





California Energy Commission

DOCKETED

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BIOGENIC ENERGY



CATERPILLAR



CleanWorld

Alive with possibilities



City of





A HIGHER STANDARD OF RESPONSIBILITY
WASTE & RECYCLING SERVICES





Bioenergy Association of California















RELIABLE RENEWABLES





















EST BIOFUELS

WESTHOFF, CONE & HOLMSTEDT





Market Opportunity in California









- More than 500 WWTFs, 2 landfills, 1600 dairies in C
- 16 million tons/year orgawaste is landfilled in CA
- CA could produce 500 Mito 1 Billion diesel gallon equivalents per year from biomethane and organic waste
- Very low- and carbon-neg transportation fuels

BENEFITS OF FUELS FROM ORGANIC WASTE

vest Carbon Fuels Available – Often carbon ative

p reduce petroleum dependence, air and er pollution, greenhouse gas emissions

luce landfilling and help meet California's 75% ste diversion goal

luce toxic air contaminants, environmental ice impacts from diesel pollution

vide jobs and economic development in every on of the state



els from Wastewater Treatment Facilitie

WTF's could produce 53 million lons of low-carbon fuels per year th co-digestion, could produce 50 million gallons per year els from Large WWTF's are carbon gative (-65.3 CO2e/MJ)

edium WWTF's are ultra lowbon (11.5 grams CO2e/MJ)



jl1 julia levin, 1/9/2014

Fuels from Other Organic Waste Sources



 Diverted organic wast can produce 168 milli gallons of carbon negative fuels





- Landfill gas can produ
 121 million gallons
- Dairy waste can produ 184 million gallons

CHALLENGES TO BIOMETHANE DEVELOPMENT

certainty about long-term cy context = difficulty uring financing eline access and costs

dated agency rules – CEC CalRecycle requirements

mitting timelines and ertainty





Opportunities to Expand Bioenergy

- AB 118 / AB 8 Funding for Clean Fuels, including Biofue
- AB 1900 New Pipeline Biog Standards
- Cap & Trade Revenues
- Policies to Reduce Landfilling Organic Waste – AB 1826 (Chesbro)
- Green Credit Bank to Guarar Low Carbon Fuel Credits







Clean Fuels and Alternative Transportation

ludes \$20 million per year for fuels – not enough!!

million for natural gas vehicle bloyment

million for medium and heavy duty

anced vehicle demonstration

5 million for natural gas

eling infrastructure





<u>AB 1900 – New Pipeline Standards</u>





- AB 1900 intended to facilitate pipeline biogas injection
- Standards for 12 constituents of conce for public health
- 5 additional constituents of concern for pipeline integrity
- CPUC will maintain 990 BTU heating va
- Second phase of proceeding will addressed allocation and interconnection iss

Cap & Trade Revenues



- Governor's Proposed Budget for 2014-15 Includes:
- \$30 million for diverted organic waste – composting and AD
- \$20 million for dairy and agricultural reductions
- •\$200 million for clean vehicle infrastructure

Green Credit Reserve (AB 2390)

2390 would establish a Green dit Reserve

vides long-term price certainty market for LCFS credits

I enable project developers to ure financing

te will contract to buy LCFS dits during project development, only purchase when fuels are d and credits produced





THANK YOU!!



www.BioenergyCA.org