

# Exhibit to Agenda Item #1

Provide the Board with external and internal presentations followed by a panel discussion on **Green Hydrogen and Biofuels programs.**

Board Strategic Development Committee and Special SMUD Board of Directors Meeting

Tuesday, June 7, 2022, scheduled to begin at 5:30 p.m.

Virtual Meeting (online)

# About the American Biogas Council

*The voice of the biogas industry in the US*

## All sectors represented

- Producers/users/marketers
- Project developers/owners
- Equipment retailers and dealers
- Waste management companies
- Waste water companies
- Farms
- Utilities
- Municipalities
- Consultants and EPCs
- Financiers, accountants, lawyers and engineers
- Non-profits, universities and government agencies

320+  
organizations

3,500+  
individuals



# The US Biogas Market

## Current

317 on Farm (+21% in 2021)

1,269 Wastewater

66 Food Scrap

645 at Landfills

## Potential

8,300 on Farm

4,000 Wastewater

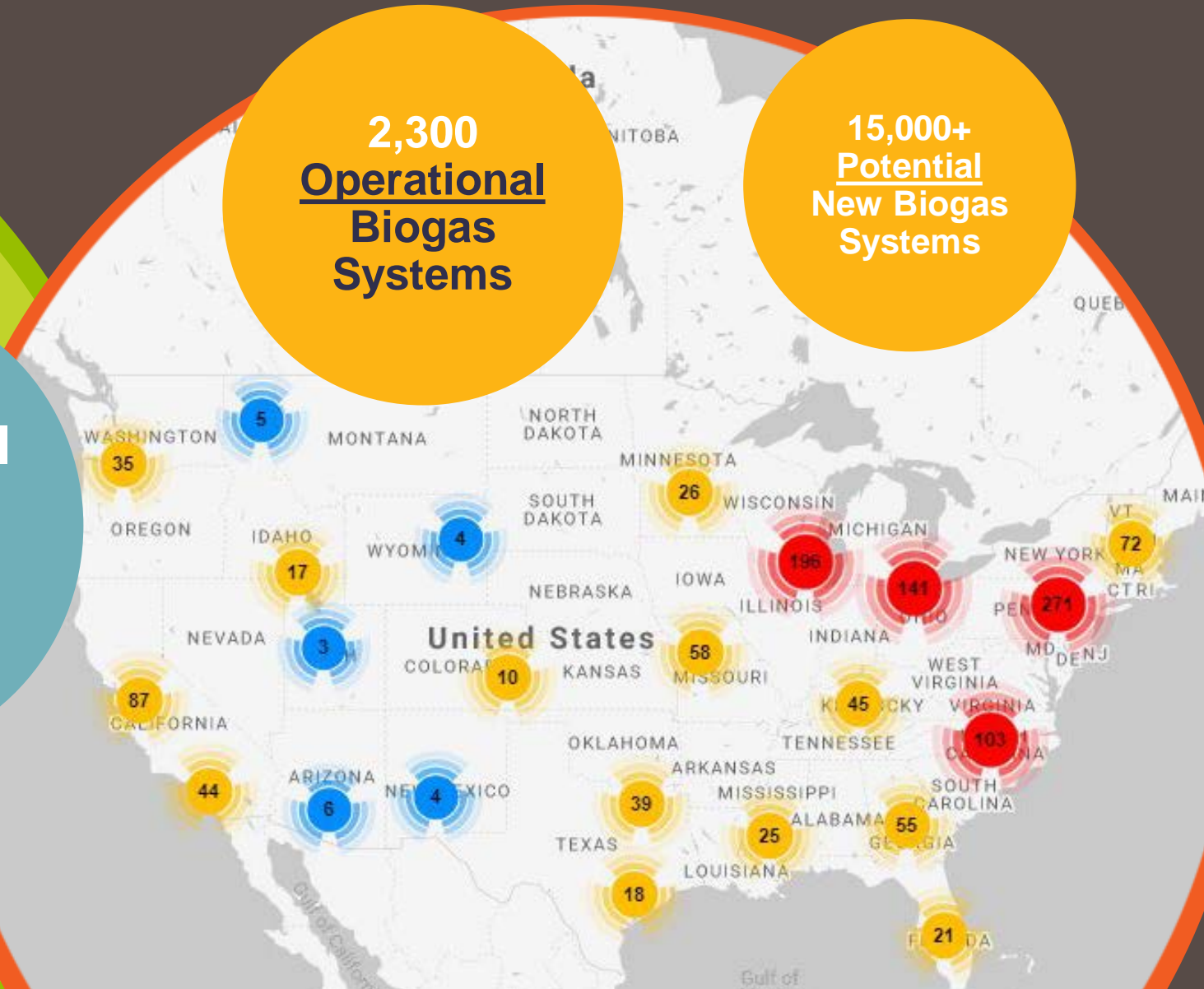
1,000 Food Scrap

440 at Landfills

230  
**Operational  
RNG  
Projects**  
(+47% in  
2021)

2,300  
**Operational  
Biogas  
Systems**

15,000+  
**Potential  
New Biogas  
Systems**



## **RNG Drivers:**

**1. The Federal Renewable Fuel Standard (RFS)**

**And**

**2. The California Low Carbon Fuel Standard (LCFS)**

**Natural Gas:  
\$3/MMBTU**

**Biogas→RNG:  
\$9-90+/MMBTU**

**Food  
waste  
recycling  
policies**

**Other State  
Clean Fuel  
Programs  
(OR, WA +  
NY? NM?  
MN? NE?)**

**Voluntary  
RNG  
purchases for  
corporate  
sustainability  
(ESG)**

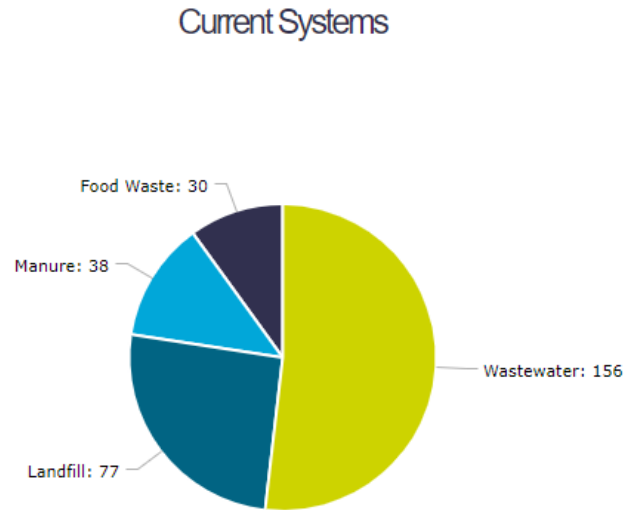
# Biogas Potential in CA

Source:  
<https://americanbiogascouncil.org/resources/state-profiles/>

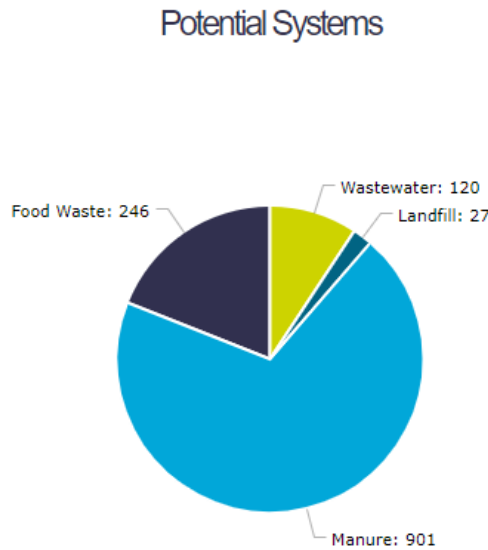
## CALIFORNIA

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California ranks **1st** out of 50 states for its biogas production potential. We estimate up to 116.22 billion cubic feet of renewable methane from biogas could be produced each year for energy, fuel, heat, and more!



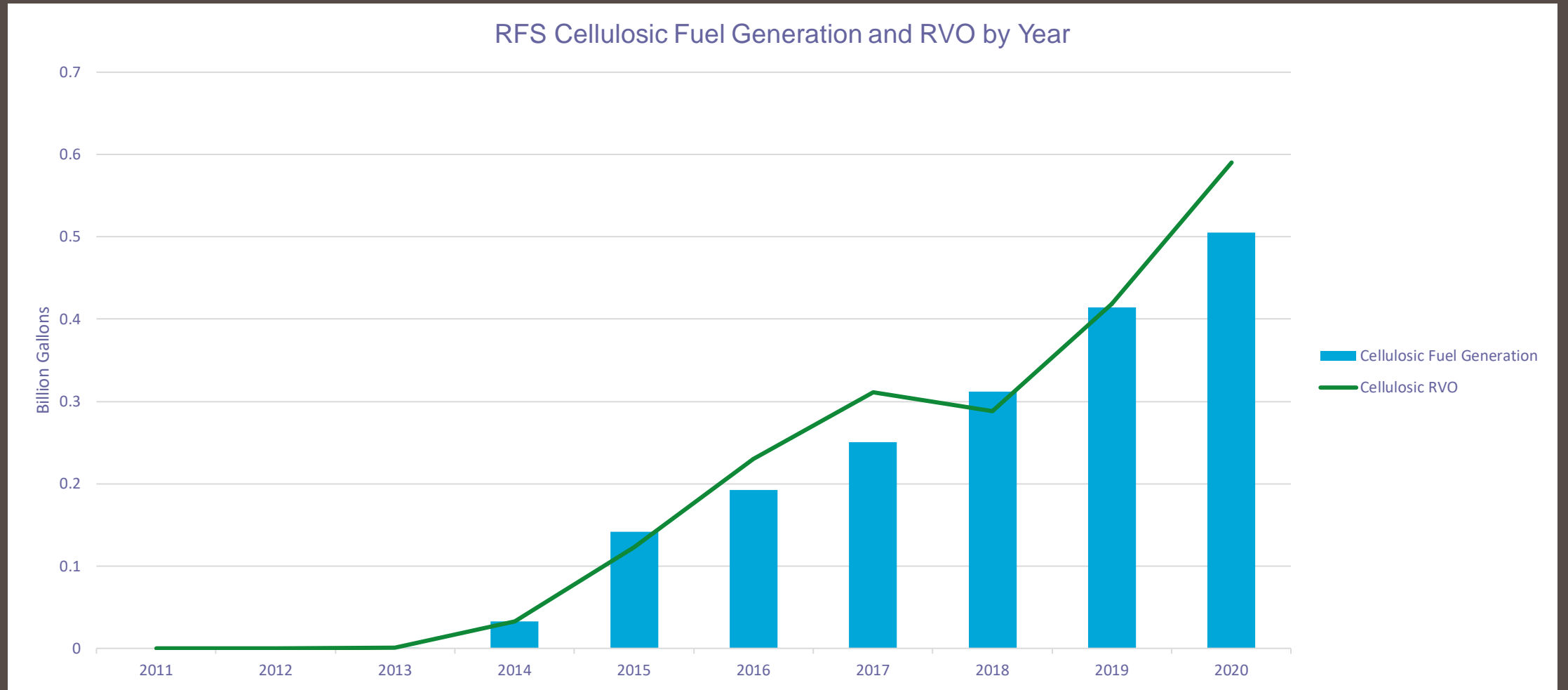
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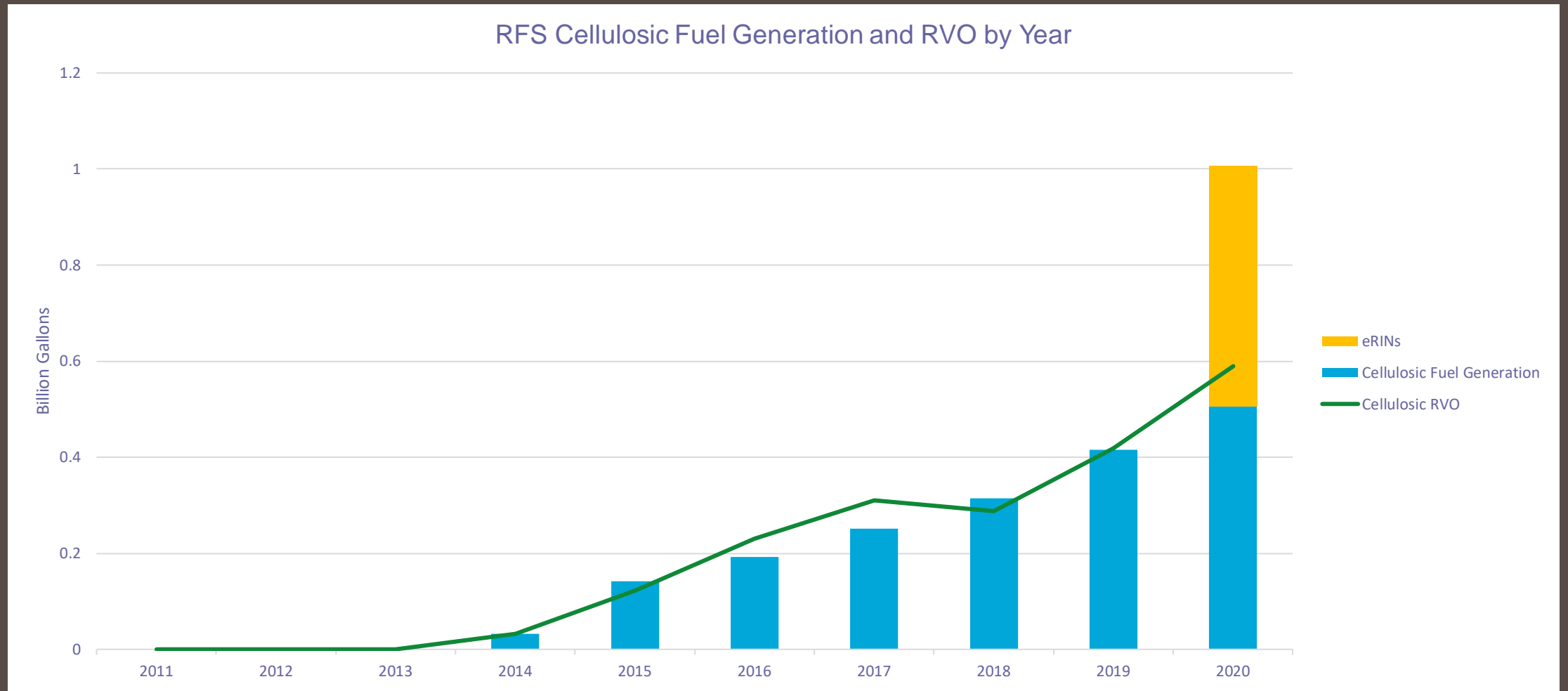
Total Number: 1294

<b>Manure (total)</b>	44.8 million tons/yr
Broiler	• -
Dairy	• 44.2 million tons/yr
Swine	• 175000 tons/yr
Turkey	• 407000 tons/yr
<b>Food Waste</b>	12.3 million tons/yr
<b>Landfill</b>	-
<b>Wastewater Facility*</b>	3235 million gallons/day

# Growth of the RNG market



# Growth of the US RNG market WITH eRINs



# How much could eRINs be worth?

**501  
million  
eRINs**

**D3 RIN:  
\$3.50**

**D5 RIN:  
\$1.75**

**22.6 kWh  
=  
1 eRIN**

**D3 eRINs:  
\$1.75 Billion**

**D5 eRINs:  
\$877 Million**

**D3 eRINs:  
5 cents/mile**

**D5 eRINs:  
2.5 cents/mile  
(Revenue)**

*The International Council on Clean Transportation notified EPA in 2015 that 22.6 kWh of electricity would drive the typical new EV about 70 miles, displacing 4.3 gallons of gasoline*



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