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Energy Efficiency Carbon Credits – New Orleans Public Schools Project

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Services

- Sustainability Strategy
- Carbon Footprint Analysis
- Greenhouse Gas Reduction
- Carbon Offsetting
- Project & Information Management
- Credit Commercialization
  - Carbon
  - Renewable Energy
  - Energy Efficiency
- Energy Conservation Strategy
- Government Contracting

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Introduction

- Energy Efficiency Offsets represent 1 megawatt-hour of energy savings
  - Based on annual energy savings multiplied by project relevancy
  - Projects:
    - Weatherization
    - Operational modifications & energy management
    - Retrofits and upgrades
  - Projects last between 5-20 years, e.g. lighting retrofits: 5-8 years
  - Emerging market

- U.S. Markets:
  - Voluntary (Gold Standard, VCS)
  - Connecticut (Class III Renewables, RPS 23% by 2020)
  - Oregon (Carbon Allocation Strategy)
  - Individual Over-the-Counter-Trades

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Generation of Energy Efficiency Offsets

- Requirements:
  - Establishing energy use/demand baseline before and after implementation of energy savings project
  - Often based on deemed savings figures, engineering calculations, and direct measurements
  - Determine and secure ownership rights (double counting)
  - Third party verification required annually

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Energy Efficiency Offset Project Types

- Types of qualifying projects:
  - Equipment upgrades, retrofits, and replacement
  - Cogeneration of combined heat and power
  - Increased efficiency of lighting, HVAC systems, or improved insulation to prevent losses
  - Operational modifications, energy management
  - New technologies

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New Orleans School Project

Background

- Hurricane Katrina damaged and destroyed more than 100 of the district's 128 school buildings.
- Many of these facilities must be replaced or substantially renovated.
- Energy conservation measures (ECMs) identified through NREL funded energy audits
- Current budget shortfall expected that prevents to implement all ECMs
- Carbon credit could fill funding gap
- Projected GHG emission reductions estimated to amount to 40,000 metric tons per year for the project bundle of 60 schools

<u>Advantages of Offset Project:</u>
-No cap and trade or RPS legislation in Louisiana
-NGOs already involved
-Plausible case for additionality
-Energy Audits Completed already

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Methodology

Clean Development Mechanism:

AMS II.E – "Energy efficiency and fuel switching for buildings"

- Comprises any energy efficiency and fuel switching measure implemented at a single building or group of similar buildings, such as a school, district or university.
- Technical energy efficiency measures:
  - Efficient appliances
  - Better insulation
  - Optimal arrangement of equipment
  - Fuel switching measures

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Methodology – continued

Clean Development Mechanism:

AMS II.E – "Energy efficiency and fuel switching for buildings"

- Energy baseline = energy use of the existing equipment that is replaced in the case of retrofit measures and of the facility that would otherwise be built in the case of a new facility.

- Pitfalls: Leakage & Double Counting
  - If the energy efficiency technology is equipment transferred from another activity or if the existing equipment is transferred to another activity, leakage is to be considered.
  - Independent monitoring of scrapping of replaced equipment needs to be implemented.
  - Who claims the reduction?

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Gold Standard Certification

- Focus on environmental, economic and social integrity of carbon offset projects (sustainable development indicators)
- Accepts only renewable energy and end-use energy efficiency projects
- Emphasis on incorporating feedback from local stakeholder consultations
- Additionality of emissions reductions compared to the 'business-as usual' situation
- Emissions reduction benefits that are real and measurable.

The Gold Standard
Premium quality carbon credits

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Gold Standard Process - Overview

1. Plan:
   a. Begin drafting Project Design Document (PDD) and Gold Standard Passport
2. Design:
   a. Select baseline and monitoring methodologies
   b. Assess additionality and sustainability
   c. Organize and report on local stakeholder consultation
3. Validate
   a. Submit completed and validated PDD and Gold Standard Passport
   b. Second round of Gold Standard stakeholder review
4. Register
5. Verify
   a. Monitor and report project
   b. Verification and certification by DOE
6. Certify

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Gold Standard Process – Current Status

Current Status: Stakeholder consultation

- 2 stakeholder consultations must be held during the project cycle in order to fulfill the criteria of the Gold Standard:
  - Early stage consultation
  - Main stage consultation
- Invited stakeholders:
  - Local policy makers
  - Local people impacted by the project
  - Local and national NGOs
  - Gold Standard itself.
- Delivers detailed information and technical and non-technical background documentation
- Provides discussion platform

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Gold Standard Process – Next Steps

- Design:
  - Revise Project Development Document and Gold Standard Passport
  - Obtain Gold Standard applicant status
  - First round of Gold Standard stakeholder review

- Validate:
  - Validation by DOE
  - Submit completed and validated PDD and Gold Standard Passport
  - Second round of Gold Standard stakeholder review

- Register
- Verify
- Certify

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New Orleans School Project

Pilot Project (3 schools):

Carbon Offsets from Energy Savings *ECMs*	Electricity Savings *kWh*	Carbon Credits *MT / year*	Carbon Credits Revenue *LOW*	Carbon Credits Revenue *HIGH*	Installation Costs *One Time*
Recommission Energy Management	354,753	183	$ 913	$ 2,740	$ 41,000
Lighting Controls	129,506	67	$ 333	$ 1,000	$ 36,860
HVAC- EMS Recommissioning	83,048	43	$ 214	$ 641	$ 33,475
Lighting: Hallway Key Switch Control	14,716	8	$ 38	$ 114	$ 3,750
Lighting: Occupancy Control	10,341	5	$ 27	$ 80	$ 2,730
Lighting: Occupancy Control	226,087	116	$ 582	$ 1,746	$ 6,385
Total	**818,451**	**421**	**$ 2,107**	**$ 6,320**	**$ 124,200**
Projection over 10 years	**8,184,510**	**4,214**	**$ 21,068**	**$ 63,204**	**-**

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Questions

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