



Renewable Natural Gas (RNG)

An Assessment of Arizona's Resource Potential, Opportunities, and Obstacles

What is RNG?

Definition

Pipeline-quality gas produced by upgrading biogas from organic resource streams

The 3 Ds

Dual Benefit

Can reduce methane emissions & displace fossil natural gas, based on source, baseline & end use

And why outcomes vary

Drop-In

Can use existing natural-gas pipelines and compatible heavy-duty fleet infrastructure after upgrading

What Arizona Produces Today & Where Near-Term RNG Potential Exists



Near-Term Commercial Modeled RNG Potential by Feedstock*

Landfill Gas

83.3%

Animal Manure

13.6%

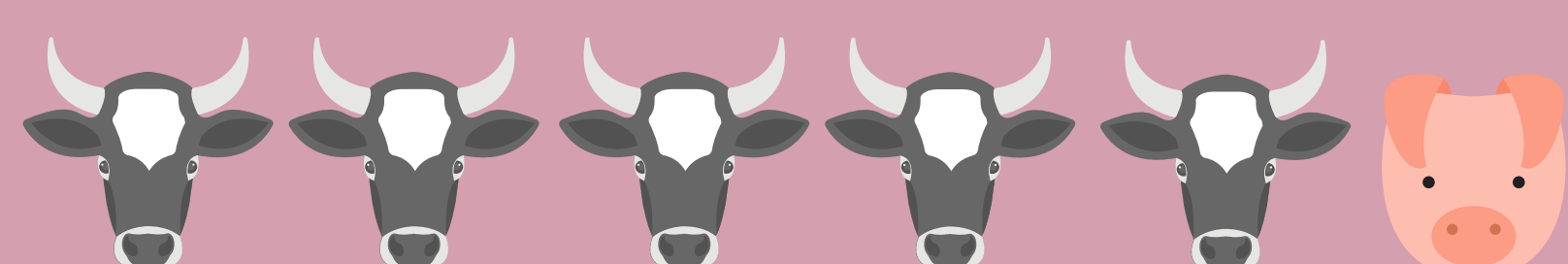
Wastewater

3.1%

*Anaerobic-digestion feedstocks only; percentages may not total exactly 100% due to rounding

Operating Manure RNG Projects

Six facilities report a combined **~1.8 million MMBtu/yr**



Reported
RNG Output

That output represents **~82.9%**
of Arizona's modeled near-term manure potential

Annual Equivalents of Manure RNG Output

Energy Equivalent to
the electricity use of

OR

Greenhouse gas
reduction equivalent
to removing



~18,200

Arizona homes



~21,000

passenger vehicles
from the road

Landfill Gas Currently Flared

Four leading candidate landfills for RNG



~2 billion cubic ft/yr landfill gas flared $\approx$ 0.8-1.2 million
MMBtu/yr energy content*

Wastewater Treatment + Food Waste

Wastewater: ~3.1% of modeled potential



Food waste is not separately
quantified in the near-term scenario;
when landfilled, it contributes to the
landfill-gas pathway

*Assumes 40–60% methane content; landfill gas has not yet been upgraded to RNG

DRAFT VERSION | UNFINALIZED

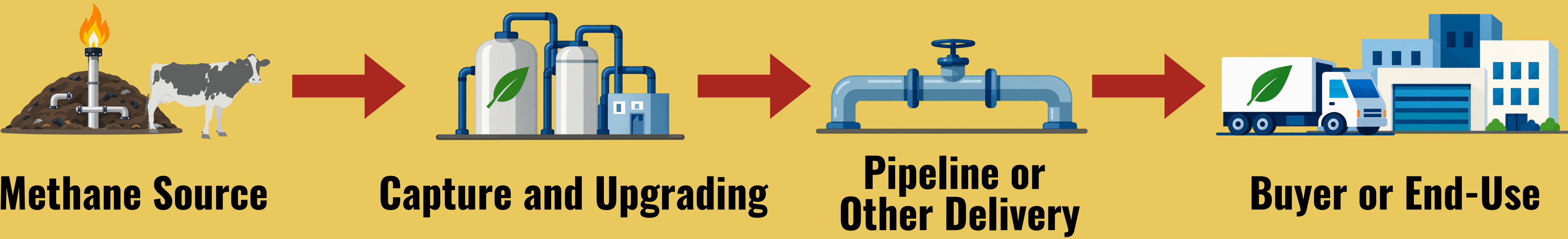
Feedback Welcome

Email Us at
AzCaNE@asu.edu

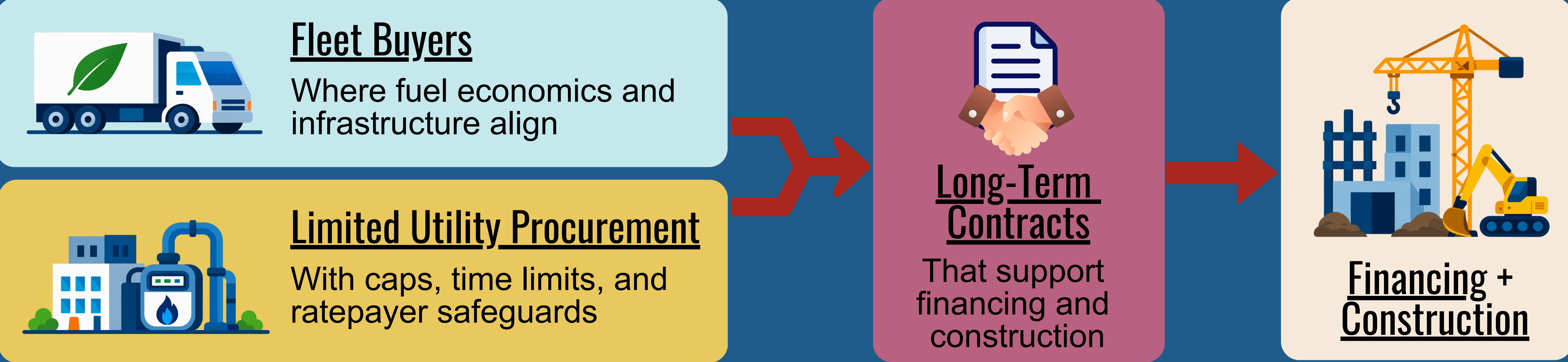
From RNG Potential to Market Reality

Viable Projects Need Both of the Following

1 A Working Capture and Delivery Path



2 Creditworthy Buyers and Long-Term Contracts



Modeled Near-Term Commercial RNG Potential

≈ 3% of Arizona's 2024 natural-gas consumption*

*Anaerobic-digestion sources only; scale comparison, not a procurement target

Five Near-Term Actions for Arizona

The assessment identifies five actions that could support verifiable methane reductions while preserving future clean-fuel options:

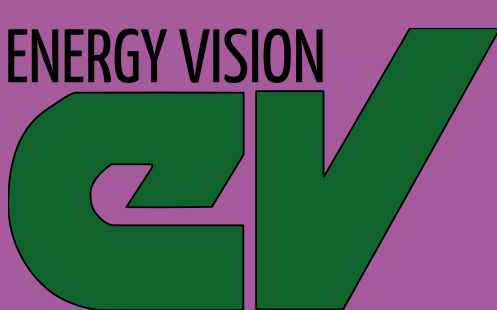
- | | | |
|---|------------------------|---|
| 1 | Measure what matters | Pilot improved collection systems, independently meter methane capture, and publish project-level results |
| 2 | Streamline connections | Simplify permitting and interconnection while protecting air, water, and communities |
| 3 | Preserve market access | Use standardized tracking to reach valuable markets while preventing double counting |
| 4 | Protect ratepayers | Tie competitive procurement or capped incentives to independently verified, cost-effective methane reductions |
| 5 | Review and Adjust | Update incentives and safeguards as federal rules and regional markets evolve |

Selected Sources: American Gas Foundation (2025), U.S. EPA, U.S. EIA, and project-reported data. See full assessment for methods and citations.

AzCaNE | CENTER FOR AN ARIZONA CARBON-NEUTRAL ECONOMY



Want to get involved with AzCaNE? Scan QR code or visit us at AzCaNE.org



Read the Full Assessment at the following QR Code