



# American Dairy Coalition Annual Meeting

December 10, 2020



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# Carbon Neutrality Could be Profitable: Water Quality Market Opportunities

December 10, 2020

Jamie Vander Molen  
VP, Sustainability Initiatives at Newtrient



Carbon Neutrality Could be Profitable

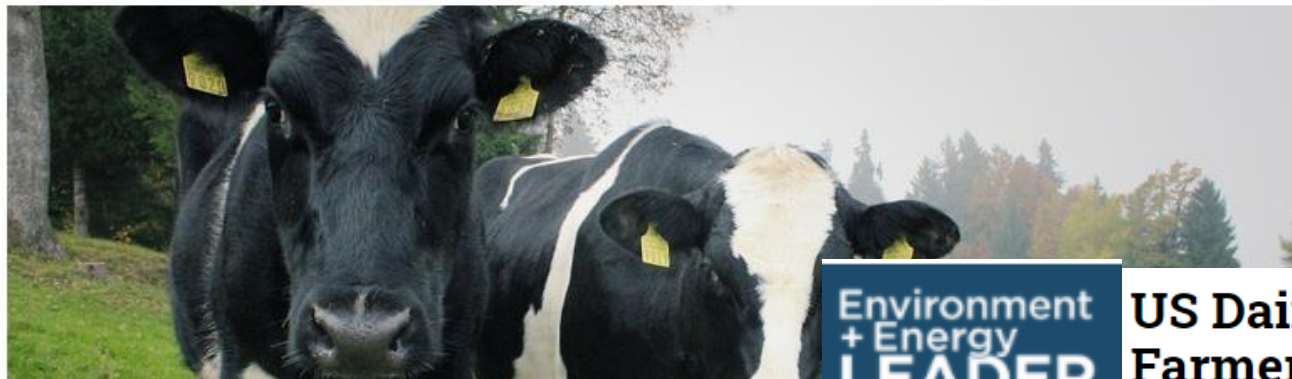
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# Net Zero Initiative

# Net Zero Initiative Launches in Spring 2020



**Nestlé joins US dairy industry's goal to hit net zero carbon emissions by 2050**



**US Dairy Unveils 'Net Zero Initiative' to Help Farmers Achieve Carbon Neutrality**

OCTOBER 12, 2020 BY EMILY HOLBROOK



**Net Zero Initiative for US dairy launches to back carbon neutrality goal**

# Areas of Focus and Benefits

## Feed production and practice changes:

- No/low-till farming and cover crops
- Renewable fertilizers
- Precision agriculture

## Manure handling and nutrient management:

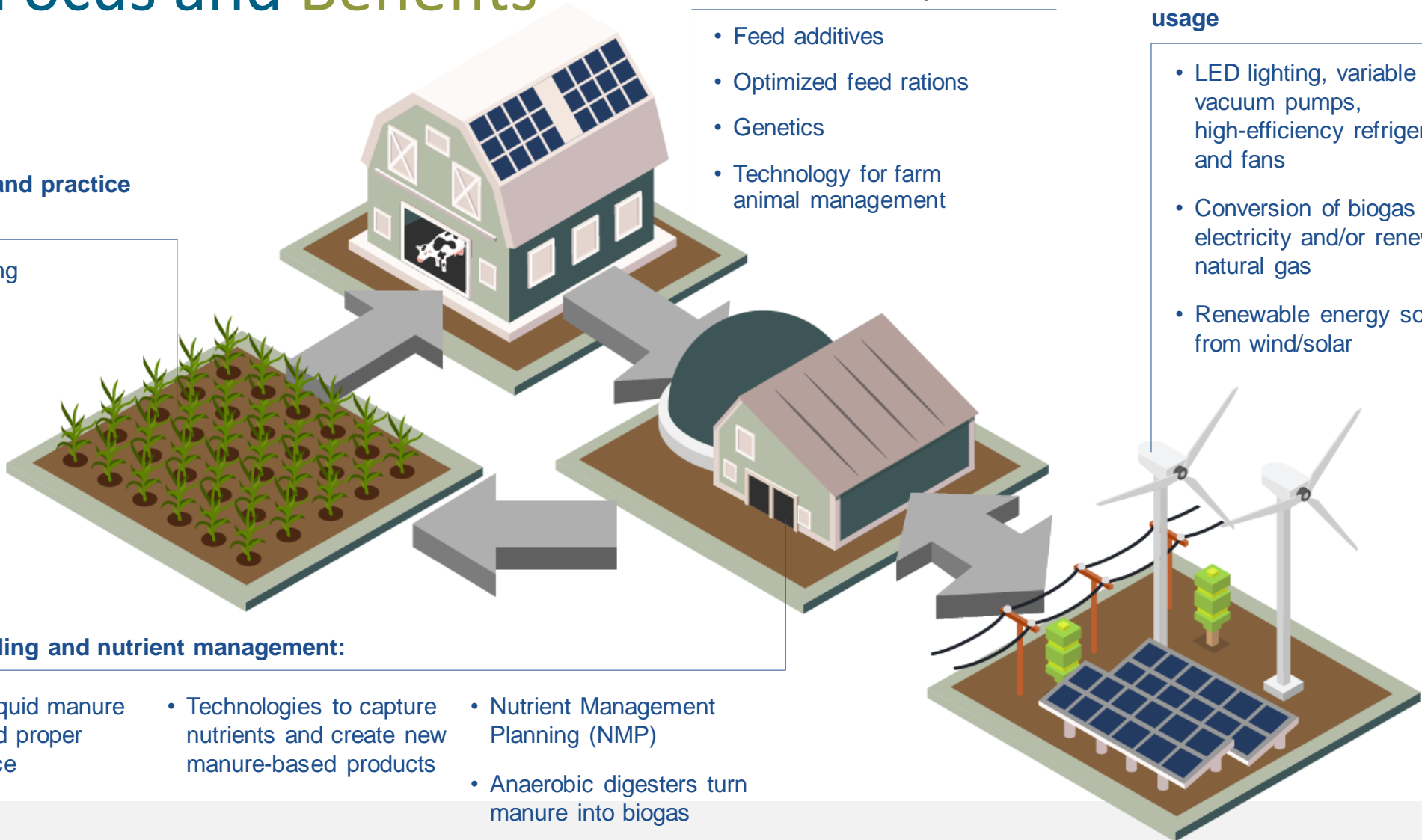
- Reduced liquid manure storage and proper maintenance
- Technologies to capture nutrients and create new manure-based products
- Nutrient Management Planning (NMP)
- Anaerobic digesters turn manure into biogas

## Cow care & efficiency:

- Feed additives
- Optimized feed rations
- Genetics
- Technology for farm animal management

## On-farm energy efficiency and renewable energy usage

- LED lighting, variable speed vacuum pumps, high-efficiency refrigeration, and fans
- Conversion of biogas into electricity and/or renewable natural gas
- Renewable energy sources from wind/solar



Carbon Neutrality Could be Profitable

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# Water Quality Markets

# Surface Water Quality Programs in Wisconsin

**Wisconsin has built a strong foundation of surface water quality programs to protect and enhance the state's water**

## WATER QUALITY PROGRAMS

**Adaptive Management  
(AM)**

Phosphorus compliance program

**Water Quality Trading  
(WQT)**

Market-based option for compliance

**Multi-Discharger Variance  
(MDV)**

Temporary phosphorus variance program for point source dischargers



# Vermont Pay-For-Phosphorus Program

- VT Agency of Ag, Food and Markets (AAFM) awarded \$7MM in funding via NRCS RCPP-AFA
- 5-year program (2021-2025)

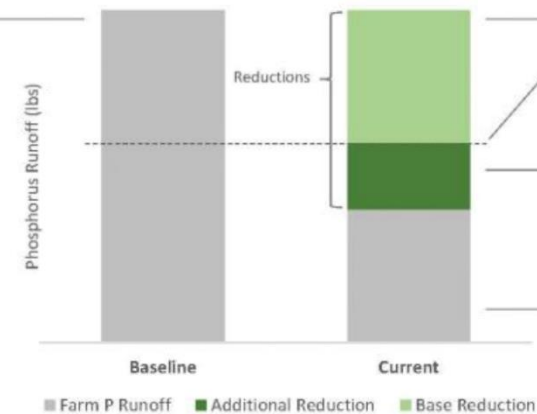
**Pay-For-Phosphorus** is an innovative pay-for-performance approach that pays farmers for the pounds of phosphorus reduced by implementing conservation practices, as opposed to paying farmers a portion of the cost to install a practice.

- **Pays on results** improving cost-effectiveness and accelerating implementation
- **Flexibility for farms** to manage fields how they choose
- **Complements** existing State and Federal assistance programs (e.g. EQIP, FAP)
- **Statewide** voluntary program available to eligible farms
- **Incentive payments** for program enrollment regardless of farm performance

## **Base Farm P Runoff**

will be modeled based on historic TMDL management scenarios and will act as the baseline from which P runoff reductions are calculated.

Reductions can be achieved via improved nutrient management or conservation practices.



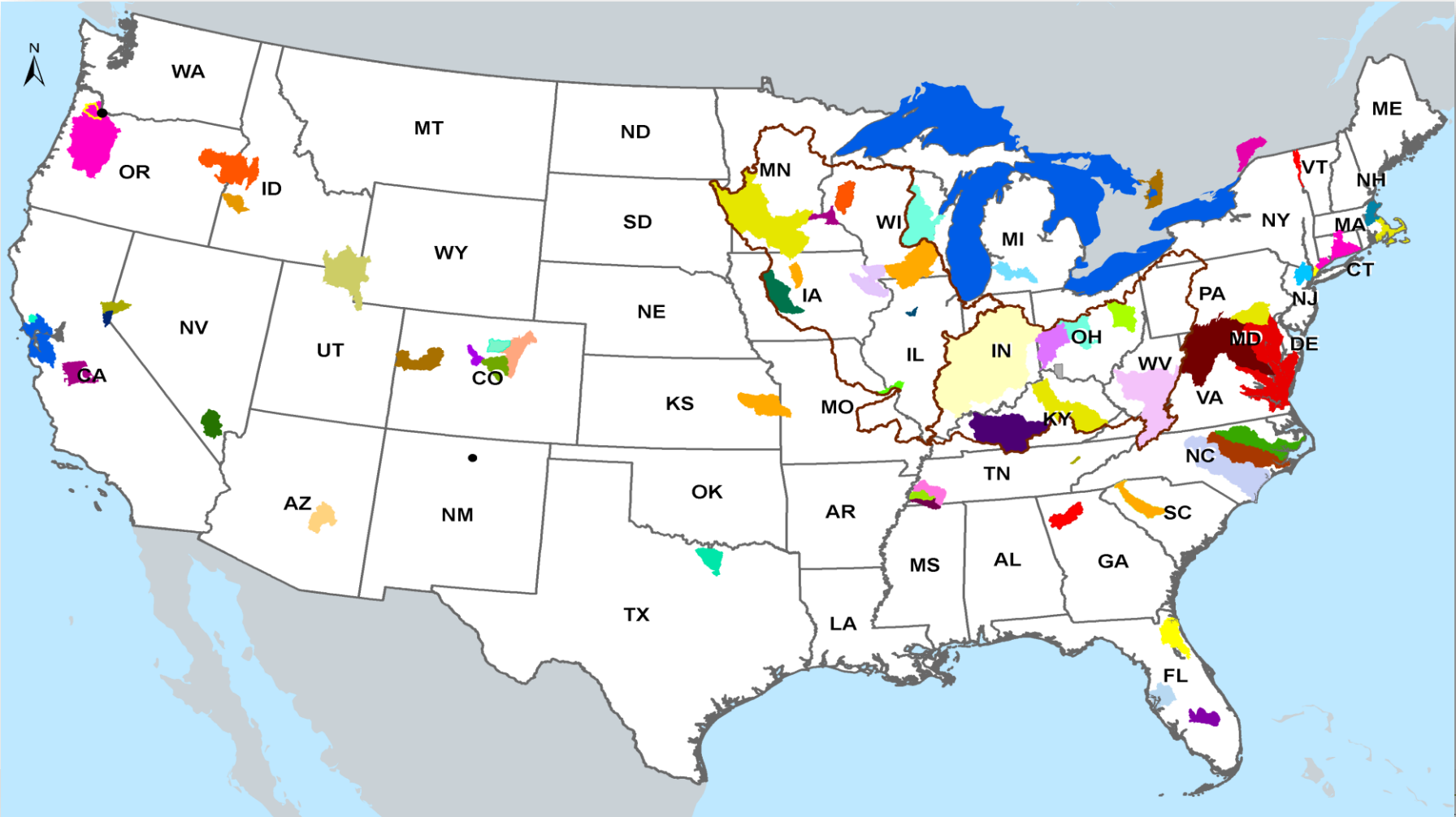
**Base Reductions/Threshold** corresponds to the P reductions that are estimated to be met through existing programs.

**Additional Reductions** beyond the threshold will be paid through the VPPF program based on a set price per pound of P.

**Current Farm P Runoff** based on a farm's current management.

[Link](#) for more info

# Historical Water Quality Programs



# A Clearinghouse to Facilitate Water Quality Trading

**contract and pay for  
credit production**



.....  
*farms,  
environmental  
groups,  
others*



**market and sell  
future credit supply**

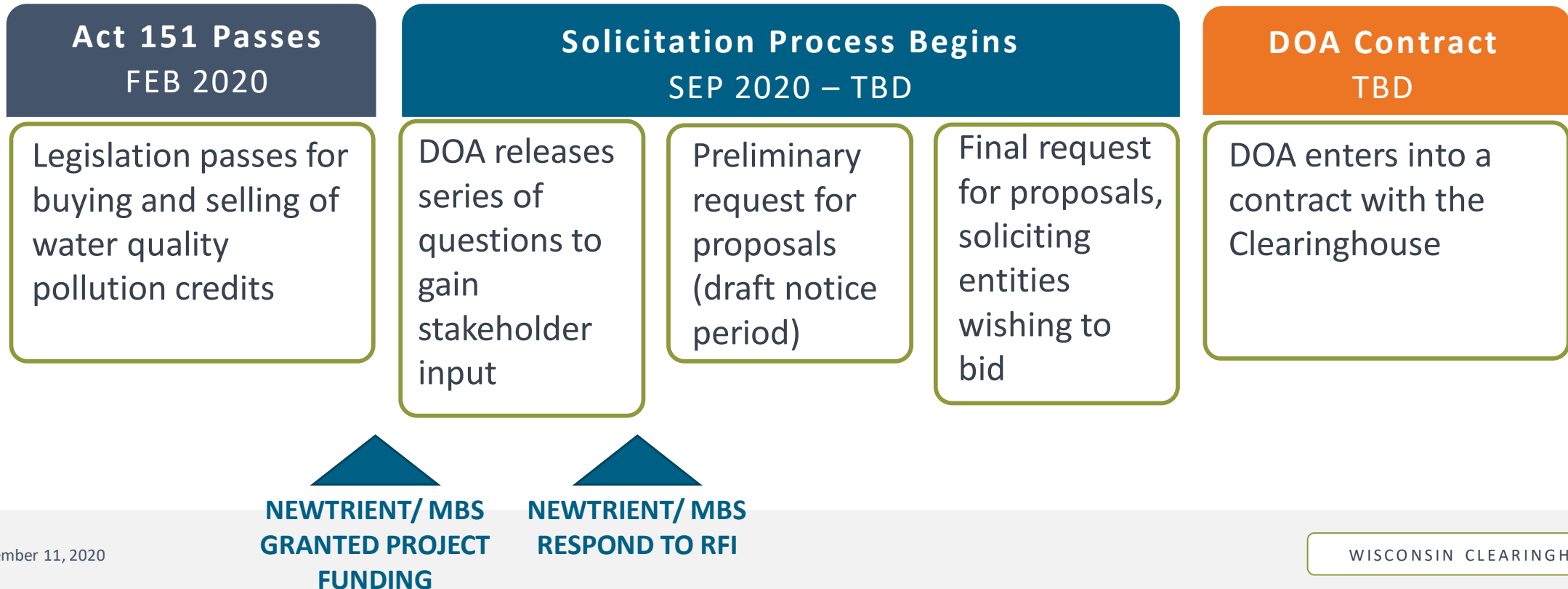


.....  
*manufacturers,  
food  
processors,  
municipalities  
WWT, others*

# 2019 WI Act 151 Implementation

2019 WI Act 151 passed during the 2020 legislation session.

The law requires the Department of Administration (DOA) to collaboratively work with the DNR to solicit a third party to operate as a single water quality trading clearinghouse.



# What can you do today?

## Farm Plans

Review your nutrient management plan to identify which actions you are already taking to provide environmental benefits and to identify opportunity areas

## Solutions Catalog

Access technologies and conservation practices through Newtrient's Solutions Catalog

## Contact Us

Keep informed on water quality markets and the Clearinghouse progress

# Contact Us

**Jamie Vander Molen**

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# Renewable Natural Gas (RNG) Opportunities

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## Setting the table: Renewable Natural Gas

- Evolution of anaerobic digester use on dairy farms. From making electricity to making pipeline quality, renewable natural gas.
- Why? California Low Carbon Fuel Standard (LCFS) and other programs.
- Goal of programs like LCFS? Avoid methane emissions.
- Benefit to dairy farms: \$\$\$; nutrient management opportunities.



## What drives the LCFS?

- California has set carbon intensity standards for all transportation fuels, with goals to be reached by 2030.
- If a fuel dispenser's fuel does not meet carbon intensity standards, it must purchase LCFS credits to offset the failure to achieve it.
- As such, the LCFS credits serve as an “offset.”
- Considered an “offset” only if the activity for generating the credits results in avoided GHG emissions and comes from a biological source.
- Cow manure is among the best-performing from a carbon intensity standpoint (CI Score)



## Longevity?

- Biden/Harris Administration Makes Climate Change a Priority;
- Corporate ESG Goals Regardless of Government: Waste Management; UPS; Walmart
- Sign of the Times: Nov. 17, 2020 Climate Policy Recommendations of the Food and Agriculture Climate Alliance (FACA) [AFBF; EDF; NCFC; NFU]



## How an RNG Project Works

- Digester makes biogas and sends it to the renewable natural gas equipment.
- Renewable natural gas equipment is usually located on the farm site and processes the biogas into pipeline quality gas (100' x 100' campus)
- Gas gets trucked to an interstate pipeline and injected, or injected on site if there is an interstate pipeline on or near the property
- Gas is then distributed by contract to be dispensed as transportation fuel in CA (LCFS)
- Price per dekatherm: \$2 - \$3 v. \$80

## Business Structure of RNG Projects

- **Sell manure, no digester.** Least economic benefit, least risk. Per gallon payout
- **Own digester, sell the biogas.** Better economic benefit, slightly more risk. Percentage of profits payout.
- **Own entire project.** Best economic benefit, much higher risk.

## Issues Common to RNG Projects

- **What is the project's impact on current farm operations?** Rerouting waste streams / bedding / water content in manure.
- **Who controls methods and practices?** Insufficient digester biogas volume / failure to meet specs.
- **Where will the project sit on the farm?** Operations / safety / efficiency/ transportation requirements, truck loading and turnaround areas.
- **Off Ramps?** Very long contract terms. Need to preserve farm's ability to grow, shrink or shut down.



## Other major issues

- **Developer importation of manure and/or gas.**
- **Environmental and Permitting.**
- **Project Completion.**
- **Having the right talent / team**





**Thank You!**



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## For More Information about American Dairy Coalition

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