

SMALL-SCALE VEHICLE FUEL PROJECT ST. LANDRY PARISH, LA

PRESENTED TO

16th Annual LMOP Conference and Project Expo

Baltimore, MD

January 30, 2013



Katry Martin
Executive Director
St Landry Parish
Solid Waste Disposal District



PRESENTATION OUTLINE

- BACKGROUND
- EVOLUTION (GCCS)
- PROJECT DRIVERS
- PROJECT BUDGET
- CONSTRUCTION & INSTALLATION
- ONGOING MONITORING



BACKGROUND

ST LANDRY PARISH SOLID WASTE DISPOSAL DISTRICT



- HOME TO ZYDECO CAJUN MUSIC
- LEGISLATIVE ACT 1980
- SERVES 90,000 RESIDENTS
- GOVERNS ALL WASTE ACTIVITIES





ST LANDRY PARISH
SANITARY LANDFILL



GCCS EVOLUTION

- ▶ The EPA promulgated regulations in March of 1996 with the intent to reduce emission of greenhouse gases (methane) and NMOC limits
- ▶ Landfills that exceed the NMOC emissions limit would be required to install a landfill gas (LFG) collection system to extract and combust LFG



GCCS EVOLUTION

- ▶ Exemption: MSW landfills with annual emissions less than 50 Mg (approximately 55 tons) non-methane organic compounds (NMOC)
- ▶ Voluntary Carbon Market: District recognized a window of opportunity to recover capital cost



LFG CARBON PROJECT OBJECTIVES

- ▶ DESIGN AND CONSTRUCT A GCCS IN ANTICIPATION OF GOING NSPS WITH SALE OF VOLUNTARY OFFSETS IN MIND
- ▶ OWN / OPERATE SYSTEM
- ▶ SUCCESSFULLY VERIFY REDUCTIONS AND MAXIMIZE THE SALE OF CARBON CREDITS
- ▶ DEVELOP BENEFICIAL USE FOR METHANE



GCCS EVOLUTION

GAS COLLECTION AND CONTROL SYSTEM

WINTER 2008



GCCS EVOLUTION

GAS COLLECTION AND CONTROL SYSTEM

- COMMISSIONED IN JANUARY 2009
- TOTAL COST OF \$750,000
- LA'S FIRST VOLUNTARY LANDFILL CARBON PROJECT



SALE OF CARBON OFFSETS

Year	2009	2010	2011	2012	2013
Q1 (Jan-Mar)	4,915	6,921	7,228	7,385	0
Q2 (Apr-Jun)	5,400	6,530	6,915	7,600	0
Q3 (Jul-Sep)	6,400	6,998	6,885	7,002	
Q4 (Oct-Dec)	7,900	7,770	6,618	0	
Total CRT Volume Estimated	24,615	28,219	27,646	21,987	0
CRT Transaction Price	\$7.50	\$5.50	\$5.75	\$5.75	\$5.75
CRT Transaction Volume	20,000	13,451	14,143	14,985	0
CRT Transaction Value	\$150,000.00	\$73,980.50	\$81,322.25	\$86,163.75	\$0.00
CRT Transaction Price	\$5.50	\$5.50	\$5.75	\$5.75	\$5.75
CRT Transaction Volume	4,615	14,768	13,503	7,002	0
CRT Transaction Value	\$25,383	\$81,224	\$77,642	\$40,262	\$0
Average Price per CRT Sold	\$7.13	\$5.50	\$5.75	\$5.75	
Total CRTs Forward Sold	24,615	28,219	27,646	21,987	0

Gross Est

Revenue

\$175,383

\$155,205

\$158,965

\$126,425



VALUE OF CARBON OFFSETS

\$615,977

BENEFICIAL USE PROJECT DRIVERS

- SUCCESS OF CARBON PROJECT
- STAFFED TO OPERATE AND MAINTAIN THE SYSTEM
- PROJECT CONTROL
- UNDERSTANDING OF THE LFG COMPOSITION
- AVAILABLE FEDERAL AND STATE FUNDING



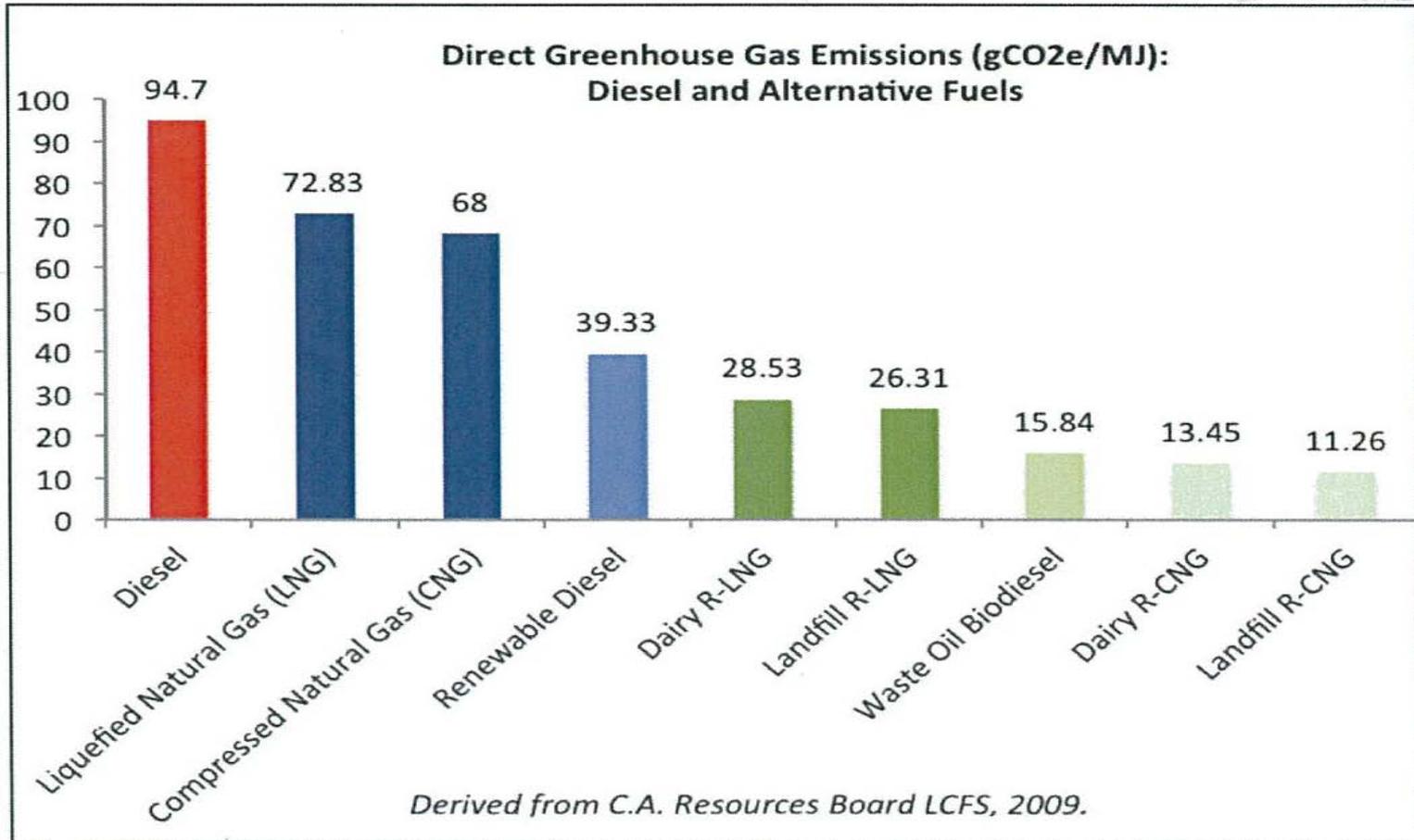
PROJECT DRIVERS

- ACCESS TO FLEET VEHICLES
- HISTORICALLY HIGH GAS PRICES
- LONG TERM ENVIRONMENTAL BENEFITS AND TAXPAYER SAVINGS



ENVIRONMENTAL IMPACT

- **RNG slashes carbon emissions to near zero:** RNG's carbon footprint, measured over the "life cycle" of the fuel's production, transport and use, is the lowest of any vehicle fuel that is commercially available today according to research by the California Air Resources Board.¹¹



PROJECT FUNDING

REVENUES



➤ EmPOWER GRANT	\$500,000
➤ RENEWABLE ENERGY TAX CREDITS	\$250,000
➤ LOCAL RESOURCES	<u>\$250,000</u>
	\$1,000,000



PROJECT FUNDING

EXPENDITURES

➤ FUELING STATION	\$640,000
➤ SITE WORK	\$160,000
➤ VEHICLE CONVERSIONS	<u>\$200,000</u>
	\$1,000,000



COST RECOVERY

IF

- \$1/GGE O&M
- RIN @ \$.50/GGE
- 20,000 GGE/YR @ 1/3 CAPACITY
 - GAS VALUE (\$3.50) \$70,000
 - ENV INCENTIVES \$10,000
 - O&M COST -\$20,000

THEN

**\$60,000/YR TO
RETIRE CAPITAL**



CONSTRUCTION/INSTALLATION



**SITE WORK
OCTOBER
2011**



CONSTRUCTION/INSTALLATION

EQUIPMENT DELIVERY FEBRUARY 2012



CONSTRUCTION/INSTALLATION



**INSTALLATION
MARCH 2012**



CONSTRUCTION/INSTALLATION

**INTERCONNECTION
LATE MARCH 2012**



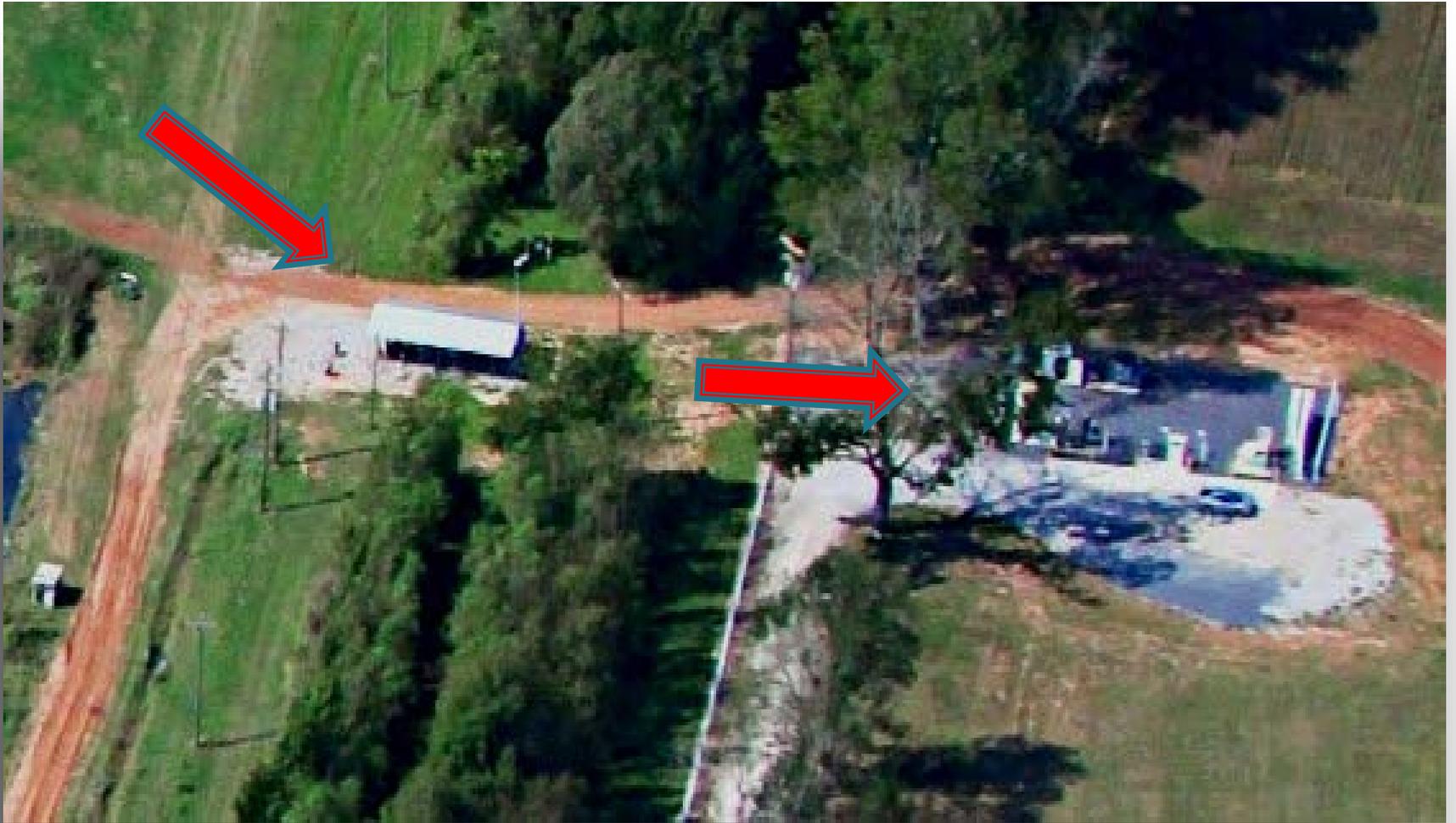
CONSTRUCTION/INSTALLATION

PLANT COMPLETION APRIL 2012



CNG FUELING STATION





LFG FLOW PATTERN

CONVERSIONS

15 VEHICLES

1 VAN

5 SEDANS

9 PU TRUCKS



COMMISSIONING



APRIL 2012



**St. Landry Parish
Solid Waste**

**St. Landry Parish
Sheriff**



BioCNG CHARTER FLEET

April 2012

GOING FORWARD

- MONITOR CONSUMPTION
- TRACK OPERATING COST
- WORK TO EXPAND FLEET



MONTH	SHERIFF DEPT			SHERIFF DEPT LITTER ABATEMENT			SOLID WASTE			Total
	Total Gallons	Price Per Gallon	Total Value	Total Gallons	Price Per Gallon	Total Value	Total Gallons	Price Per Gallon	Total Value	Total
JANUARY	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
FEBRUARY	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
MARCH	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
APRIL	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	0.00	\$0.00	\$0.00	\$0.00
MAY	559.94	\$3.76	\$2,105.36	39.67	\$3.76	\$149.16	412.06	\$3.76	\$1,549.35	\$3,803.87
JUNE	948.71	\$3.63	\$3,443.81	23.09	\$3.63	\$83.82	431.80	\$3.63	\$1,567.43	\$5,095.06
JULY	1232.28	\$3.36	\$1,725.22	98.34	\$3.36	\$330.42	465.08	\$3.36	\$1,562.67	\$3,618.31
AUGUST	783.09	\$3.58	\$1,096.29	62.71	\$3.58	\$224.50	387.95	\$3.58	\$1,388.86	\$2,709.65
SEPTEMBER	669.81	\$3.55	\$937.73	186.10	\$3.55	\$660.66	354.82	\$3.55	\$1,259.61	\$2,700.00
OCTOBER	766.57	\$3.68	\$1,073.18	167.98	\$3.68	\$618.17	295.15	\$3.68	\$1,086.15	\$2,700.50
NOVEMBER	657.33	\$3.68	\$920.27	144.17	\$3.68	\$530.55	276.72	\$3.68	\$1,018.33	\$2,700.15
DECEMBER										
GALLONS	5,618			722			2,624			8,963
VALUE		\$11,302			\$2,597			\$9,432		\$23,332



FUEL CONSUMPTION REPORT

PROJECT PARTNERS



ST LANDRY PARISH SW COMMISSION, KATRY MARTIN, EX DIR

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OWNER OPERATOR

AUCOIN AND ASSOCIATES, STEVE TATE, PE



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Consulting Engineers/Land Surveyors
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PROCUREMENT, SITE DESIGN

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ENVIRONMENTAL FINANCING, PROJECT COORDINATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES, SCOTT

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FUND ADMINISTRATION



environmentalfinance

PROJECT PARTNERS

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VECHICLE CONVERSIONS



PROJECT PARTNERS

Merci

WWW.SLPSOLIDWASTE.ORG