



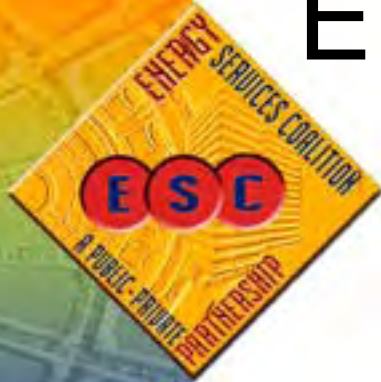
2012 Energy Policy and Technology Outlook Conference

*Modernizing U.S. Energy Infrastructure – Promoting
Economic Development and Technology Innovation*

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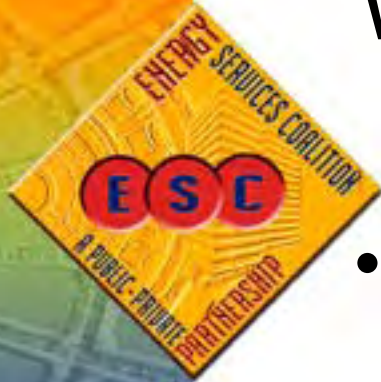
*Innovations in Upgrading and
Modernizing Public Facilities*

Energy Services Coalition



- NASEO Affiliate
- Department of Energy Technical Assistance Provider
- Outreach and Education through local chapters
- Public Facility Retrofits Best Practices tools and resources

Why Public Facility Retrofits



- Aging Infrastructure (We haven't had ample funds for some time so our stuff is old and it costs a lot to keep fixing it)
- Energy Efficiency (More efficient technologies cost less to operate and work better)
- Environmental Stewardship (More efficient stuff dirties the air less, uses less water)
- National Security (The US economy is dependent on foreign petroleum sources)
- Economic Development (It would really be helpful if we could get over 8% of the US population back to work)
- Lead by Example

Innovations



- Technologies
- Applications
- Financing

Technology Innovations



- Light Pipes
- Solar Hot Water Heating
- Biomass Heating
- Wireless controls
- Ever improving LED technology
- High Mast Highway Lighting
- Improved occupancy sensors
- Ever improving HVAC technologies
- Ever improving electrical devices
- Even improving renewables

If it's more efficient, and reliable it will find a way into public facility retrofits

Application Innovations



- Water and Wastewater
- Asphalt Plants
- Cement Plants
- Traffic Signals
- Highway Lighting – High Mast
- Laundries
- Pools
- Tracks & Fields
- High bay lighting
- Cafeterias
- Laboratories and Clean Rooms
- Data Centers
- Industrial Processes
- Transportation
- Hospitality
- Healthcare

Financing Innovations



- Revolving Loan Funds
- Revenue Bonds
- Qualified Energy Conservation Bonds
- On Bill Financing
- On Bill Repayment
- PACE – Property Assessed Clean Energy
- Energy Service Agreements
- Energy Savings Performance Contracts
- Green Banks
- Sustainable Energy Utilities
- Power Purchase Agreements

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Modernizing Public Facilities*

Public Facility Retrofits



When to do the work

How to do the work

How to pay for the work

When to do the work

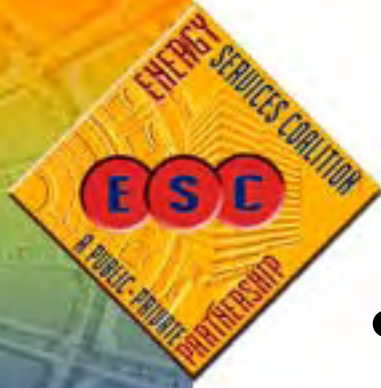
- sarcasm



- Wait patiently,
 - more grants are coming soon
- Sit idly by,
 - tax payers (voters) are yearning to pay for this stuff
- Plan for the future,
 - someone else will inherit the problem

If it needs to be done, let's do it!

How to do the work



- **Traditional Procurement**

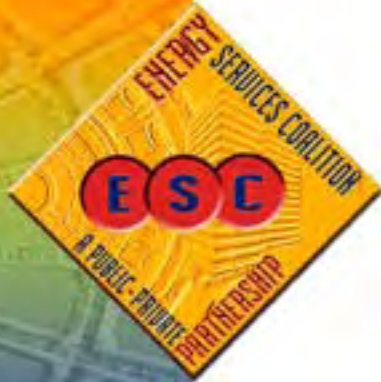
- When the money's available, go through professional services procurement for design, bid the work, build the work, pay for the change orders

- **Design Build**

- When the money's available, one entity performs both architectural/engineering and construction under one single contract. Under this arrangement, the design-builder warrants to the contracting agency that it will produce design documents that are complete and free from error (design-builder takes the risk).

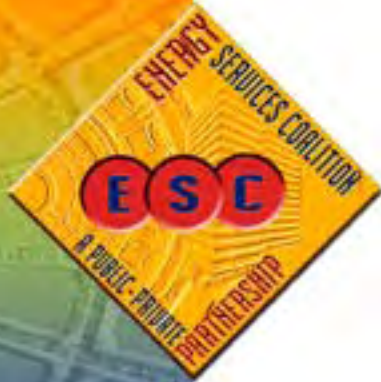
How to do the work

cont.



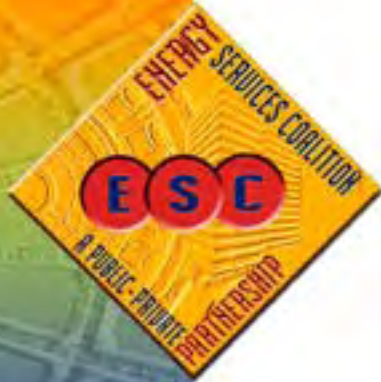
- **Construction Manager at Risk**
 - When the money is available, a construction delivery method in which a construction manager/general contractor is brought on during the design phase to be part of the design team and to propose a guaranteed maximum price at or towards the end of the design development phase. If owner accepts the guaranteed maximum price, this contractor will construct the facility.
- **Guaranteed Energy Savings Performance Contracting**
 - Repurposing of utility budget dollars to repay upfront capitalization

How to pay for the work - capitalization



- Cash – capital or operating budgets
- Bonds – traditional general obligation, QECBs, QZABs, Revenue Bonds
- Incentives – utility, federal, state or local – DSIRE.gov
- Bank Loans
- Endowments
- Tax Exempt Lease Purchase
- Other Lease Instruments

How to repay the capitalization



Through Savings!

- Pay as you go
 - Shared Savings
 - Service Agreements
- Pay as you save
 - ESPC

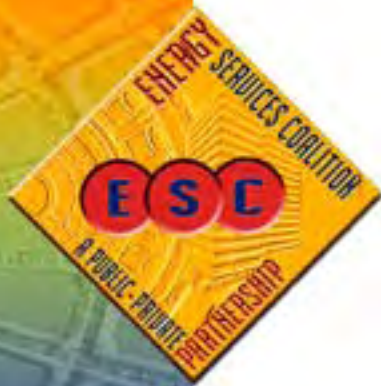
The question here may be who owns the “stuff”

Why not?



- That's not the way we do things around here
 - don't understand it and don't want to,
 - fear of job loss,
 - fear of loss of control
- I heard of a bad project
- Savings aren't real
- Costs too much

Summary



*Public Facility Retrofits have
like Elvis . . . left the building*

*As a reminder, we have a
stable, proven, well vetted
model for public facility retrofits
that mitigates risk and provides
speed and scale.*