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
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.
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

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1 (Jan-Mar)</td>
<td>4,915</td>
<td>6,921</td>
<td>7,228</td>
<td>7,385</td>
<td>0</td>
</tr>
<tr>
<td>Q2 (Apr-Jun)</td>
<td>5,400</td>
<td>6,530</td>
<td>6,915</td>
<td>7,600</td>
<td>0</td>
</tr>
<tr>
<td>Q3 (Jul-Sep)</td>
<td>6,400</td>
<td>6,998</td>
<td>6,885</td>
<td>7,002</td>
<td>0</td>
</tr>
<tr>
<td>Q4 (Oct-Dec)</td>
<td>7,900</td>
<td>7,770</td>
<td>6,618</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **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

- **Average Price per CRT Sold**: $7.13 $5.50 $5.75 $5.75 $0
- **Total CRTs Forward Sold**: 24,615 28,219 27,646 21,987 0

### Gross Est Revenue

<table>
<thead>
<tr>
<th>Year</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$175,383</td>
<td>$155,205</td>
<td>$158,965</td>
<td>$126,425</td>
<td></td>
</tr>
</tbody>
</table>

### Value of Carbon Offsets

- **$615,977**
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.\textsuperscript{11}
PROJECT FUNDING

REVENUES

- EmPOWER GRANT $500,000
- RENEWABLE ENERGY TAX CREDITS $250,000
- LOCAL RESOURCES $250,000
- TOTAL $1,000,000
PROJECT FUNDING

EXPENDITURES

- FUELING STATION $640,000
- SITE WORK $160,000
- VEHICLE CONVERSIONS $200,000
  $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
CONVERSIONS

15 VEHICLES
1 VAN
5 SEDANS
9 PU TRUCKS
COMMISSIONING

APRIL 2012
GOING FORWARD

- MONITOR CONSUMPTION
- TRACK OPERATING COST
- WORK TO EXPAND FLEET
<table>
<thead>
<tr>
<th>MONTH</th>
<th>SHERIFF DEPT</th>
<th>SHERIFF DEPT LITTER ABATEMENT</th>
<th>SOLID WASTE</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Gallons</td>
<td>Price Per Gallon</td>
<td>Total Value</td>
<td>Total Gallons</td>
</tr>
<tr>
<td>JANUARY</td>
<td>0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>FEBRUARY</td>
<td>0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>MARCH</td>
<td>0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>APRIL</td>
<td>0.00</td>
<td>$0.00</td>
<td>$0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>MAY</td>
<td>559.94</td>
<td>$3.76</td>
<td>$2,105.36</td>
<td>39.67</td>
</tr>
<tr>
<td>JUNE</td>
<td>948.71</td>
<td>$3.63</td>
<td>$3,443.81</td>
<td>23.09</td>
</tr>
<tr>
<td>JULY</td>
<td>1,232.28</td>
<td>$3.36</td>
<td>$1,725.22</td>
<td>98.34</td>
</tr>
<tr>
<td>AUGUST</td>
<td>783.09</td>
<td>$3.58</td>
<td>$1,096.29</td>
<td>62.71</td>
</tr>
<tr>
<td>SEPTEMBER</td>
<td>669.81</td>
<td>$3.55</td>
<td>$937.73</td>
<td>186.10</td>
</tr>
<tr>
<td>OCTOBER</td>
<td>766.57</td>
<td>$3.68</td>
<td>$1,073.18</td>
<td>167.98</td>
</tr>
<tr>
<td>NOVEMBER</td>
<td>657.33</td>
<td>$3.68</td>
<td>$920.27</td>
<td>144.17</td>
</tr>
<tr>
<td>DECEMBER</td>
<td>5,618</td>
<td>$11,302</td>
<td>722</td>
<td>$2,597</td>
</tr>
</tbody>
</table>

FUEL CONSUMPTION REPORT
PROJECT PARTNERS
ST LANDRY PARISH SW COMMISSION, KATRY MARTIN, EX DIR
337.826.5211 kmartin@slpsolidwaste.org
OWNER OPERATOR

AUCOIN AND ASSOCIATES, STEVE TATE, PE
337.457.7366 state@aucoinandassociates.com
PROCUREMENT, SITE DESIGN

GT ENVIRONMENTAL FINANCE, JASON TOURNILLION
512.342.2711 jason@gtenvfin.com
ENVIRONMENTAL FINANCING, PROJECT COORDINATION

LOUISIANA DEPARTMENT OF NATURAL RESOURCES, SCOTT ANGELLE, SEC
225.342.2710 John.Crouch@LA.GOV
FUND ADMINISTRATION
CORNERSTONE ENVIRONMENTAL GROUP, LLC, MIKE MICHELS, PE
414.659.7075 michael.michels@cornerstoneeg.com
BioCNG FUELING STATION TECHNOLOGY
RILEY, PARK, HAYDEN AND ASSOCIATES, JUENE FRANKLIN, PE
713.333.0444 jfranklin@rphengineering.com
AIR PERMITTING, TECHNICAL GAS SYSTEM DESIGN
CONTROL TECH, TIM PARICH OWNER
337.519.5196 timparich@afvtech.us.com
VECHICLE CONVERSIONS
Merci.