



BIOSTREAM

A Fully Containerized Biogas Upgrading Solution

ivysads.com



IVYS

Purely Driven

A WORLD POWERED BY CLEAN ENERGY

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NTS

A dense forest of tall, thin evergreen trees, possibly spruce or fir, filling most of the frame. The trees are lush green and have a fine, needle-like texture. On the right side, a narrow dirt path or trail winds through the forest, bordered by a low wall or fence made of similar vegetation. The lighting is natural, suggesting a bright day with some shadows within the canopy.

Our Vision



IVYS

Purely Driven

A World Powered by Clean Energy

By providing both high-performance and innovative technological solutions for the purification of biogas and by offering a wide range of equipment for the conditioning, compression and filtration of air and gas, Ivys is part of the great line of companies aiming to decarbonize the planet. A sustainable development model that integrates economic growth with social and environmental responsibility.

Our slogan, "Purely Driven," reflects our vision of a cleaner planet, our continued search for more efficient solutions and our dedication to building an organization of excellence together that stays true to its values.

Our Reputation for Excellence

Ivys is recognized as an ethical, experienced and reputable player in Canada and on the world scene. Ivys is fully compliant with all North American and European codes and standards. As an Original Equipment Manufacturer (OEM), we guarantee the performance of our biogas upgrading systems.

CRN

CE



PED





Biostream

A Fully Containerized Biogas Upgrading Solution

Get your standardized biogas upgrading system running faster with a scalable turnkey solution designed for easy deployment, seamless maintenance, and optimal lifecycle cost.

Plug and Play: Simple, Flexible and Scalable

Modularized, fully containerized units for quick installation and plug & play operation: pre-assembled, pre-connected and pre-tested. As your biogas production grows, Biostream allows for fast and easy expansion of your biogas upgrading capacity. Simply add an additional Biostream system to increase your RNG production capacity.

Reliable Core Technologies: A cut above competing biogas upgrading solutions

Our biogas upgrading's core technology uses our proprietary PSA system, one of the most compact, economical, and reliable gas purification systems available today. The PSA's unique fast-cycle rotary valve technology and advanced adsorbents is optimally designed to maximize methane recovery, even when levels fluctuate. Changes in feed impurity are automatically adjusted for continuous upgraded biogas production while consuming significantly less energy.



Capacity
55-280
SCFM per unit

RNG Purity
97+%

Turndown
40-100%

Methane Recovery
Up to
99+%

Converting waste to renewable energy

Creating profitable, clean-energy production assets

- ◆ Biogas is a valuable resource that can be derived through anaerobic digestion from agricultural, wastewater treatment plant, and food waste streams.
- ◆ Biostream is the cost effective solution to deliver RNG from smallscale and mid-sized biogas plants.

Small scale biogas upgrading systems eliminate the need for gas conditioning systems at each small or mid-size site with transportation of biogas to centralized upgrading facilities, improving the economy of cluster projects.

EQUIPMENT AVAILABLE

◆ PSA System.

Nine vessel, fast cycle, single rotary valve combined with high efficiency regenerative adsorbent.

◆ Biogas Compressor.

Biogas compressor package.

◆ Water Chiller Package.

A dehumidifier/compact cooler with heat exchanger.

◆ Buffer Tanks.

PSA inlet, recycle, biomethane, and exhaust gas buffer tanks to facilitate the gas balance.

◆ H₂S Scavenger.

A desulpherization unit for H₂S removal by activated carbon.

◆ Rotary Equipment.

Biogas blower package, biogas compressor package, regeneration vacuum pumps.

◆ Post Treatment.

Gas dryer (RNG).

Biostream Technical Specs

Capacity (NCHM & SCFM)	90-225 NCMH / 55-280 SCFM
RNG Purity	97+%
Methane Recovery	up to 99.0+%
Lifetime Reliability	+20 Years
Delivery Pressure	6+ BARG/ 90+ PSIG
Turndown	40% - 100%
Control System	Fully automated
PSA Adsorbent Lifetime	+10 Years
Local Area Network (eWON-Tablet Access to control system)	Per Request
Remote Access to SCADA	Available
Fully Containerized Solution	Yes
Noise Level	<85 dB @ 3ft
Ambient Automatic Temperature Control Inside Container	Included
Gas Analyzer for Process Control	CH ₄ , CO ₂ , O ₂ , H ₂ S, (product and inlet gas)
Gas Flow Meters	Inlet Gas, RNG and Tail Gas
Instrument Air	Included
Water Chiller Package*	Included
H2S Removal Unit	Included
VFD for All Rotary Equipment Included	Included
Interconnection Piping and Electrical Inside the Container	Included
Transportation, Installation, Commissioning/ Startup and Testing	Per request

* Chiller and H2S Polish installed outside of container.

The Biostream Advantage

Quality components lower life-cycle cost and drive revenue from upgraded biogas production.

- ◆ Low CAPEX
- ◆ Reliable gas purification technology
- ◆ Automation, monitoring & process automation
- ◆ Low power consumption
- ◆ Fast installation & activation





Ivys's rotary valve and highly efficient proprietary adsorbent are the two core technology differentiators that are integrated into each advanced biogas upgrading system providing considerable CAPEX and OPEX cost savings.

Maximized Revenue. Improved Profitability.

High recovery combined with the reliability of our biogas upgrading solution and our low operating costs creates significantly more profit than any competing technology.

High Reliability.

Ivys' PSAs have accumulated over 15 million hours of commercial operation with proven availabilities.

Ease of Installation.

Ivys delivers modularized, skidded, containerized units for simple, fast installation.

Low Power Consumption.

Ivys' PSA operation and advanced control systems give one of the lowest possible power consumptions in biogas upgrading.





IVY
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Service

Fast, Reliable Service

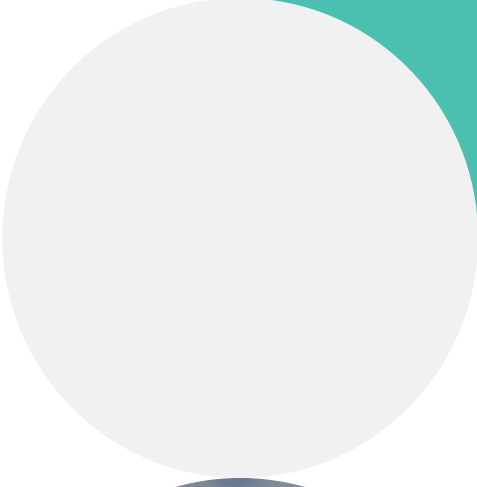
When you need it. Where you need it. Fully trained technicians available across North America to keep your Biostream operating at its peak.

Level	1	2	3
	Basic Support	Preventative Maintenance	Fully Managed Service
Remote access trouble shooting support	✦		
Off-site activity supervision	✦	✦	✦
Spare parts & consumables provided	✦	✦	✦
24/7 online & phone support		✦	✦
Remote equipment monitoring		✦	✦
Additional year of extended warranty		✦	
Annual managed/preventative services			✦
Spare parts inventory management			✦
On-site operations by field engineers			✦

Service, Maintenance, Commissioning & Training

Our range of local support services include remote access troubleshooting support with Tier II and Tier III service agreements.





Selected References

90+

installations worldwide



California Project

Biostream, Dairy farm to pipeline

📍 California
Commissioned: 2021



Chantonay Project

Biogas from Anerobic Digestion of local organic matter

📍 Chantonay, France
Commissioned: 2018



Fortis Project

Landfill gas to RNG into Fortis BC pipeline

📍 Salmon Arm, B.C., Canada
Commissioned: 2013



Rumpke Project

Landfill gas to RNG into Duke Energy pipeline

📍 Cincinnati, Ohio
Commissioned: 2009



Magic Valley Cleanup Hub

End-Use: RNG/CNG (Pipeline)
Digester Tech: Gas Cleanup

📍 USA
Commissioned: 2021



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