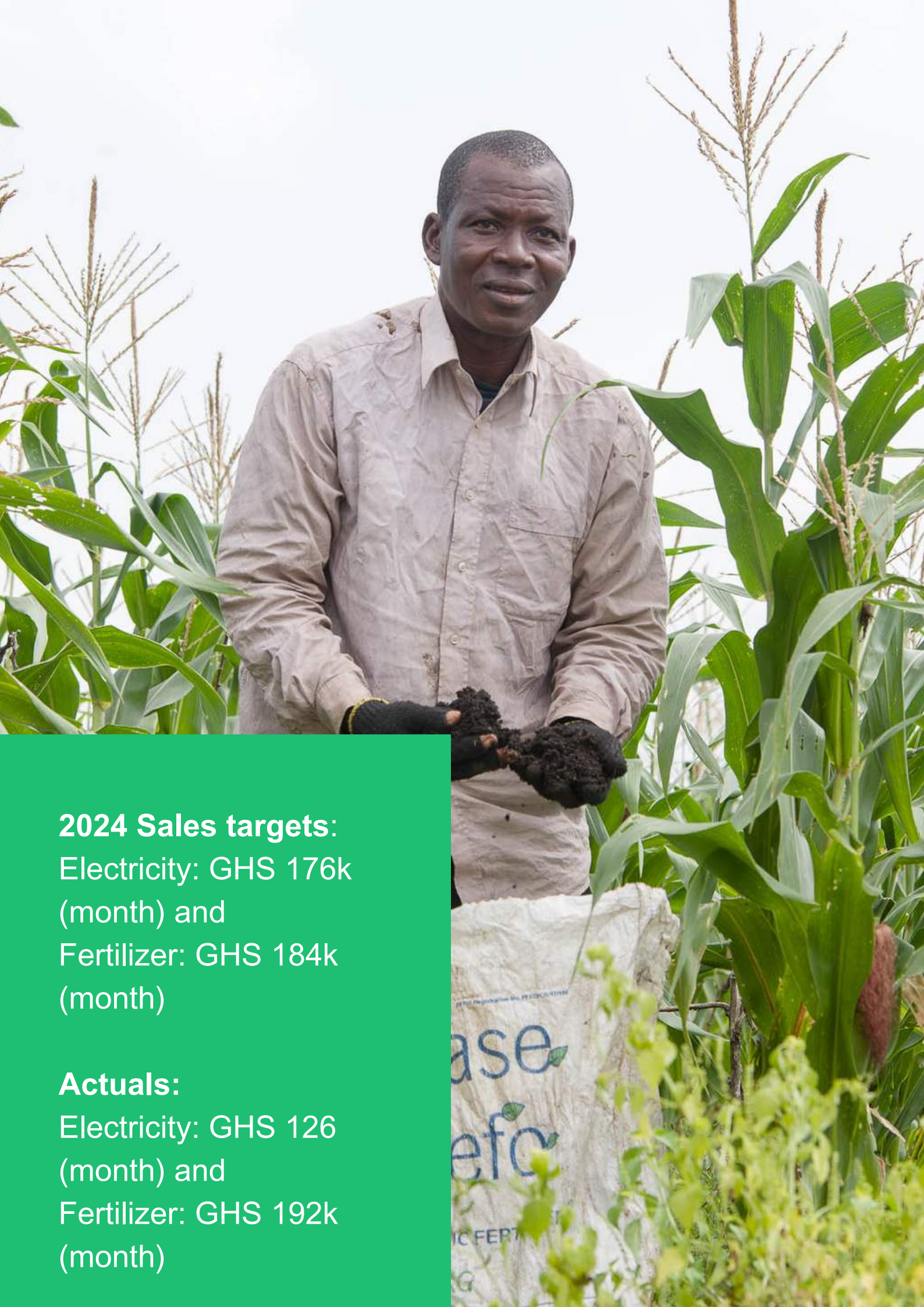
COMMUNITY IMPACT

Visit by African Institute of Mathematical Sciences PhD Students

In November, 60 PhD students from the African Institute of Mathematical Sciences (AIMS) visited our site to learn about Safisana's innovative waste management model. The visit showcased our impact on urban challenges such as waste management and air pollution, aligning with Ghana's sustainability goals. Students from diverse fields —mathematics, climate science, and finance—engaged with our team, gaining insights to inform proposals they will pitch at an upcoming competition, with top ideas eligible for incubation support.

Fertilizer sales

Fertilizer sales were strong in 2024, ending the year just 3% below target. Q1 performed particularly well due to effective outreach and high demand in the early planting season, while seasonal shifts in Q3 and Q4 slowed activity.
A newly appointed Commercial Manager is already driving strategies to expand outreach, diversify the customer base, and prepare for market entry into the Ashanti region in 2025. With these efforts, demand is expected to outpace production, a gap that will be supported by increased output from the World Bank–backed GAMA sanitation project, set to boost supply by Q3 2025.



2024 Sales targets:
Electricity: GHS 176k (month) and
Fertilizer: GHS 184k (month)

Actuals:
Electricity: GHS 126 (month) and
Fertilizer: GHS 192k (month)

safisana

YEAR 2024

RESEARCH AND DEVELOPMENT

FAECAL WASTE TRACKING PROJECT

in Q3, we started a pro-bono project with Autodesk Foundation to improve how we track faecal sludge trucks. This helps us map the communities served by the trucks, improve the quality of the waste we receive, and support better sanitation planning. It’s an important step in making our waste management more efficient and focused. The first results and recommendations for next steps will be implemented in 2025.

Carbon footprint study

We have completed a carbon footprint study, which demonstrates how we're helping reduce greenhouse gas emissions. This is key for clients interested in Renewable Energy Certificates (RECs), for which Safisana is eligible to apply. These certificates represent the environmental benefits of renewable energy sent to the grid, allowing companies to show how they're using renewable energy and reducing their carbon footprint.

Agronomy Projects: boosting fertilizer sales

We achieved an important milestone in 2024 with the COCOBOD certification for seedlings, enabling us to enter a new market segment. We're almost at the finish line with the COCOBOD certification. Phase 1, which looked at the effectiveness of Asase Gyefo on cocoa seedlings, was completed in early 2024 by CRIG. Phase 2, focusing on certification for matured cocoa plants, will start in January 2025 and take three years.

These trials show that our fertilizer works! This will help boost sales and give cocoa farmers confidence in using it. It also helps reduce soil degradation by preventing the use of topsoil from forest floors

Agronomy Projects: Agro Eco-developing the market for cocoa

We combined our Asase Gyefo fertilizer with soil and cocopeat to raise cocoa seedlings for Agro Eco, an organization supporting smart cocoa production. The results were highly positive and trial fields using Asase Gyefo outperformed control fields (which had no compost) in key growth metrics such as plant height and stem girth.

safisana

YEAR 2025

The Good Roll Trial: testing our fertilizer for large scale bamboo production

The Good Roll, a sustainable bamboo paper producer, partnered with us to test how Asase Gyefo supports the raising of bamboo seedlings into plantations.
Similar to the Agro Eco results, the bamboo plants in the compost-treated fields showed superior growth, particularly in girth and internode length.

SCALING

Our goal is to reach profitability in Ghana by 2028, impacting 343,000 people annually and paving the way for expansion abroad. To get there, we're scaling up our two plants, maximizing fertilizer and biogas production, and launching Renewable Natural Gas (RNG) for business and government customers. By 2027, we plan to have both plants running at full capacity, boosting revenue and meeting growing demand from farmers.

Beyond the business growth, this scale-up will improve public health, farming, energy access and carbon reduction. We're refining impact tracking to attract future investments through blended finance. Once profitable in Ghana, we aim to launch our third plant outside the country in 2028, guided by a site evaluation scoring card and strengthened by progress in carbon impact tracking and capitalization to attract off-takers and investors.

safisana

YEAR 2024

Business Development in Ghana

In 2024, we advanced “Ashaiman to the Max”, scaling biogas capacity from 2,200 to 6,000 m³/day and preparing to introduce Renewable Natural Gas (RNG) as a clean fuel alternative. Our 2025 focus is to finalize an RNG offtake agreement and secure blended funding to launch the project. With potential partners from the food and beverage sector, we are on track to begin RNG operations by end of 2026.

COMMUNITY IMPACT

Participation in Mole National Conference

Safisana, in partnership with Plan International Ghana (PIG), participated in the 35th Mole National Conference in Ho. Organized by CONIWAS, the conference focused on SDG 6: ensuring access to water and sanitation for all. Safisana and PIG showcased the Stronger Together project, demonstrating how a circular economy approach can transform waste into valuable products while improving sanitation in urban slums.

This year's conference emphasized closing the waste management loop and reducing greenhouse gas emissions, shifting focus from traditional water containment to sustainable resource recovery.

safisana

YEAR 2024

Kumasi Fertilizer Plant

Construction of the Kumasi composting plant is on track for April 2025, with the first compost bags expected by June 2025. Meanwhile, our pilot setup produced 2,400 bags in 2024, proving strong potential for scale-up.

GAMA (World Bank) project: increasing treatment of fecal waste in Ashaiman

The GAMA facility is now 85% complete, with full handover expected by the end of Q1 2025, slightly later than the original November 2024 target due to election-related disruptions. Once operational, it will process 7.5 tons of bio-digester sludge daily from 4,000 toilets across four assemblies, producing around 81 tons of compost per month (2,724 bags). The 20-year contract begins with the first full production cycle anticipated in Q4 2025.

Carbon impact and capitalization

To build a science-based reference for our emission reduction potential, we engaged ACT Commodities to conduct a feasibility study on RNG expansion in Ashaiman and its eligibility for voluntary and compliance carbon markets. The study showed that most of our treated waste would otherwise end up in landfills, with findings estimating 5,000–20,000t CO_2e reductions annually, depending on volumes treated. Building on this, we are developing a strong business case for RNG supply, with ongoing negotiations with major off-takers, supported by plans to expand Ashaiman's capacity to 6,000 m^3/day.

YEAR 2024

Partnerships

safisana

2024 Annual Review

www.safisana.org

+31 (0) 294 773857
+233 (0) 302972380

info@safisana.org

Safisana