

Celtic Energy



Town of Wethersfield Town Council

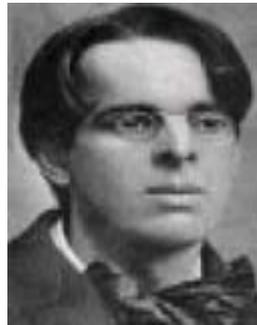
Using ESPC to Maximize
ARRA Funding

April 1, 2010

energy
solutions
for a
sustainable
future

“Education is not the filling of a pail,
but the lighting of a torch”

William Butler Yeats





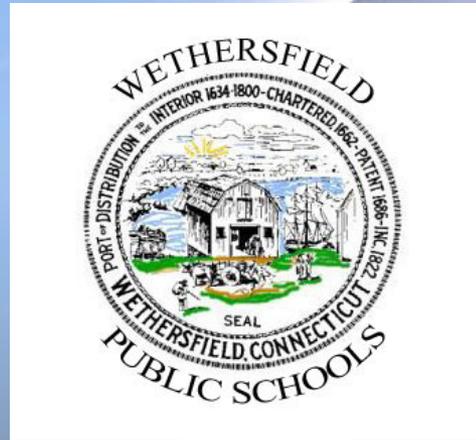
Today's Agenda

- The Partnership
- Introduction to Celtic Energy
- CEI Skills Matches ARRA
- CEI Plan
- Leveraging Benefits
- What is ESPC?
- Case Studies
- YOUR QUESTIONS!



The Partnership

4/6/2010



Who are we?

- *Celtic Energy* is an Energy Efficiency Consulting firm with expertise assisting Federal, State, and Local Governments manage Energy Programs
- Awarded contracts by US Dept. of Energy, Towns of Farmington, Glastonbury, West Hartford, Plainville, Windham, States of CT, RI, MA, NC, NV, and HI, City of Henderson, City of Reno, others
- Local Glastonbury Office
- Boston, Charlotte, Las Vegas



- ARRA Management
- ESPC Consulting
- LEED^(R) Consulting
- Strategic Energy Master Plans
- Sustainability Plans
- Energy Simulation Modeling
- Energy and Demand Response Audits
- Retro- and Re-Commissioning
- GHG Emissions Reductions Strategies
- Emerging Technology Assessments
- Maximize Utility Incentives
- USEPA Energy Star Building Certification
- Develop Institution Energy Standards
- Energy Procurement Services (Including PPAs)



Christopher F. Halpin, PE, CEP, LEED

- **25 years experience** in energy efficiency industry, including: engineering, management, marketing and sales at several energy firms
- Founded Celtic Energy in 2000 utilizing **“Industry Best Practices”** to help end users reduce costs
- Selected by **Energy Secretary Steven Chu** to be an official reviewer of ARRA and Smart Grid proposals
- Director Level at premiere ESCOs and Consulting Firms
- Former Global Energy Manager, NCR
- Nationwide Speaker and Trainer on Energy, LEED, Design/Build
- Registered PE in NY, CT, FL
- US EPA Energy Star Buildings Partner
- Instructor: Sustainable Building Advisor Cert. at Gateway Community College
- USDOE – ESPC Improvement Working Group



ARRA Matched to CEI Expertise

- CEI pioneered DOE Open Book pricing in State/Local Gov't ESPCs
- Introduced DOE's "Risk & Responsibility" matrix to State/Local ESPCs

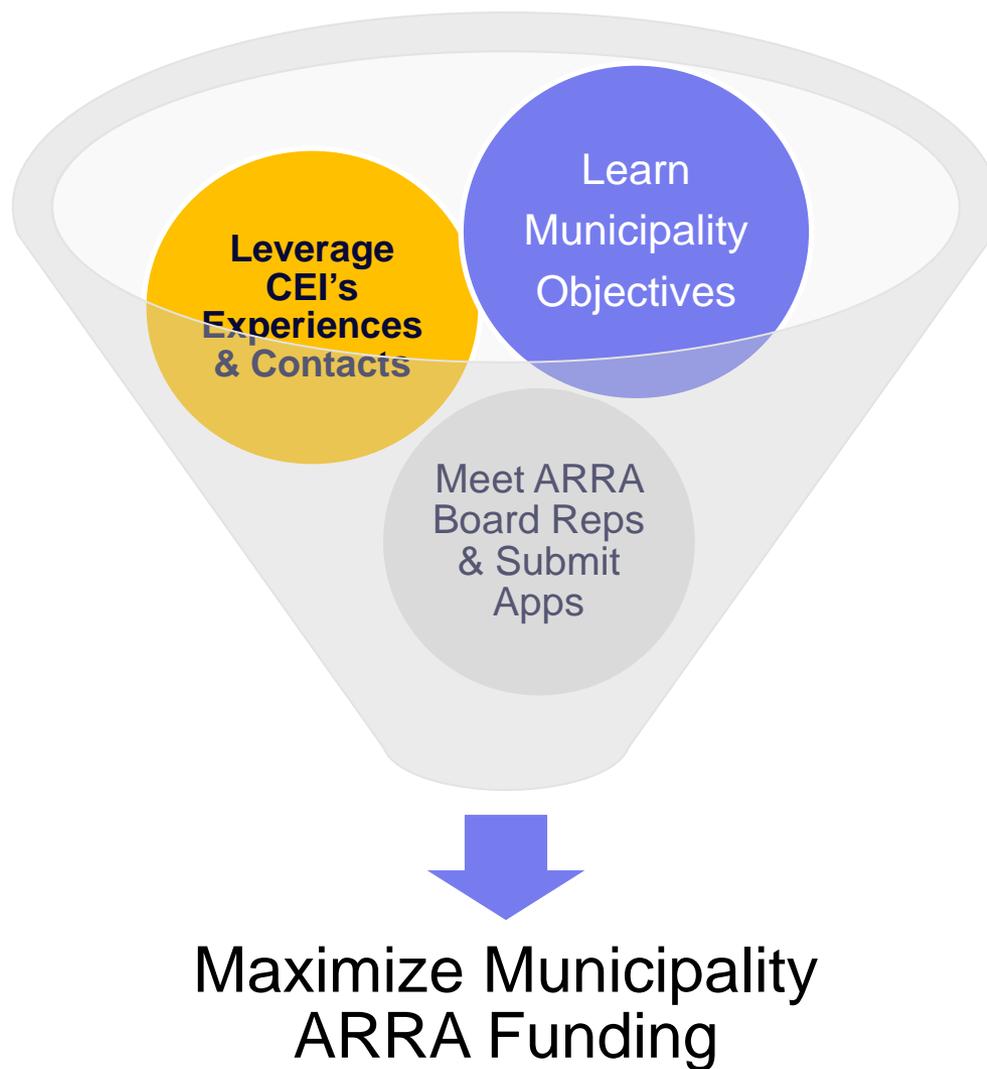
- Properly Designed RFPs
- Ensure ESCOs Guarantee savings
- Owner Remedies in Contracts



- Eliminated "stipulation" of savings in ESPC
- Nationally known M&V experts
- Expert on CT DPUC & ISONE M&V reqmts. (1st appr. Plan in US' 1st Forward capacity market)

- DOE Golden bi-weekly reports
- DOE HQ Monthly Calls
- State Energy offices

CEI's ARRA Plan for Municipalities

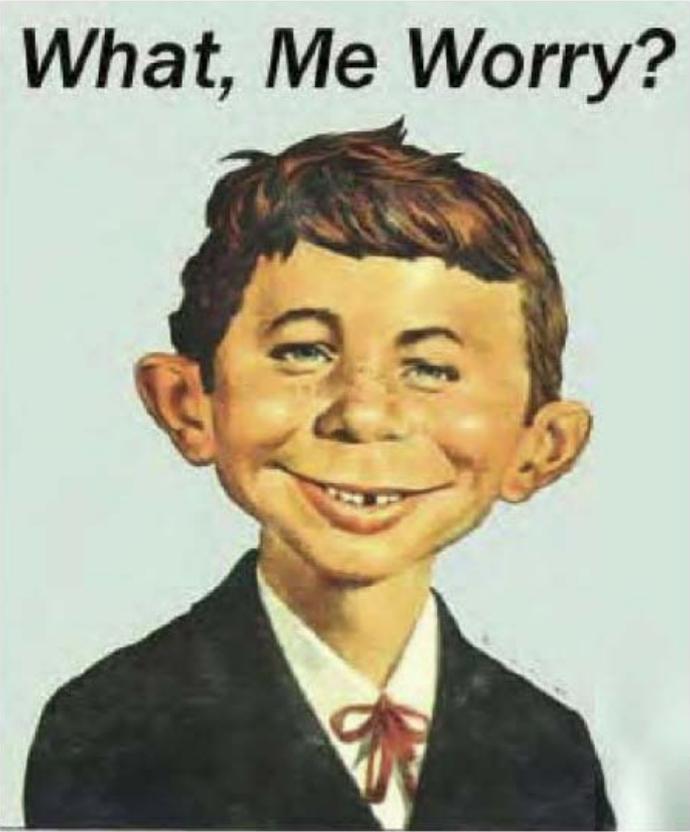


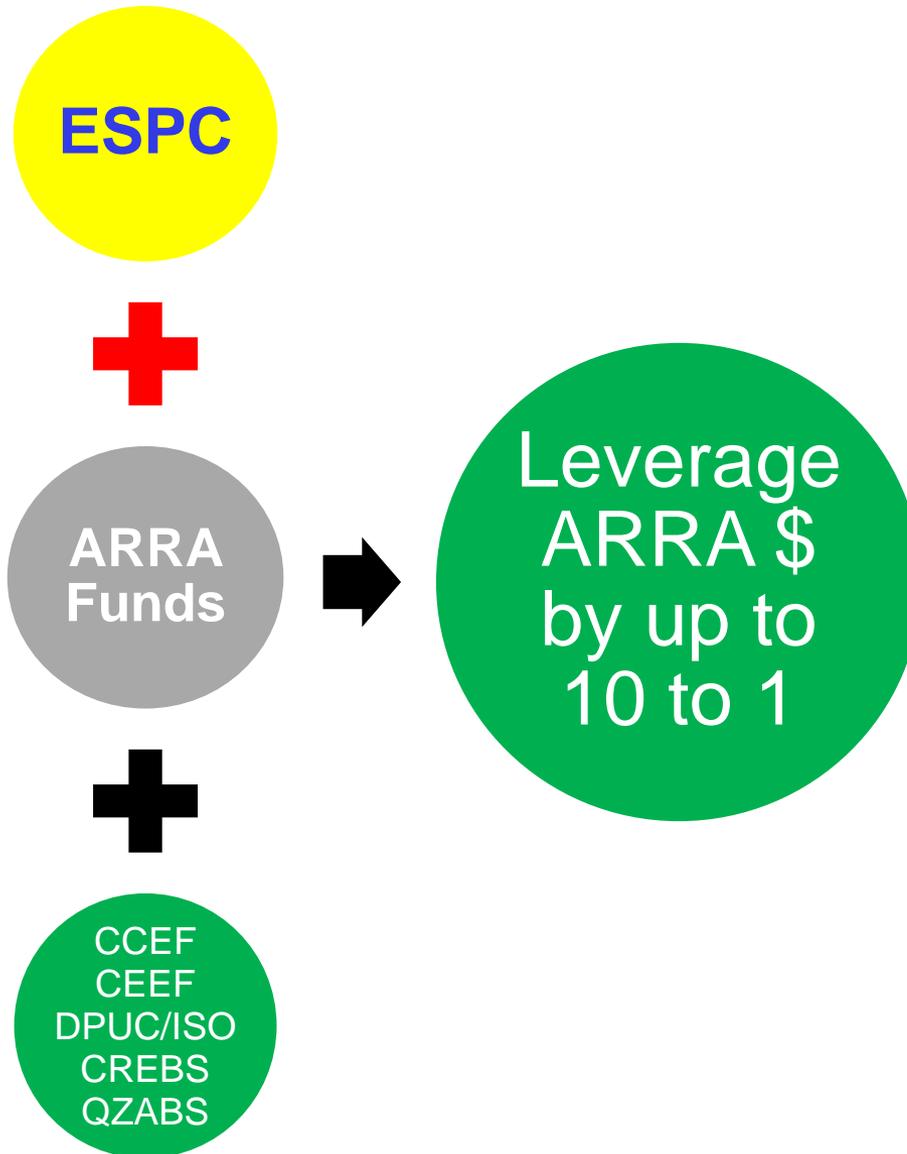
- **Leverage ARRA Stakeholders:** Allocation decisions, application processes, and reporting requirements mean that Governors, State Legislatures, and local governments, will be forced to work together. **Celtic Energy** can play a key role in convening this category of stakeholders, or at the least offer ideas or share best practices as to how different levels of government can make transparency and accountability a core component of their activities.
- **Relationships:** CEI understands ARRA requirements, has working relationships at highest levels of DOE, CT OPM, CCEF, and CEEF, all important funding sources
 - Mr. Halpin selected by Energy Secretary Chu to review ARRA proposals
 - Mr. Halpin has close working relationship at DOE EERE since 1998
 - Mr. Halpin has known Ray Wilson and John Ruckes at CT OPM for over 10 years while working on CT DPW Energy Program
 - Mr. Halpin on Board of NEEC-CT, assisted in saving CCEF/CEEF in 2003-2009
 - 20 years of working on CT energy programs, knows market participants
- Create ARRA Master Plan based on input from Muni, meetings with DOE, CT Recovery Board, OPM, CCEF, others

The Stimulus Money

What can grantees do with **EECBG** funds?

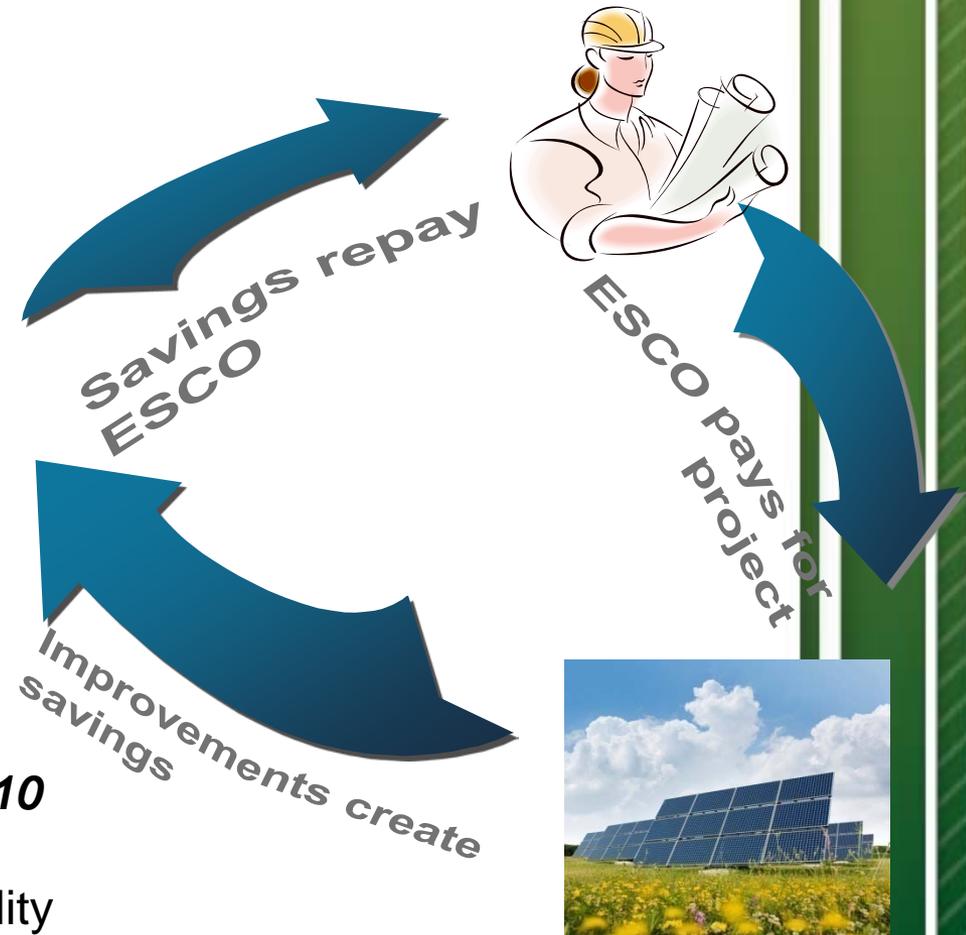
- Development of Energy Efficiency and Conservation Strategy
- Technical Consultant Services
- Energy Saving Performance Contracts
- Residential and Commercial Building Energy Audits
- Financial Incentive Programs
- Energy Efficiency Retrofits
- Traffic Signals and Lighting
- Renewable Technologies on Government Buildings
- Other creative uses aimed at saving energy....





What is ESPC?

- Energy Savings Performance Contracting (ESPC) is an “*innovative*” method to purchase energy efficiency, water, and O&M improvements in buildings
- A “*single*” procurement is used to purchase a complete package of services from an “Energy Services Company” (ESCO) on an open book basis (Design/Build done right)
- **Self-Financing** of the entire project so there are no up front costs. Use Tax Exempt Municipal Lease, not ESCO \$
- **LEVERAGE ARRA FUNDS by up to 10 to 1.**
- ESPC can help improve indoor air quality and work/learning environments, while reducing energy costs



ESPCs re-allocate current spending NOT ADDED DEBT!!!

Reduce spending on:

- Wasted energy
- Maintenance of old, inefficient equipment

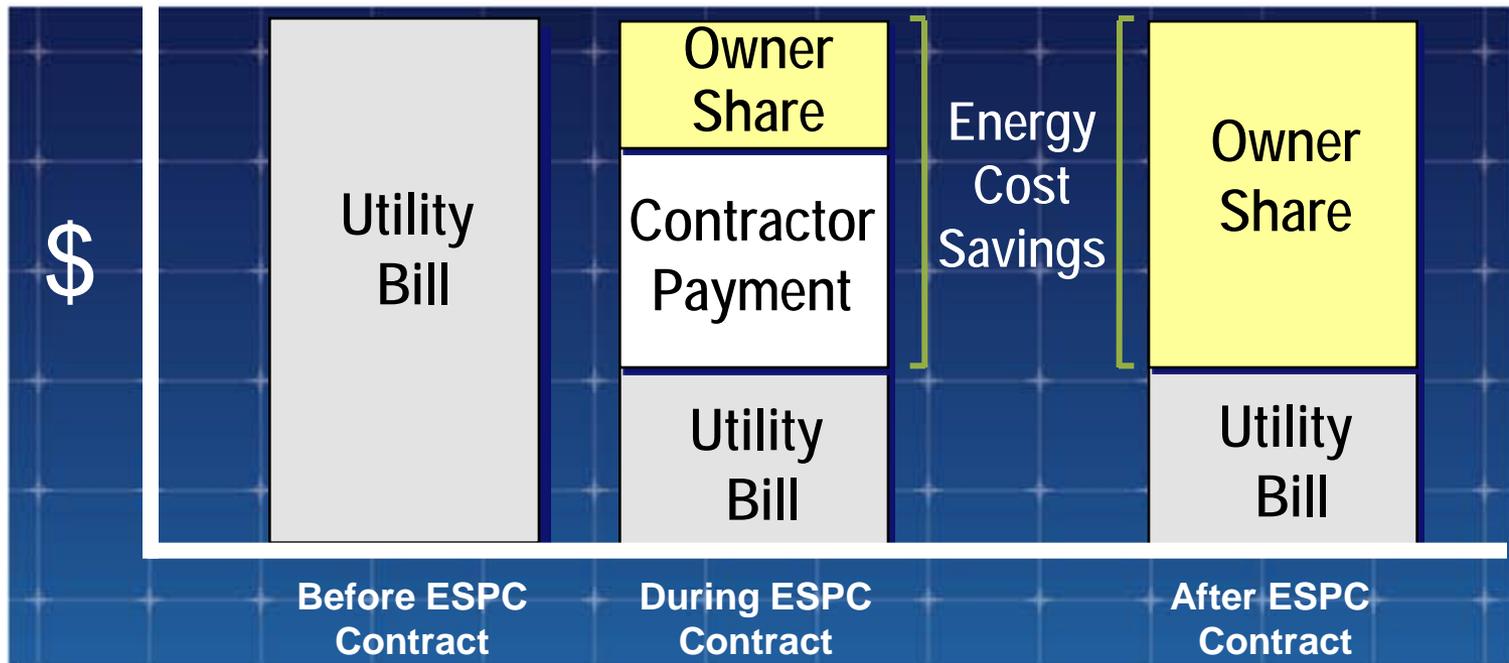
And reallocate the same spending to:

- New energy-using infrastructure
- Project financing costs
(mostly interest)

Will not degrade credit rating

No need to ask taxpayers for new \$

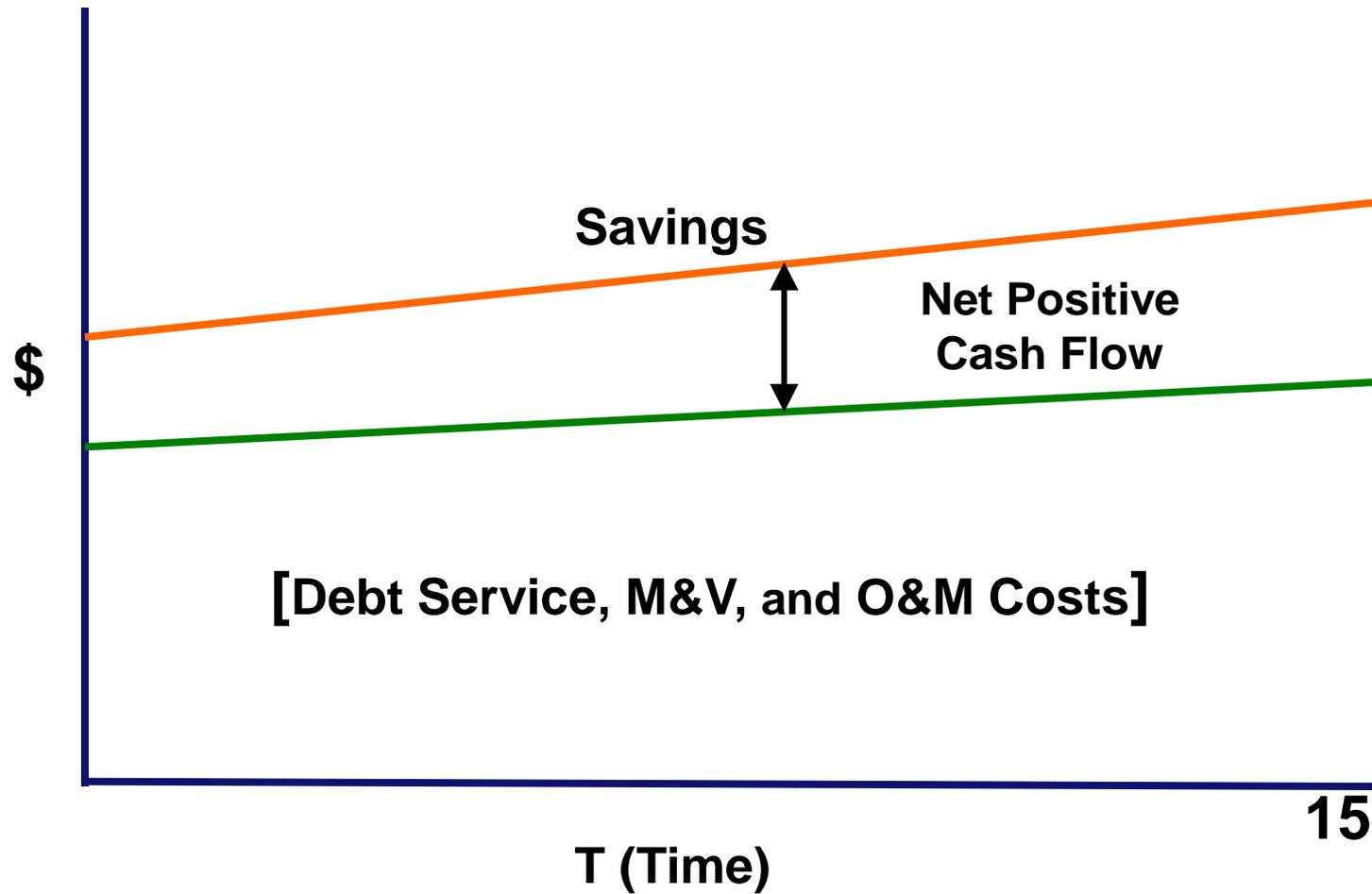




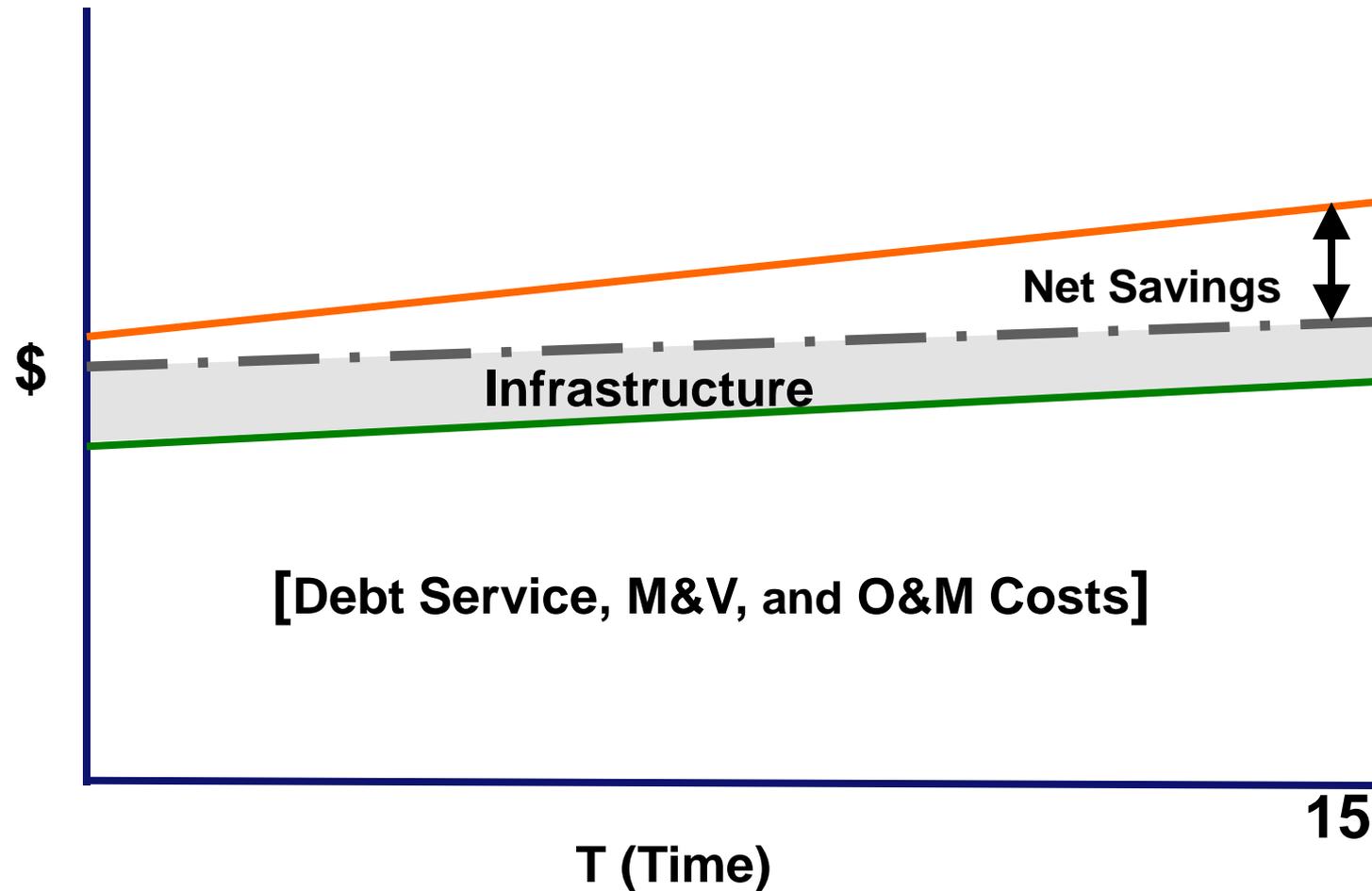
How Does It Work?

- Pay a lower utility bill
- Pay the contractor
- Achieve cost savings for the Owner

The Basic Cash Flow



Cash Flow + Infrastructure Enhancements





Tethercat

CT Towns
vs.
Energy
Markets

ESPC Benefits

- **Streamlined, flexible contracting mechanism** – for existing facilities or new construction.
- **Interests of ESCO and the client are aligned** -- to permanently reduce costs!
- **Facility-wide, integrated approach** – ESCO considers all systems and their interactions
- **Maintenance people** become invested in process
- **LEED Certification** – ESCO can help attain LEED points and certification



ESPC Benefits

- **No capital outlay required** – investments are funded by ESCO and paid using verified energy savings.
ESCO assumes risks of achieving savings!
- **Infrastructure improvements** – upgrade systems and improve comfort, while reducing energy costs.
- Leverages funding and creates energy cost hedge
- Commissioning, Performance required, efficiency, etc.
- Implement Leading edge, not Bleeding edge technologies





Who are the Players?

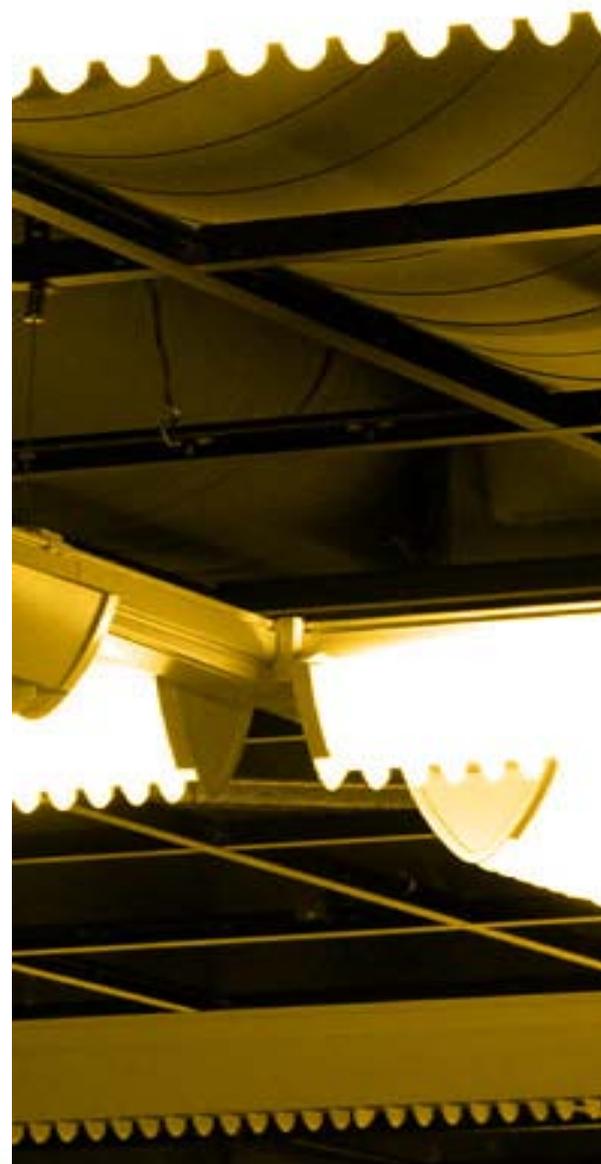
Building Owners:

- Experiencing “*budget busting*” energy cost increases
- Older facilities in need of improvements
- IAQ and other comfort issues
- Insufficient funding for capital upgrades and O&M
- Deferred maintenance issues
- New construction gets lion’s share of funding
- Addressing Green House Gas (GHG) Emissions & Carbon Footprints
- Typically sign contracts with 10-20 year term
- Helpful link: www.energyservicescoalition.org

Who are the Players?

Energy Service Company (ESCO):

- Identify and evaluate energy savings opportunities
- Develop engineering design & specifications
- Manage project from design to installation
- Can arrange for financing
- Train Owner's staff on O&M
- Guarantee project cost, performance & savings
- Provides long term O&M if desired by Owner
- Helpful Link: www.naesco.org





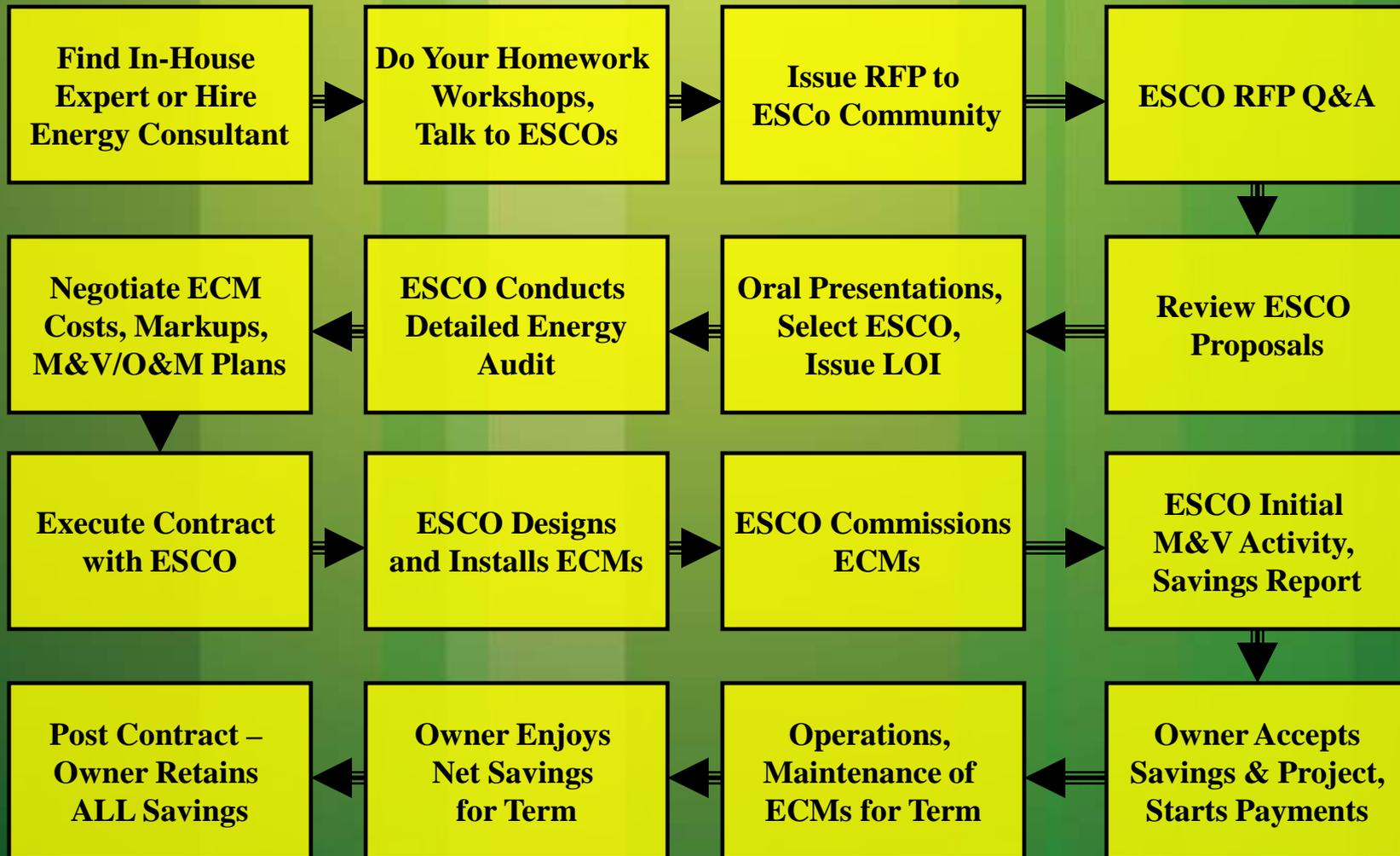
Who are the Players?

3rd Party Consultant

- Assist in development of RFP
- Evaluate ESCOs' Proposals assist in selection
- Facilitate accurate, comprehensive Detailed Audit by ESCO
- Validate ESCO's M&V, CX, O&M Plans
- Verify ESCO's M&V, CX activities
- Review engineering design and specifications
- Help Owner with contract negotiations

What's the ESPC Process? ESPC 101

4/6/2010



Government/Institutional Facility Challenges



Citizens Energy Conservation Advisory Committee

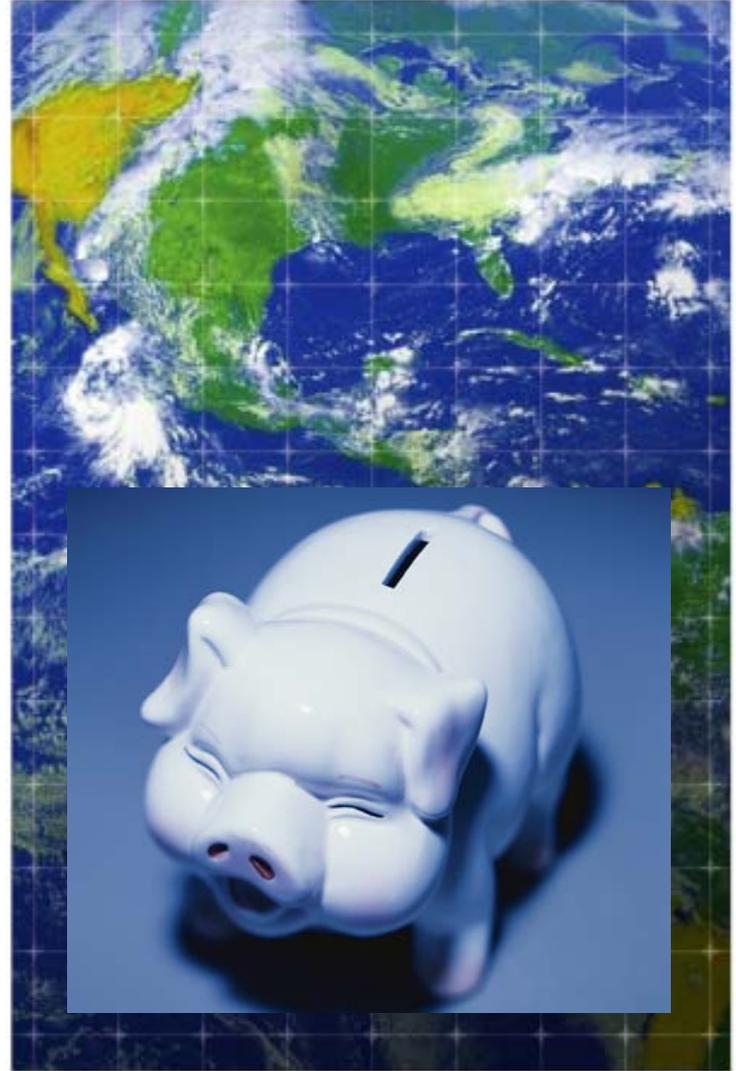
Goals

- Develop a measurable system/format to evaluate energy usage, impacts of projects/policies, and ability to determine success percentages. After evaluation/education, determine appropriate goals/successes/benchmarks for the Town and its citizenry.
- Reduce on-grid electricity usage during peak load periods.
- Develop, implement, and monitor "green" and energy conservation/generation technologies and strategies.
- Become a model of energy self-sufficiency through the creation of renewable energy sources and strategies.
- Identify, develop, and apply resources, such as tax and other incentives, grants, and favorable financing to implement energy peak load reduction, energy conservation, and energy self-sufficiency.



Why Should I do ESPC?

- Saves money
- Saves energy
- Reduces environmental impacts
- Improved procurement process
- Better performing buildings
- Guaranteed savings
- Reduced GHG Emissions
- State & Local Gov't. can maximize Stimulus Plan \$\$



USDOE - Transformational Energy Action Management (TEAM) Initiative at dozens of its own facilities across the country featuring ESPC as the main vehicle of achieving savings (CEI is managing projects at HQ and Brookhaven Labs)

City of Stamford implementing a \$6.1 million energy performance contract in more than 20 schools (third party financing to pay to improve energy efficiency and repaid with utility energy savings)

City of New Haven

- *Board of Education Performance Contract (Nine-year Program)*
- \$6.1 million of leased improvements.
- \$250,000 in utility rebates to offset capital cost.
- \$8.64 million in energy, maintenance, parts and labor cost saved to date.
- \$8.8 million savings guaranteed over the nine-year program.

Town of Farmington ESCO RFP goes out 4/2/2010

Town of Cheshire just awarded RFQ for Consultant to CEI

Windham Public Schools Willimantic, CT

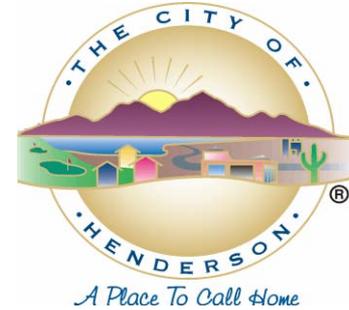
- Cash strapped district with 9 older facilities.
- Major infrastructure upgrades; boilers, windows, etc.
- Solved chronic comfort and maintenance problems (No need for parkas in class anymore!)
- Many standard measures, lighting, sensors, EMS
- Small Cogeneration at two schools allowed for emergency shelter status
- **CEI managing Performance Contract, \$5.5 million at all schools, 13 year term**



City of Henderson, NV

Celtic Energy is providing several Energy Consulting services including:

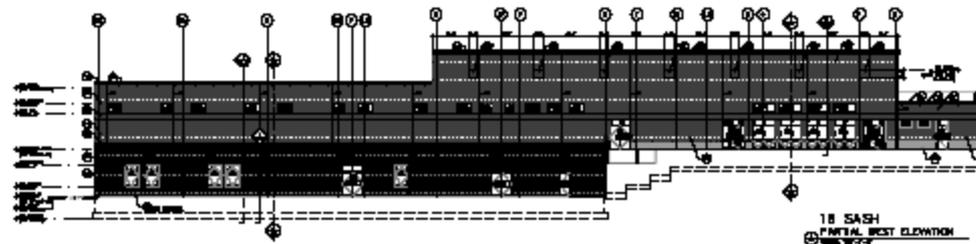
- Performance Contract Consulting
 - \$2M pilot project on Justice Facility
 - \$18M project on balance of City bldgs.
 - 26,000 street light upgrades to leading edge induction technology
- New Construction Energy Efficiency Design Review
- Revise and update Design Standards to reflect latest in energy efficiency & Green Building requirements



Foster-Glocester Schools Chepachet, RI

- Small district with older facilities.
- IAQ and fire code violations
- Building new Middle School, expanding and renovating ***Alternative Energy*** High School.
- Over budget, using ESPC to fund ECMs
- Bio-mass fired heating systems, PV, wind power, high efficiency HVAC, controls, daylighting
- **CEI managing Performance Contract, \$10.5 million project**

PONAGANSET
MIDDLE SCHOOL



Douglas County School District Minden, NV

- ESPC
 - Project Cost: \$5,095,000 in June 2008
 - Annual Savings: \$450,000
 - Many standard measures, lighting, sensors, EMS, induction lighting in parking lots
- ARRA/Bond Funded addition to ESPC
 - \$3.1 million project
 - Major infrastructure upgrades; fan coil units, new gymnasium improvements, others
- CEI managing Performance Contract, and ARRA/Bond Funded project

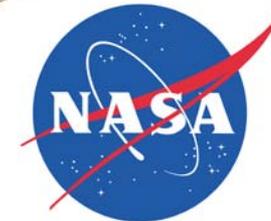
“It is largely due to CEI that our project has moved so swiftly and smoothly... The technical oversight and quality control that Celtic has provided our District with over the last months has been immeasurable at keeping our project on a strict timeline and ensuring that all aspects of the project will essentially pay for themselves... Celtic Energy Inc. is a highly impressive company who has exceeded our expectations.”

-Holly Luna, Chief Financial Officer, Business Services, Douglas County School District



US Department of Energy

- **ESPC and Energy Audit Projects Include:**
 - DOE Forrestal HQ, DC
 - USDOE Brookhaven National Labs, NY
 - NASA Dryden Flight Research Center, CA
 - Mac Dill AFB, FL
 - McGuire AFB, NJ
 - Wright-Pat AFB, OH
 - US Coast Guard, NJ
 - US Army Ft Benning, GA
 - GSA Courthouses, MO
 - GSA Courthouse, OH
 - US Navy SECCOM, WV
 - US Marines MOBCOM, MO
- **Over \$20 million in annual energy/O&M savings**
- **Over \$200 M of infrastructure projects**



U.S. General Services Administration

Isn't Design/Bid/Build Cheaper?

- Yes, sometimes D/B/B is cheaper based on First Costs!
 - Get what you pay for.
 - Seldom are DBB designs optimized for efficiency, rarely capture expected savings. AE firms are not trained for these designs.
 - V.E.V. = *Value Engineering Victim* (Typical of D/B/B, not ESPC)
 - CATNAP = Cheapest Available Technology Necessary to Avoid Prosecution (Typical of D/B/B, not ESPC)
 - ESPC allows you to select ECMs based on value and life cycle, and not low bid!
 - No guarantees beyond one year warranty period in DBB
 - Rarely are systems commissioned

- **Celtic Energy is perfectly suited to help Cities and Towns manage their ARRA funds**
 - Currently manage large complex energy programs for USDOE, States, and Local Governments across the country with national reputation for excellence
 - One of only four Project Facilitators in US for DOE projects, brings DOE's due diligence that ARRA is based on to its local clients
 - Leverage extensive local ARRA funding contacts at OPM, CCEF, CEEF (CL&P/UI)
 - Extensive experience in Accountability, Transparency, Reporting, M&V, and Leveraging Funds, ARRA's main pillars of credibility and fiscal stewardship
 - Local office staffed by CT residents, dedicated to CT

Thank you for your time...

QUESTIONS?

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Certified Energy Procurement
Professional

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William Butler Yeats**