



Leveraging the RNG Potential of Florida's Landfills

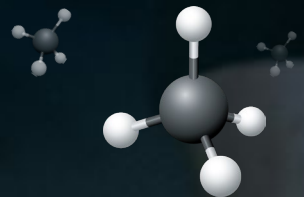
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Methane concentration in the atmosphere is at its highest level in the last **800,000 years.**

If methane emissions are not reduced, it could **undermine the goals of the Paris Agreement**.

2021 IPCC Report



All over the world, landfills are a **major source of methane emissions** as well as an immediately available gas



Leveraging 15+ years of R&D, **Waga Energy transforms landfill methane emissions into pure biomethane**



Our Mission :

Curb pollution by delivering biomethane for all

Our Ambition :

To partner with landfill operators to reduce methane emissions by producing biomethane around the world



Waga Energy, a **unique energy transition solution** to fight against climate change

WHO IS WAGA ENERGY?



Founded in 2015



Headquartered in France with subsidiaries in the USA, Canada, Spain, UK, and Italy



180+ landfill gas to energy experts worldwide



Driven by an absolute dedication to the safety of our employees and partners



Inventors of the WAGABOX®, a breakthrough technology dedicated to landfill gas upgrading



17 WAGABOX® facilities in operation, 15 projects in execution



**We are engineers, entrepreneurs, and environmentalists
to mitigating climate change for future generations.**

committed

RENEWABLE NATURAL GAS : THE BEST IMMEDIATE SOLUTION TO REPLACE FOSSIL FUELS

1

Renewable energy

The production of RNG reduces GHG emissions and replaces fossil fuels

Methane is **80x** more potent for global warming than CO₂ over 20 years

2

Abundant and available

Significant potential to produce biomethane from landfills is largely untapped:

20,000 landfills worldwide

3

Existing infrastructure

Transport and consumption supported by the existing infrastructure

Can be **directly injected** in the existing grid

4

Equally distributed worldwide

Helps developing countries to improve waste management

Reduces energy imports and geopolitical dependance

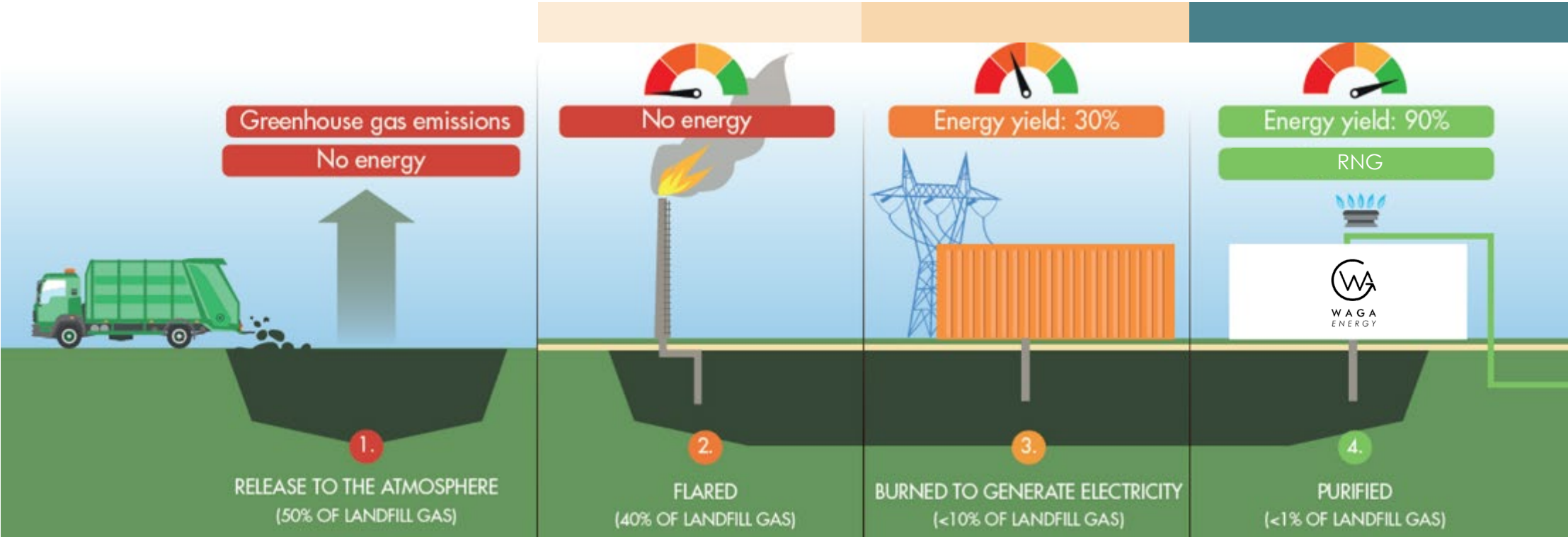
5

Decarbonizes Usages

Supports the decarbonization of multiple industries

Immediately **replacement for fossil fuels** in Mobility, Road Transportation, Maritime and Residential Usages

LANDFILLS, WHERE RNG POTENTIAL IS STILL LARGELY UNEXPLOITED



+90%

MORE THAN 90% OF LANDFILL GAS IS UNUSED

<10%

LESS THAN 10% IS BURNED WITH LOW ENERGY YIELD

<1%

LESS THAN 1% IS RECOVERED AND PURIFIED FOR GRID INJECTION

RNG POTENTIAL FROM LANDFILLS IN FLORIDA

Landfill Gas to RNG projects in Florida could reduce CO₂ emissions by more than 800,000 tons CO₂e

815,000+
CO₂e avoided

60,000+
SCFM
of landfill gas

29
landfills with
RNG potential

17 WAGABOX® FACILITIES IN OPERATION



NORTH AMERICA PROJECT REFERENCES



MALLARD RIDGE

- Delavan, WI
- 2000 scfm
- N2: 9%
- COD April-2022



ST ETIENNE DES GRES

- St-Étienne-des-Grès, QC
- 2000 scfm
- N2: 17-25%
- 33,000t of eqCO2 avoided/y
- COD May-2023



STEBEN

- Bath, NY
- 1000 scfm
- N2: 19%
- 13,500t of eqCO2 avoided/y
- COD Q4-2023



CONFIDENTIAL

- Location to be informed
- 370 scfm
- COD Q3-2023



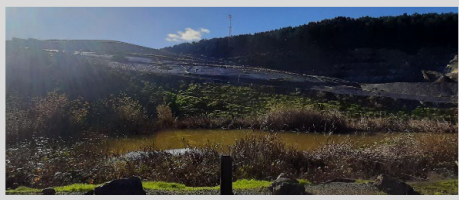
WINNEBAGO

- Rockford, IL
- 6000 scfm
- N2: 24%
- COD Q4-2023



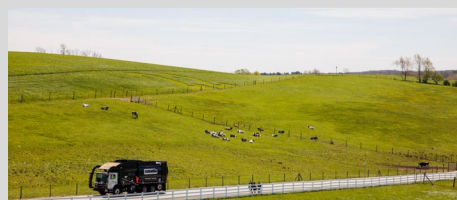
BROME

- Cowansville, QC
- 600 scfm
- N2: 17-25%
- 6,000t of eqCO2 avoided/y
- COD Q4-2023



HARTLAND

- Vancouver Island, BC
- 2000 scfm
- N2: 12%
- 18,000t of eqCO2 avoided/y
- COD Q4-2024



CASELLA

- Location to be informed
- COD Q3-2025



CASELLA

- Location to be informed
- COD Q3-2025



CASELLA

- Location to be informed
- COD Q3-2025



But don't I need to
tune my well field
to reduce nitrogen
for a RNG project?

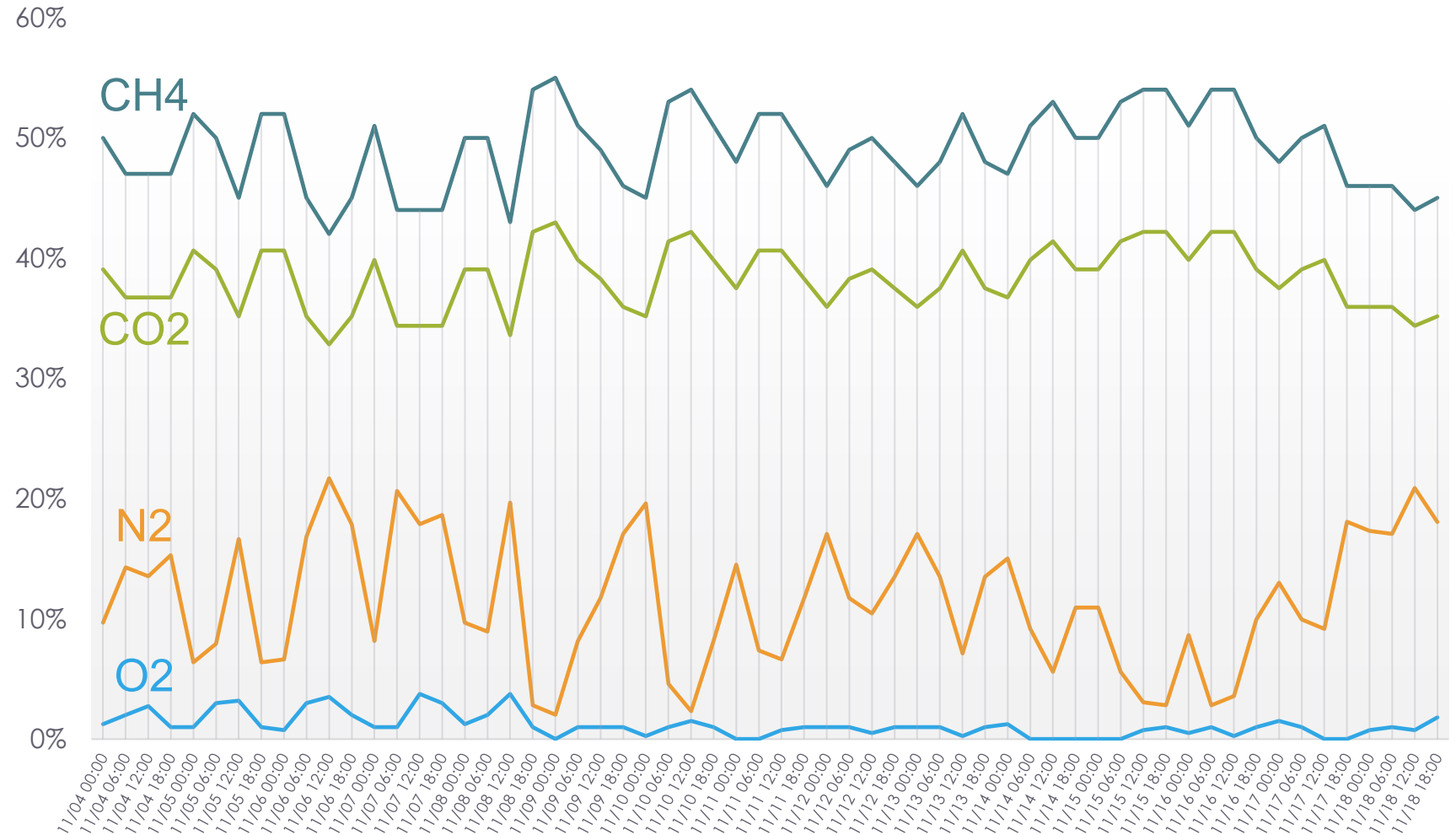
What if my methane
concentrations are
low?

How does an RNG
project impact my
permitting and
compliance?

WHY IS UPGRADING LANDFILL GAS INTO RNG A CHALLENGE?

Key Notes

- Unpredictable variations in gas flow and composition.
- Reducing air intake in the wellfield is costly
- Limiting wellfield vacuum exposes the landfill operator to compliance and odor issues.
- Accepting air gases in Landfill Gas increases the total amount of energy recovered.

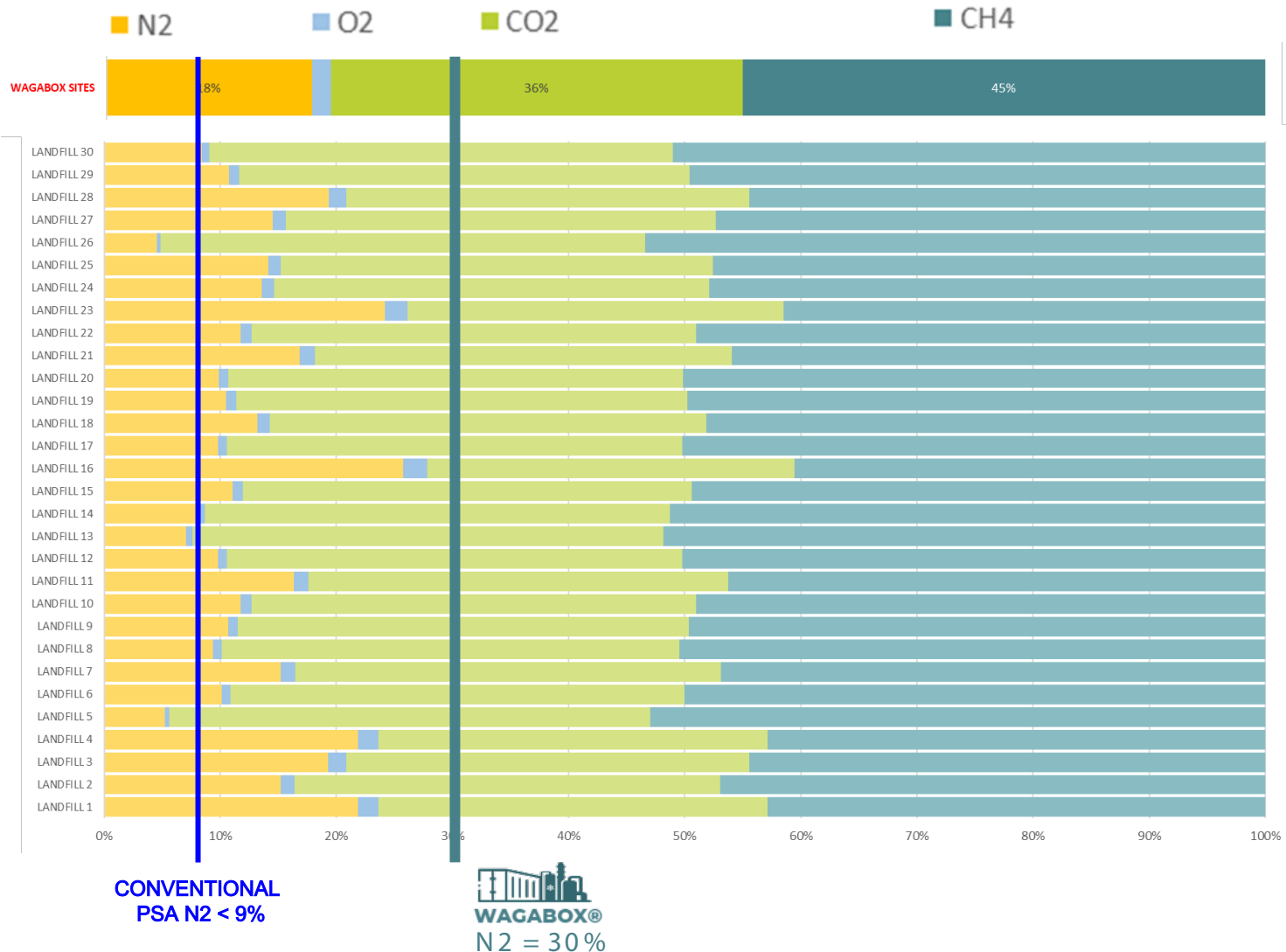


Low pressure cryogenic distillation can accept a wide range of landfill gas quality and still achieve pipeline quality requirements.

WHY IS UPGRADING LANDFILL GAS INTO RNG A CHALLENGE?

Key Notes

- Landfill gas is mainly composed of CH₄, CO₂, N₂ and O₂.
- Landfill gas composition varies and is unique to every site.
- Existing technologies are highly sensitive to air gases (N₂+O₂).
- Low pressure cryogenic distillation technology revolutionize how nitrogen and oxygen are removed from landfill gases.



WELLFIELD TUNING FOR RNG: STATUS QUO CAN BE MAINTAINED



TUNE FOR COMPLIANCE: Continue to follow best wellfield tuning practices to remain in compliance.

COLLECT LFG FOR ODOR CONTROL: Collect high nitrogen LFG at the working face while still producing RNG.

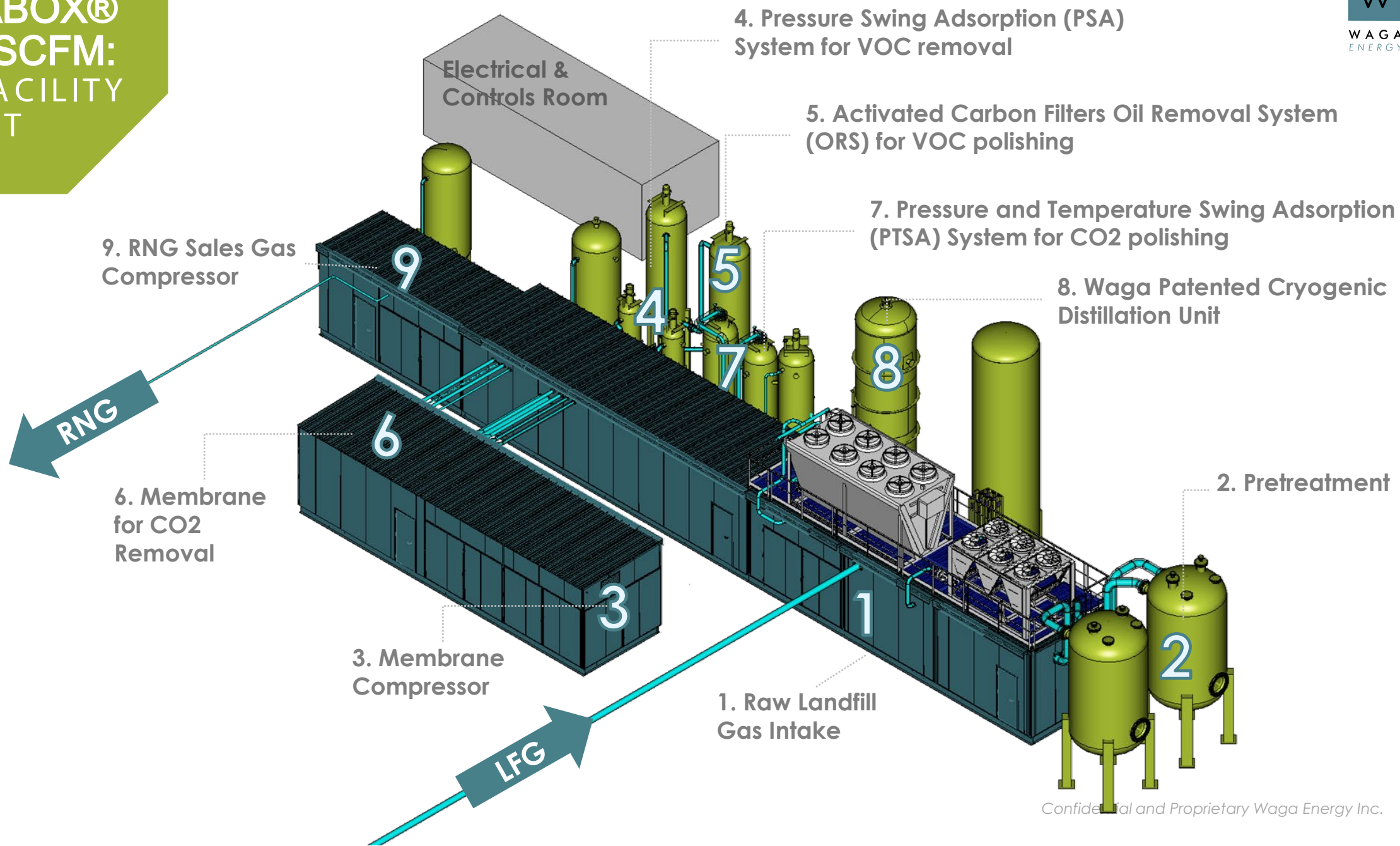
AVOID MULTIPLE FULLTIME WELLFIELD TECHNICIANS: Some RNG technologies require multiple wellfield technicians (up to 17) with gas chromatographs mounted on ATVs to actively seek out and address slight increases in nitrogen. This is costly, not practice for 24/7 operations, and difficult to staff.

INCREASE OVERALL COLLECTION EFFICIENCY: eliminating restrictions on vacuum to ensure the highest available collection efficiency for each system can be achieved.

INCREASE TOTAL METHANE CAPTURED: More total methane is captured which decreases total emissions, reduces odors, and increases the amount of energy converted to RNG.

KEY TAKEAWAY: TUNE THE WELLFIELD TO CAPTURE AS MUCH METHANE AS POSSIBLE – WITHOUT REGARD TO NITROGEN CONTENT

WAGABOX® 1,000 SCFM: RNG FACILITY LAYOUT



WHAT ARE THE BENEFITS FOR YOUR LANDFILL



**WAGABOX® MODULAR
DESIGN FOR CONVERTING
LFG TO RNG**



MINIMAL IMPACT ON LANDFILL OPERATIONS

The modular approach and compact design of the WAGABOX® adapts to your landfill



**IMPROVED AIR QUALITY
AND 13,720 TONS
CO2/YR AVOIDED**

Estimated per 1000 SCFM of LFG



FOCUS ON COMPLIANCE & REDUCTION OF ODORS

The WAGABOX® delivers pipeline-quality RNG regardless of inlet nitrogen levels

\$0

**NO INVESTMENT
REQUIRED BY THE
LANDFILL**



**ESTIMATED OVER
\$500,000 - \$1,000,000
ROYALTIES PER YEAR**

Estimated per 1000 SCFM of LFG

Thank you!

