

Docket No. 21-057-14

Carbon Offset Program Technical Conference

Dominion Energy Utah – July 13, 2021

Useful Background - GHG

UAE Question – How is methane at a landfill converted into CO₂e?

Greenhouse Gas (GHG):

- A gas that contributes to the greenhouse effect by absorbing infrared radiation (Oxford)
- e.g., carbon dioxide (CO₂), Methane (CH₄), or Nitrous Oxide (N₂O).

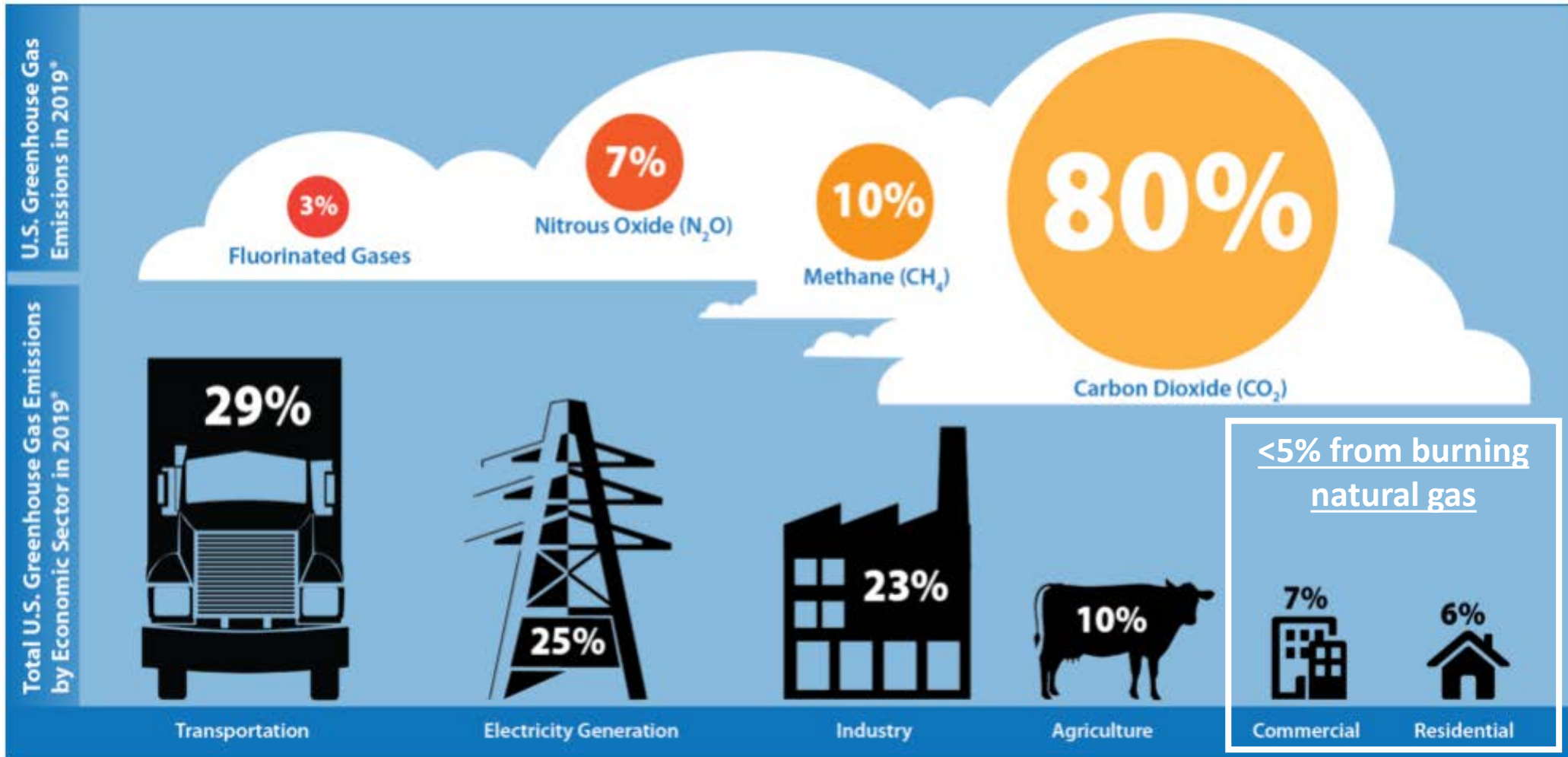
Global Warming Potential (GWP)

- The heat absorbed by any greenhouse gas in the atmosphere, as a multiple of the heat that would be absorbed by the same mass of carbon dioxide (CO₂).
- Industry Standard GWPs: IPCC AR4 (2007)
- <https://ww2.arb.ca.gov/ghg-gwps>

Carbon Dioxide Equivalent (CO₂e)

- Greenhouse gases are converted into a Carbon Dioxide Equivalent value using 100-year GWP factors. For example, 1 metric ton of methane would equate to 25 metric tons of CO₂e based on IPCC AR4 Global Warming Potentials.
- Used for comparison purposes only.

U.S. Greenhouse Gas Emissions in 2019 by Sector



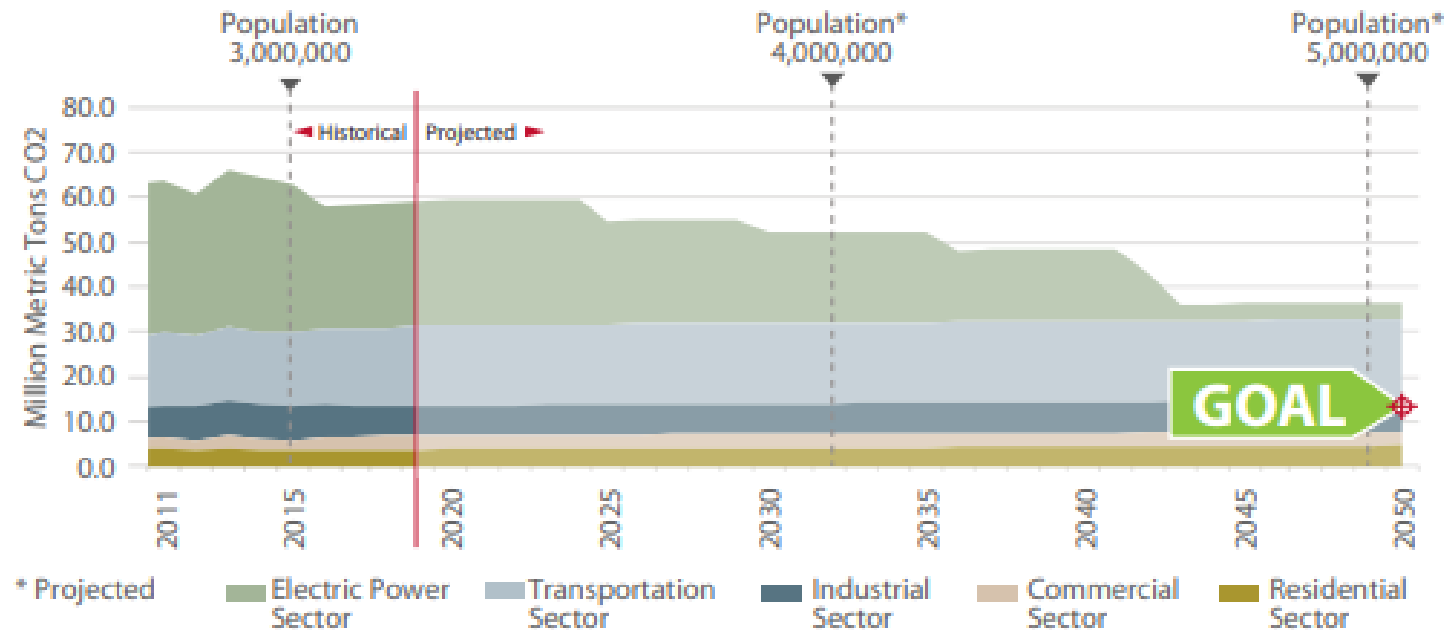
* Percentages may not add to 100% due to independent rounding and the way the inventory quantifies U.S. territories (not shown) as a separate sector.

Source: <https://cfpub.epa.gov/ghgdata/inventoryexplorer/index.html>

Utah Roadmap

Utah's Carbon Dioxide Emissions Baseline

Historical and Projected Statewide CO₂ Emissions



Note: Baselines account for potential scenario dates for the notional closures of Bonanza (2030), Huntington (2036), and Hunter (2042) power plants.
Source: US Energy Information Administration (EIA) based on the combustion of fossil fuel (historical), and Kem C. Gardner Policy Institute (projected)

Carbon Offset Program Offering



100%

Carbon Neutral Gas Supply*



\$5

Monthly Subscription

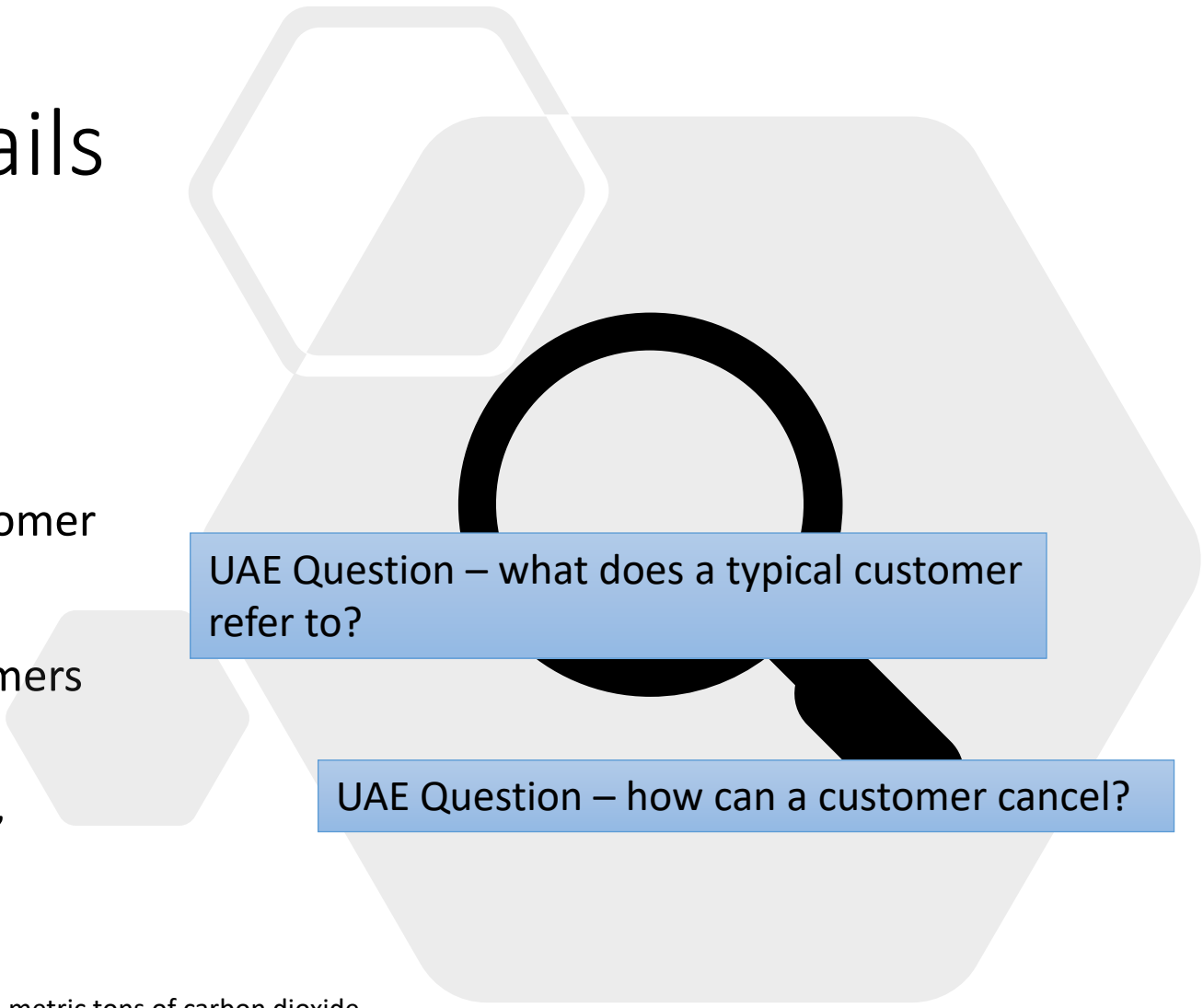
UAE Question – Is this how DEU will market the program? Or some other approach?

*For an average general service customer using 80 Dth of conventional natural gas per year.

Calculation: 4.24 MT CO₂ from burning 80 Dth of natural gas LESS 4.24 MT Tons CO₂ mitigated by carbon offset projects.

Program Design - Details

- 1 Block = 0.353 MT CO₂e per month
- 4.24 MT CO₂e per year
- 80 Dth per year worth of emissions*
- 100% of use for a typical residential customer
- Cost = \$5 per month
- Larger residential and commercial customers can subscribe to additional blocks.
- Customers may cancel at anytime online, through our app, or by phone.



UAE Question – what does a typical customer refer to?

UAE Question – how can a customer cancel?

*Per the U.S. Energy Information Administration 1 Dth of natural gas emits .053 metric tons of carbon dioxide.

Thus, 80 Dths would produce 4.24 metric tons of CO₂e. (80 X .053 = 4.24);

-see <https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php>

Other Approved Offset Programs

- **NW Natural**

- \$5.50 per month offsets 100% for typical residential customer.
- Offsets approximately 60 Dth.

- **Puget Sound**

- \$6.00 per month offsets 100% for typical residential customer.
- Offsets approximately 85 Dth.

- **DTE**

- \$16 per month offsets 100%
- Includes RNG in mix, 101 Dth sized customer.



UAE Question – How does this compare to other offset programs?

Useful Background – Carbon Offsets

UAE Question – Please discuss the nature of the Carbon Action Reserve (“CAR”) registry and its relationship with utility carbon offset programs.

Carbon Offsets (Offsets or Credits):

- GHG reductions and removals that are used to offset emissions elsewhere.
- Traded in units equal to one metric ton of carbon dioxide equivalent (CO₂e).

Carbon Offset Registries

- An entity that develops standards, protocols, and requirements to support integrity and transparency in voluntary carbon offset markets.
- Assigns serial numbers for verified CO₂e reductions that can be transferred and retired on a public database.
- The Climate Action Reserve (CAR) and the American Carbon Registry (ACR) are examples of carbon offset registries.

Ex Post

- Carbon offsets are offered on registries only on an ex post basis (i.e., after verification that reduction activities have actually occurred).

Carbon Offset Marketplace

- Carbon Offset Registries include public listings of projects along with brokers, developers, etc.
- CAR Example: <https://www.climateactionreserve.org/how/offsets-marketplace/>
- DEU issued its RFP using contact information listed in this offsets marketplace.

UAE Question – How does a utility select projects listed in the CAR?

UAE Question – Does the CAR act as a clearinghouse for utilities seeking projects for carbon offset programs, so that the utilities can know that the projects are legitimate and that there are some measurable benefits to spending ratepayer money on them?

Climate Action Reserve Manual

- https://www.climateactionreserve.org/wp-content/uploads/2021/03/Reserve_Offset_Program_Manual_March_2021.pdf
- Designed to ensure GHG emission reductions are:
 - Real – Conservative, accurate, comprehensive measurement
 - Additional – GHG reductions must be additional to any that would have occurred in the absence of the Climate Action Reserve, or of a market for GHG reductions generally. “Business as usual” reductions – i.e., those that would occur in the absence of a GHG reduction market – should not be eligible for registration.
 - Permanent - In order to function as offsets to GHG emissions, GHG reductions must effectively be “permanent.” This means, in general, that any net reversal in GHG reductions used to offset emissions must be fully accounted for and compensated through the achievement of additional reductions.
 - Verified - GHG reductions must result from activities that have been verified on an ex post basis. Verification requires third-party review of monitoring data for a project to ensure the data are complete and accurate.
 - Owned Unambiguously - No parties other than the registered project developer must be able to reasonably claim ownership of the GHG reductions



Climate Action Reserve Manual – Cont.

UAE Question –How does a project get listed in the CAR?

- To be registered, carbon offset projects must follow rules, procedures and meet qualifying criteria in approved CAR protocols.
 - <https://www.climateactionreserve.org/how/protocols/>
 - See more detail in Section 2.3 of CAR Manual.
- Projects cannot offer carbon offset credits on the registry until they are built and carbon reductions have been verified.
 - See more detail in Section 3.3 of CAR Manual.
 - Offset Manual Section 3.3. Projects on the registry must have been built. Projects that are marked “Listed” have yet to be verified and cannot generate credits. Projects marked “Registered” has been verified and can then generate credits.



UAE Question –Are listed projects proposed to be built or already built?

UAE Question –Will DEU adjust the cost if the project doesn't deliver the promised level of CO2?

Climate Action Reserve

UAE Question: Once a project is built, does the CAR (or anyone else) verify that the project as built actually produces the amount of CO₂e that was estimated?

- CAR protocols require ongoing verification. GHG must be quantified and verified at least annually for most protocols.
 - See more detail in Section 2.6 of CAR Manual.
- Additionality is a critical requirement to get on the registry.
 - Legal requirement test: any project undertaken to comply with a legal requirement is excluded.
 - Performance Standard test: Projects that would be undertaken irrespective of carbon offset revenues for various other reasons are also excluded. “In other words, incentives created by the carbon market are likely to have played a critical role in decisions to implement projects that meet the performance standard.”
 - More detail in Section 2.4.1 of CAR Manual.



UAE Questions –Does being listed on CAR make it easier for these projects to be financed and built?

UAE Questions –Would these projects happen anyway?

Climate Action Reserve Manual – Cont.

- Once carbon offsets are used to offset another emission source, those offsets are retired from the registry.
 - Within the public data base, The Reserve retires CRTs by transferring them to a locked retirement account where they remain permanently and in perpetuity, precluding further use or transfer to other parties.
 - See more detail in Section 3.6.4 of CAR Manual.
 - The Company will periodically retire its purchased offsets in aggregate based on program participation.
 - It will report to participants their individual participation metrics.



UAE Question: If DEU selects these particular projects, are they removed from the CAR so that other utilities cannot select them?

UAE Question: Will the Company retire offsets on behalf of all customers, on behalf of all customers that participate in the program, or on behalf of each customer that purchases a block?

Climate Action Reserve Manual – Cont.

- Double Counting is addressed in Section 2.9 and 3.5.2 of the manual.
 - Double-counting safeguards are included at the protocol, program, and registry levels. These safeguards include project registry requirements, attestation agreement requirements, ongoing 3rd party verification, cross-checking with other registries, and transparency of issuances, retirements, verification reports, etc. on the registry.
 - The CAR manual includes a feedback and grievances process where concerns about specific projects can be reported and investigated.



UAE Question: Is the direct benefit in the ability to make the claim about carbon mitigation?

UAE Question: Who polices double claiming issues?

Carbon Offset – Initial Portfolio

UAE Question – Will Company make future purchases through RFP or another approach?

Carbon Offset Project	MT Tons
South Jordan Landfill Gas Destruction Project (CAR 400)	1,987
Maple Hill Landfill Project (CAR 521)	398
UPM Blandin Improved Forest Management Project (ACR 212)	265
Total:	2,650

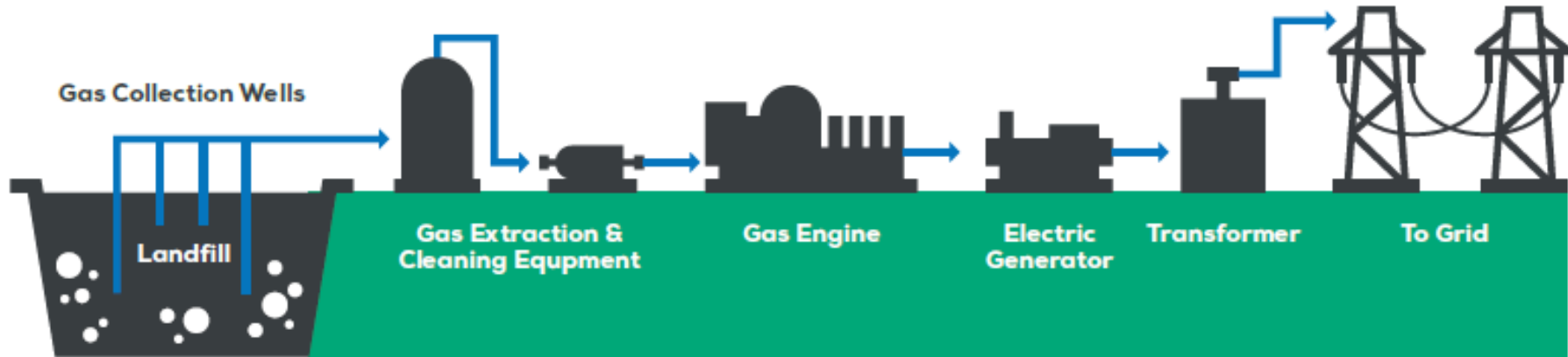
UAE Question – Please discuss in more detail how the projects that are proposed to be included in the program were selected. Criteria?

UAE Question – Was this selection a function of selecting the projects it proposes to include in the program or was the Company trying to hit a specific level of CO2e?

UAE Question – After selecting these projects, can DEU later opt out? Is there a way to mitigate the risk that support drops after Company selects a project? Who bears the risk of lower than anticipated participation?

South Jordan Landfill Project (CAR 400)

Landfill Gas System



Project Type Landfill Gas Capture/Combustion

Location South Jordan, Utah

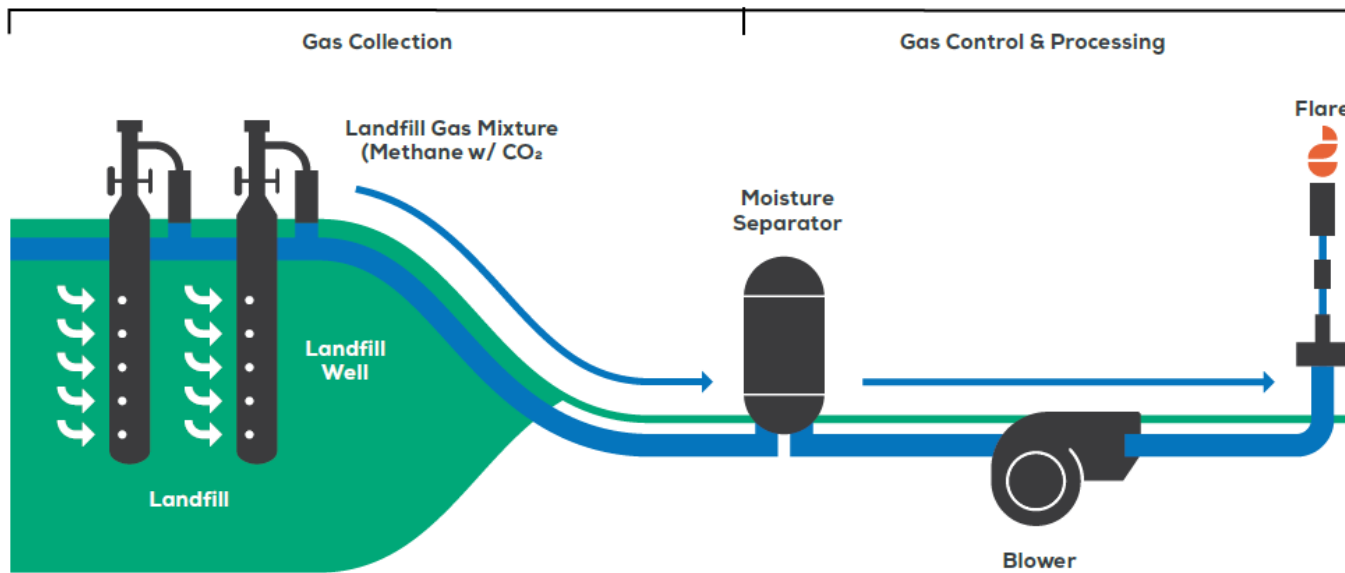
Division Question – Is this the Trans-Jordan Landfill?
Does this project affect a previous project brought to the PSC by a private developer in 2005 to deliver biogas from Trans-Jordan directly to a brick company via a private pipeline?

U.S.



Maple Hills Landfill (CAR 521)

Landfill Gas System

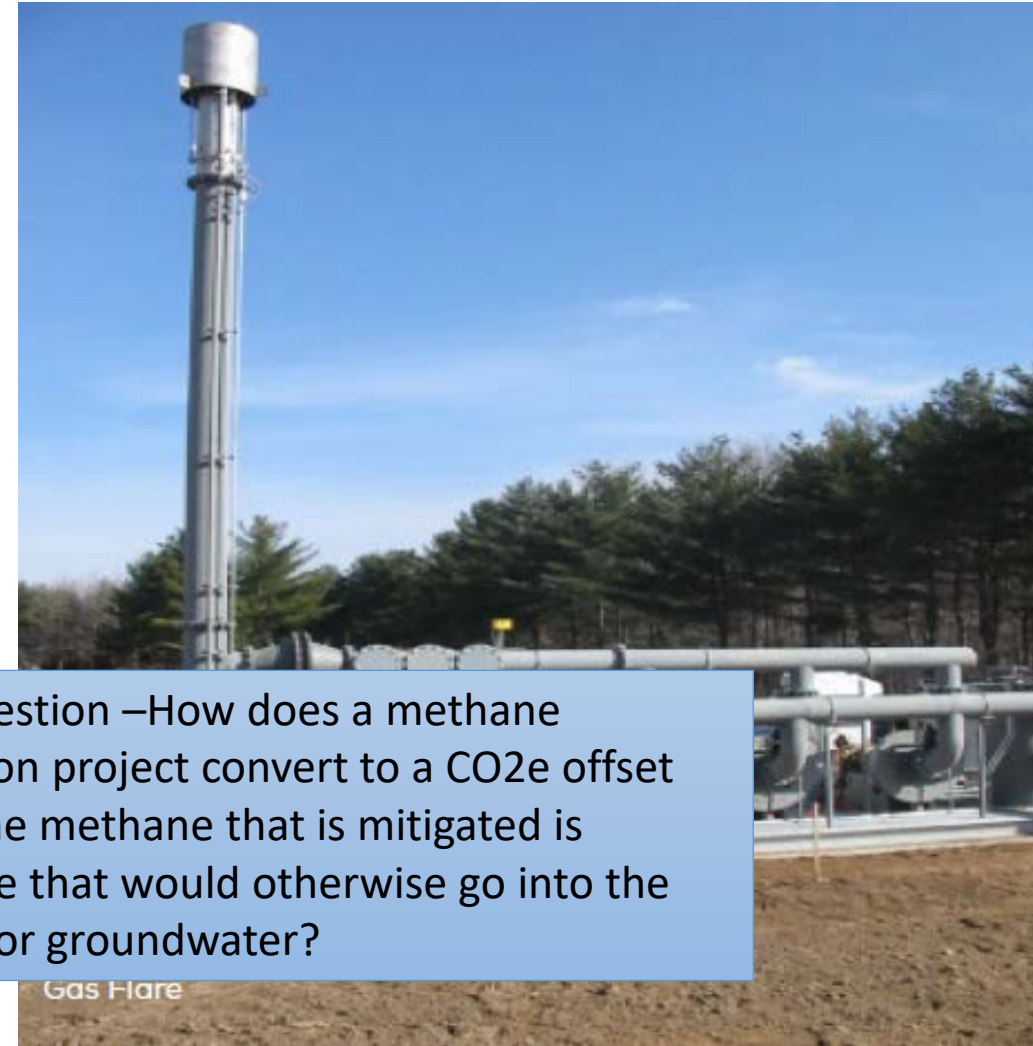


Project Type Landfill Gas Capture/Combustion

Location Macon, Missouri

Registry/Protocol Climate Action Reserve (CAR): U.S. Landfill Project Protocol

Third-Party Verifier SCS Global Services



UAE Question –How does a methane mitigation project convert to a CO₂e offset when the methane that is mitigated is methane that would otherwise go into the ground or groundwater?

UPM Blandin (ACR 212)

Native American Hardwoods Conservation & Carbon Sequestration Project

Project Type	Forest Carbon
Location	70 mile radius of Grand Rapids, MN
Registry/Protocol	American Carbon Registry (ACR): Forest Carbon Project Standard, Version 2.1
Third-Party Verifier	SCS Global Services



Photo: Richard Hamilton Smith

Carbon Offset Program vs. GreenTherm

UAE Question: Does DEU expect that customers participating in the RNG program will migrate to the carbon offset program and, if so, does it have any analysis that attempts to quantify that migration or how implementation of the carbon offset program might affect the RNG program?

Carbon Offsets

- Not a form of energy.
- Cleaner footprint by offsetting CO2 emissions.
- \$5 monthly block.
- Organic growth model, build outreach over time.

GreenTherm

- Renewable Energy from stray methane.
- Cleaner footprint by capturing and using methane from organic sources.
- \$5 monthly block.
- Organic growth model, build outreach over time.

? Questions