



City of **GREENSBORO** *North Carolina*

Landfill Gas and Solar Project Update

June 23, 2015 City Council Work Session
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Landfill Gas to Energy Project Update

- City and Petra Energy have negotiated and executed Gas Rights Agreement
- Petra will utilize M/WBE subcontractors in the construction phase of the project
- Petra will utilize M/WBE financing partner
- Project timeline will be driven by Duke Energy Infrastructure work schedule



Solar Project Proposal

Petra Engineering has proposed to City staff adding solar to energy project within White Street landfill property to maximize the City's opportunities for developing renewable projects at the site.

The proposed project will provide incremental revenue to the City while utilizing property within the landfill site.

Like the landfill gas project, the upfront capital cost of the project will be financed through Petra Engineering.



Solar Project at Landfill Overview

- Petra Engineering has proposed to build, operate, and own a solar project at the White Street Landfill to produce electricity
- Solar project made possible by synergies with ongoing Landfill to Energy project
- Petra would lease landfill property for up to 25 years from City
- The electricity produced at Petra's solar/gas to energy facility will be purchased by Duke Energy (final size to be determined by technical considerations)



Solar Project at Landfill Overview (continued)

- Petra will pay the City of Greensboro ~\$6,000 annually for the land lease (10 to 20 acre footprint)
- Petra will provide site maintenance and upkeep for solar project site
- The term of this project is up to 25 years (with an option for the City to purchase solar to energy project from Petra around year 7)
- Opportunity for hands-on experience with renewable technology for local college students and faculty



Landfill Site Electric Utility Overview

- Landfill Gas to Energy project will produce 1.55 MW
- Solar to Energy project will produce up to 3.4 MW
- Typical Duke Utility Distribution can handle about 5 MW
- Solar project will provide Investor Return of 8-12% and Debt Coverage 1.1 to 1.3 for 15 year term
- Purchase price at year 7 estimated to be \$2.1 to 2.6 Million. Revenue at year 7 estimated to be \$300,000.



Possible Solar Project Location

