



Wednesday, October 27
11:00am-12:30pm

1008 - Ten Legal Issues Associated with Lowering Your Energy Costs

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Partner

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James Dixon

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ConEdison Solutions

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Clinton Vince

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Faculty Biographies

Stuart Caplan SNR Denton

James Dixon

Jim Dixon is the vice president of energy services for Valhalla, New York based ConEdison Solutions which is a leading energy services company that provides competitive electricity, renewable energy, sustainability services, and cost-effective energy solutions for commercial, industrial, residential, and government customers. Mr. Dixon leads a nation-wide team of 100 technical experts delivering energy efficiency projects for a wide variety of customers including the Federal GSA, Miami-Dade County, Simon Properties, and the USPS.

Mr. Dixon also served as ConEdison Solutions' general counsel and as an attorney in ConEdison's utility Law Department's Nuclear Regulatory and Commercial Litigation sections. He also held various technical positions in the utility's Construction, Engineering and System Operations Departments and is a graduate of ConEdison's Management Intern Program.

He is currently vice chairman of the National Association of Energy Services Companies (NAESCO), which is the leading industry trade organization that promotes energy efficiency with over 70 member companies. He is a member of ACC and the New York State Bar Association. Mr. Dixon is a retired US Army Reserve Major and very active in his local community, having served as president of the Ardsley Little League and co-founder of a local CYO basketball program.

Mr. Dixon received his degree from Manhattan College and his JD from New York Law School and is an honor graduate of the Army Engineer School.

Carolyn Shellman

Carolyn E. Shellman is the executive vice president and general counsel of CPS Energy in San Antonio, TX, the second largest municipally-owned electric and gas utility in the United States. She also serves as CPS Energy's chief compliance officer and as secretary to the board of trustees.

Prior to joining CPS Energy, Ms. Shellman had the position of vice president and general counsel for the Electric Reliability Council of Texas (ERCOT) in Austin. She has also been a partner in two law firms in Texas with an energy practice focusing on electric utility regulatory and business matters.

She is a member of the San Antonio chapter of Inns of Court and the International Women's Forum and is an alumnae of Leadership Texas.

Ms. Shellman received an AB degree from Vassar College and is a graduate of the University of Oklahoma College of Law.

Clinton Vince

Clinton Vince is the chair of SNR Denton's Global Energy Practice. He is widely recognized for his cutting edge theories and solutions within the energy industry and pertaining to international commercial law.

Prior to joining Sonnenschein, Mr. Vince was the managing partner of the Washington, DC office of Sullivan & Worcester LLP, where he was also director of the firm's Energy Practice Group. He has also served as co-chair of Verner, Liipfert, Bernhard, McPherson and Hand, where he was the founder and chair of the firm's Energy and Environmental Practice Group.

His experience includes high profile litigation and appellate cases including, US Supreme Court advocacy, major project development and legislative and regulatory advocacy on behalf of public and private clients. Mr. Vince has argued before the US District Court for the District of Columbia, US District Court for the Eastern District of New York, US Court of Appeals for the First Circuit, US Court of Appeals for the Second Circuit, US Court of Appeals for the Fourth Circuit, US Court of Appeals for the Eighth Circuit, US Court of Appeals for the Tenth Circuit, US Court of Appeals for the Eleventh Circuit, US Court of Appeals for the District of Columbia Circuit, and the Supreme Court of the United States, as well as state appellate courts, in some instances multiple times, and has had an extraordinarily high success rate.

Mr. Vince received a BA from Trinity College and holds a JD from Georgetown University Law Center.

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Ten Legal Issues Associated with Lowering Your Energy Costs

Clint Vince – SNR Denton LLP
Stuart A. Caplan – SNR Denton LLP
Carolyn Shellman – CPS Energy
Jim Dixon – ConEdison Solutions

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1. Cost Impacts for the Electric and Gas Industries

What impacts the cost of the electricity and natural gas we pay for?

- **Direct Costs**
 - Raw Materials Prices (Coal, Natural Gas Etc...)
 - Overhead / Operating Costs
 - Transmission Costs / Constraints
 - Regulatory Costs
- **Indirect Costs**
 - Potential carbon legislation
 - Outside pressure for increased renewable generation

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2. Regulatory Jurisdiction

FERC v. State

The diagram consists of three overlapping circles:

- STATE-REGULATED** (top circle):
 - distribution rates
 - power plant siting/construction
 - end-use customer rights
 - retail power sales (sales to end users)
 - siting of distribution
- SET ON OPEN MARKET** (bottom-left circle):
 - fuel prices
 - Prices of construction materials (steel, concrete, etc.)
- FERC-REGULATED** (right circle):
 - energy markets
 - hydroelectric generator licensing and inspections
 - transmission rates
 - transmission reliability
 - wholesale power sales (sales between utilities) and System Agreement

Overlap areas:





- STATE-REGULATED & FERC-REGULATED: Utility acquisitions and mergers, siting of transmission
- STATE-REGULATED & SET ON OPEN MARKET: siting of distribution
- FERC-REGULATED & SET ON OPEN MARKET: transmission rates, transmission reliability
- STATE-REGULATED, FERC-REGULATED, & SET ON OPEN MARKET: siting of transmission

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2. Regulatory Jurisdiction

What are the responsibilities for various regulatory bodies?

	Federal Energy Regulatory Commission ("FERC")	Regulates: <ul style="list-style-type: none"> wholesale sales of electricity (such as sales of power from one utility to another) transmission of electricity in interstate commerce natural gas pipelines (transportation and certificates) hydroelectric facilities
	Retail Regulators aka State Commissions	Regulate the rates charged to end-users (retail rates) and the standards of service to retail consumers.
	Nuclear Regulatory Commission ("NRC")	Regulates the licensing and safety issues regarding nuclear power plants.
	Securities Exchange Commission ("SEC")	Protects investors and maintains the integrity of the securities markets by promoting disclosure of important information, enforcing the securities laws.

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2. State & Federal Jurisdictional Constructs – Market Structure

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    graph LR
      G[Generator] --> T[Transmission]
      T --> ESCO[Energy Service Company (ESCO)]
      ESCO --> IP[Industrial Plant (End User)]
    
```

The diagram illustrates the market structure for energy. It starts with a **Generator** (represented by an image of a power plant), which sends energy to **Transmission** (represented by an image of power lines). From there, the energy flows to an **Energy Service Company (ESCO)** (represented by a box). Finally, the ESCO provides energy to an **Industrial Plant (End User)** (represented by an image of a factory).

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3. Retail Competition

Overview

Retail Competition and Energy Service Companies

In areas that allow retail competition (see map) Energy Service Companies (ESCOs) can provide significant savings compared to the incumbent utility for a variety of reasons:

1. Cost savings as a result of lower ESCO operating expense compared with utility
 - Example: If an electric utility locked into a natural gas purchasing agreement in 2006 at \$10, an ESCO paying current \$4 natural gas prices could easily undercut the utility saving the company money.
2. Cost Savings as a result of aggregating services
 - ESCOs also provide aggregating services, enabling them to negotiate below retail electricity prices and passing on savings to companies in the aggregated bundle.

Information about qualified ESCOs can be found at the Department of Energy Website or at their industry group website at www.naesco.org

Source: KEMA Incorporated

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3. Retail Competition

Market Geography

Figure 1.6. U.S. States with Retail Choice – Relative Size of Total and Competitive Markets, 2009³

Legend:

- Market is 100% Competitive
- Statewide Electric Restructuring – 100 percent eligibility
- Retail Restructuring in place – partial eligibility
- 2007 laws approved to re-regulate
- No Activity

Source: KEMA Incorporated

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3. Retail Competition

Commodity Pricing

Plans	Descriptions	Illustration
Fixed Plan	Provides predictability with a fixed price that's guaranteed for a given term.	
Guaranteed Savings Plan	Provides a guaranteed discount off your utility bill.	
Block Plan	Allows you to lock-in a portion of your load at a fixed price, while letting the remainder float with the market.	
Heat Rate Plan	Links your electric power price to the price of natural gas, resulting in a monthly electric price that varies as it tracks the gas market (typically the NYMEX Henry Hub monthly settlement price).	
Variable Plan	Varies from month-to-month, as the energy price floats with prevailing market rates. Other price components (ancillary and capacity) are fixed.	
Fully Variable Plan	Varies from month to month, as all components of the price (energy, ancillary, and capacity) float with the market.	
Environmentally-Friendly Plans	Allow you to choose Wind energy or Renewable Energy Credits (RECs) for all, or a portion, of your portfolio.	

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Overview

- “First Fuel” in the stack of initiatives that reduce carbon and other green house gas emissions.
- Energy Efficiency work includes:
 - installing new energy-efficient equipment;
 - helping a facility better control existing equipment;
 - introducing or re-commissioning energy management systems;
 - or deploying new technology.
- the goal of energy efficiency is to reduce energy consumption, lower operating costs, and decrease the impact of the operation on the environment.

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Henry B. Gonzalez Convention Center, San Antonio, TX**4. Conservation & Energy Efficiency**

ESCOs and Other Major Players

- Energy efficiency work can be done by:
 - engineering companies;
 - architectural firms;
 - general contractors;
 - most often is performed by Energy Services Companies (ESCOs) that provide full service (audit to design to construction to commissioning to monitoring and verification to O&M).
 - An ESCO, is a business that develops, installs, and arranges financing for projects designed to improve the energy efficiency and maintenance costs for facilities generally over a seven to twenty year time period.

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4. Conservation & Energy Efficiency

Example: CPS Energy

Cumulative MW Reduction from Energy Efficiency Programs

• **Overview:** In 2003 CPS Energy implemented a full scale energy efficiency program that has resulted in combined savings of over 110MW since its inception

Year	Cumulative MW Reduction
2003	~2
2004	~8
2005	~15
2006	~25
2007	~38
2008	~58

Source: CPS Energy

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4. Conservation & Energy Efficiency

Example: CPS Energy

• **Energy Efficiency Program Overview**

- **Residential Programs**
 - Air Conditioner Rebates
 - Air Flow Performance Rebates
 - CFL Instant Rebates
 - Home Efficiency Rebates
 - Peak Saver Thermostats
 - Wash Right
 - Low-Income Weatherization
- **Solar Energy Programs**
 - Photovoltaic Program
 - Solar Hot Water Rebates

• **Commercial Programs**

- Lighting Retrofit Programs
- Cool Roof Program
- HVAC Program
- Window Coating Program
- Efficient Motor Program
- Lean Clean Energy Program
- Custom Measures
- Commercial Demand Response

• **Other Energy Efficiency Activities**

- Advanced Metering Initiative
- Home Area Networks
- Tree Planting Program
- Energy Efficiency Information Distribution

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5. Contractual Vehicles for Energy Efficiency Implementation

Overview

- **Numerous methods for contracting services to achieve better energy usage:**
 - **Design / Build**
 - Agreements that provide for construction improvements by a single contractor.
 - Financing provided by the customer often using and third party and relying on customer's credit strength
 - **Energy Performance Contracting**
 - Provides customers with energy efficiency, renewable energy, and distributed generation measures and guarantees that the savings produced by the project will be sufficient to finance full project cost

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5. Contractual Vehicles

Design / Build Process

1

Preliminary Drawings

Facility owner solicits market surveys from Design/ Builder to define scope of work.

2

Detailed Drawings

Owner negotiates with Design/Builder to design project, specify materials, and ensure delivery.

3

Construction

The project is delivered on time and within budget with a single source being accountable.

This information is proprietary and confidential

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5. Contractual Vehicles

Design / Build Benefits

- Better quality
- Faster delivery
- Cost savings
- Reduced risk
- Singular accountability
- Decreased administration
- Virtual elimination of litigation claims

Traditional Method

Design/Build Method

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5. Contractual Vehicles

EPSC Process

- 1 Initial Energy Inspection**
 Opportunities for upgrades and areas for energy performance improvement are identified.
- 2 Investment Grade Audit (IGA)**
 A customized plan detailing specific energy initiatives, savings and implementation costs is submitted.
- 3 Project Implementation**
 A project schedule is developed that includes integrated engineering, design and system-wide testing to ensure specifications are met.
- 4 On-Going Measurement & Monitoring (optional)**
 Operations and engineering services are coordinated to verify energy performance.
- 5 Savings Reconciliation & Guarantee (optional)**
 Annual validation reports detailing cumulative energy and cost savings.

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5. Contractual Vehicles

EPSC Benefits

- Upgraded/improved energy infrastructure;
- Reduced operating, utility and capital costs;
- Enhanced equipment reliability and performance; and
- Environmentally-friendly and sustainable work place.

Before EPSC
Building Operating Costs
\$75,000

After EPSC
Building Operating Costs
\$70,000

\$5,000 back to budget

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6. Rebates & Incentives for Energy Efficiency Projects

Federal Incentives

- **Costs associated with energy efficiency and renewable energy projects can often times be offset by:**
 - **Federal Incentives:**
 - Stimulus Funding
 - Weatherization grants
 - Energy Star Program
 - Manufacturing Tax Credit
 - HomeStar
 - Tax Credits for Energy Efficiency Measures IRS Section 179-D
 - Subsidies for LEED Architecture

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6. Rebates & Incentives for Energy Efficiency Projects

State Incentives


- Many energy efficiency rebates and incentives at the state level.
- www.dsireusa.com is comprehensive resource for all state and federal energy efficiency and renewable energy rebates and incentives



The screenshot shows the DSIRE website interface. At the top, it says 'DSIRE Database of State Incentives for Renewables & Efficiency'. Below that, there are navigation links: Home, Glossary, Lists, FAQs, Contacts, About Us. There are also buttons for 'DSIRE SOLAR solar policy information' and 'myDSIRE customize DSIRE for your organization'. A central feature is a map of the United States with various states highlighted in different colors, indicating different incentive programs. To the right of the map, there are checkboxes for 'Renewable Energy', 'Energy Efficiency', and 'Federal Incentives'.

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7. Demand Response

- **Overview:** mechanisms to manage customer consumption of electricity in response to supply conditions. Examples include:
 - Real Time Pricing Tariffs
 - Load Curtailment Programs
 - Voluntary Demand Response Programs
 - Demand Bidding Programs
 - Direct Load Control Programs

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8. Power Supply Contract Negotiation

- **Negotiating Price Lock-Ins in Current Supply Contracts**
 - Negotiating Contract Agreements where company is charged an agreed upon price for a set time period to protect against market fluctuations.
- **Negotiating Power Supply Contracts Using Electricity Price as a Derivative:**
 - Contract agreement where a price floor and collar are set and a third party agrees to pay difference if electricity prices rise above the collar. The third party receives a premium if electricity prices fall below the floor.
 - Third parties in these cases would be financial institutions that have trading desks for large companies. ESCOs with financial affiliates would be ideal for smaller corporations.
- **Negotiating Power Supply Contracts Using Other Derivatives:**
 - In certain cases, if external price levels such as commodities determine the profitability of an operation, power supply contracts can be negotiated so that electricity prices fluctuate in accordance with specific commodity prices levels. Relevant commodities could range from those used to generate power such as natural gas to commodities that determine company revenue
 - **Example - Ormat Technologies Aluminum Smelting Facility**

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9. On-Site Generation

- **On-Site Generation Overview:**
 - On site generation using conventional sources such as natural gas avoids capacity and commodity related charges associated with purchasing baseload power from a utility. Cogeneration in these facilities, for example using the steam waste from electricity production for heating can further cut down on energy costs.
 - Can also generate with onsite renewables such as wind or photovoltaics. Production and Investment Tax Credits available for onsite renewable generation builds.
- **Economics often work for "Industrial Scale" size of projects.**
 - 1 MW to 10 MW in size
 - Meets demands of larger resort, commercial office complexes, computer warehouses
 - Couple commitment with "Power Purchase Agreement" for span of 10 years or more
 - Pricing per kw competitive
- Can be used as grid support, in appropriate circumstances
- Can be build/own/operate, or more complex structure

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10. Climate Change

Overview

- **Overview**
 - Awareness emissions associated with climate change has brought various changes to the energy sector to date. These include:
 - State Renewable Portfolio Standards (see map)
 - NOx and SO2 trading schemes
 - Voluntary Carbon Markets (US)
 - Cap and Trade Systems (EU)
 - Increased awareness of the environmental costs of energy generation
 - **What this means for you**
 - Whether it is through EPA regulation or a federal climate policy, eventually electricity produced using high emission fuels *is going to start costing you more*
 - **Status of Federal Climate Change Legislation**
 - Please see course materials

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10. Climate Change

Renewable Portfolio Standards

State	RPS Goal	Implementation Method
WA	15% by 2020	Mandatory RPS
OR	25% by 2025	Mandatory RPS
CA	20% by 2010	Mandatory RPS
AZ	15% by 2025	Mandatory RPS
NM	20% by 2020	Mandatory RPS
TX	5,880 MW by 2015	Mandatory RPS
HI	20% by 2020	Mandatory RPS
MT	15% by 2015	Mandatory RPS
MN	25% by 2025	Mandatory RPS
ND	30% by 2020	Mandatory RPS
IA	10% by 2015	Mandatory RPS
WI	10% by 2015	Mandatory RPS
IL	25% by 2025	Mandatory RPS
IN	11% by 2020	Mandatory RPS
NY	25% by 2013	Mandatory RPS
VT	equal to load growth 2005-2012	Mandatory RPS
ME	30% by 2000	Mandatory RPS
NH	25% by 2025	Mandatory RPS
MA	4% New by 2009	Mandatory RPS
RI	16% by 2020	Mandatory RPS
CT	27% by 2020	Mandatory RPS
NJ	22.5% by 2021 (at least 2% from solar)	Mandatory RPS
PA	18.5% by 2020 (at least 0.5% from solar)	Mandatory RPS
DE	20% by 2019 (at least 2% from solar)	Mandatory RPS
MD	9.5% by 2022 (at least 2% from solar)	Mandatory RPS
DC	11% by 2022	Mandatory RPS
VA	12% of 2007 sales by 2022	Mandatory RPS
NC	12.5% by 2021	Mandatory RPS

Legend:
 ■ Mandatory RPS
 ▨ RPS implemented through voluntary utility commitments



Curtail Summer Energy Use and Earn Extra Dollars*

Key Points

- The Commercial Demand Response Program will pay customers to reduce energy consumption during peak demand days.
- The voluntary program helps delay the need for expensive utility power plants.
- Customers must have a curtailable load of 200 kW or greater to participate.
- Funding for this program is contingent upon City Council approval. If you are interested in participating, please contact your Account Manager or Rick Luna at RMLuna@cpsenergy.com.

Reducing power usage during peak demand periods provides your business with the opportunity to substantially reduce your electric bill.

To help your business receive the maximum benefits of energy curtailment and increase savings, CPS Energy is offering customers the chance to enroll in the voluntary Commercial Demand Response Program. By reducing the amount of energy used during peak demand days, participants will receive incentive payments upon successful completion of the program. In return, the customer agrees to reduce their kW load by a pre-determined amount on days when CPS Energy believes peak demand reduction is possible. The program is part of the CPS Energy initiative, *Fifth Fuel Strategy*. CPS Energy currently produces electricity with four primary fuels—nuclear, coal, natural gas, and renewables. Energy efficiency and conservation, through efforts like the Commercial Demand Response Program, constitute the *fifth fuel* in the strategy.



Customer Benefits

Program participants will receive the following benefits:

- Reduced energy consumption during peak demand days
- Reduced electricity costs during summer months
- Assistance in keeping the established summer peak low and positively affecting winter bills
- Delayed construction of new, expensive power plants
- Reduced environmental impact (reduced green house gas emissions)
- Monitored and analyzed post-event performances
- No financial penalties for under or over performance
- Financial incentives*

*Participating customers who successfully curtail load when called upon by CPS Energy will receive an incentive payment, which will be posted as a credit to customer bills or issued as a check. The incentive payment will be a one-time payment made at the conclusion of the peak summer season in September and 30 days after verification and measurement of customer performance by CPS Energy. The incentive payment will be determined by taking the average of a customer's curtailed kW loads for all called events and multiplying it by the applicable per kW capacity credit.

The per kW capacity credit is based on one of two available options each customer will elect:

	Curtailment Months	Max Events	Max Hours	Capacity Credit Per Curtailed kW
Option 1	August only	15	50	\$35.00
Option 2	June through September	25	80	\$65.00

The actual number of events and hours may be less, but will depend on actual operating, reliability, and economic conditions. Customers must select either Option 1 or Option 2 before the start of the peak season (June 1). Once the summer peak season commences, a customer's selection of Option 1 or Option 2 is binding. Eligible days for curtailment are weekdays, excluding holidays,

during the curtailment months of your selected option. Eligible times for curtailment under both options are from 1:00 PM to 7:00 PM.

How to Get Involved

Customers must meet the following requirements to be eligible for the program:

- Must have demonstrated, curtailable load of 200 kW or greater (load may be aggregated—at least 50 kW per site)
- Must be a non-residential electric customer under the PL, LLP, ELP, or SLP tariffs
- Must be capable of reducing the agreed-upon load for the entire duration of the curtailment event
- Must be served by an Interval Data Recorder (IDR) meter that is monitored by CPS Energy (or agree to pay for the cost and installation of an IDR)

On days when it is determined that curtailment is necessary, customers will receive an official notification via email from CPS Energy at least two hours prior to the start of the curtailment. All notifications will include a start time and end time for that day's curtailment, most of which will occur between the hours of 3:00 PM and 6:00 PM. Participating customers must curtail their agreed-upon loads and sustain the curtailment for the entire duration of the event.

*** Funding for this program is contingent upon City Council approval. If you are interested in participating, please contact your Account Manager or Rick Luna at RMLuna@cpsenergy.com.**

CPS Energy Solutions has been prepared solely for the purpose of providing helpful information to users of this service. The information has been compiled by Tech Resources, a contractor to CPS Energy, however, no representation is made by either Tech Resources or CPS Energy as to the completeness or accuracy of the information contained therein. In particular, some information may be incomplete, may contain errors or may be out of date. In addition, neither Tech Resources nor CPS Energy endorses any product or service mentioned therein.

COMMERCIAL HVAC REBATE

Heating, ventilation and air conditioning (HVAC) systems typically consume a large portion of energy in a commercial or industrial facility. Using a more energy-efficient HVAC system in your operation can not only maintain a comfortable environment for building occupants but have a significant impact on your company's energy bill. CPS Energy is offering rebates on the installation of high-efficiency HVAC, Package Terminal Air Conditioners, Package Terminal Heat Pumps and Chillers. Review the guidelines and requirements needed to take advantage of this rebate.

Program Guidelines

- Any reduction in HVAC/Heating usage will be paid based on the current AC Rebate Matrix. (See attachment.)
- All rebate applications are subject to the general provisions including a site visit from CPS Energy personnel after completion of the project.
- Customer must move to an air conditioning system with a minimum Step 1 efficiency listed in the current AC Rebate Matrix.
- The efficiency is based on the total system efficiency as verified by CPS Energy.
- Rebates will be based on the nominal tonnage of the new system rounded to the nearest ½ ton (6,000 BTUH).
- The rebate is based on the difference between the efficiency of the system installed and the minimum efficiency required.
- The application must include performance specifications at ARI conditions, model numbers and serial numbers for all air conditioner units.
- HVAC, Packaged Terminal Air Conditioners (PTAC) and Packaged Terminal Heat Pumps (PTHP) Eligible systems must be over 5 tons total or a three-phase unit, regardless of size.
- Residential units can be installed to achieve a higher efficiency, but the total installed must be over 5 tons.
- Packaged Terminal Air Conditioners (PTAC) and Packaged Terminal Heat Pumps (PTHP) are eligible, but the total installed must be over 5 tons.
- Totals less than or equal to 5 tons will be covered under the CPS Energy Residential Air Conditioner Rebate Program.
- No rebate is available when moving from a water-cooled chiller to an air-cooled chiller.
- The \$50,000 cap on rebate credits has been eliminated. The new cap will be "no more than 50% of the total project cost."
- CPS Energy guidelines and rebate levels are subject to change without notice.

Program Requirements

- All rebate applications are subject to a post-inspection from CPS Energy personnel upon the completion of the project.
- Rebate application must be received within 90 days of project completion.

This rebate only applies to building improvement or retrofit projects. It is not available for new construction projects.

Application Information

For more information on Commercial HVAC Rebates, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



COMMERCIAL REBATES FOR INNOVATIVE TECHNOLOGIES

CPS Energy's Commercial Innovative Technologies Program provides a comprehensive platform for cost-effective energy efficiency measures not addressed by the other commercial rebate program offerings. Program participants submit an application for a firm quantity of kW and/or kWh reduction through the installation of energy-efficiency measures. A customized incentive is offered based on project performance.

This program provides customers with the flexibility to install a number of measures, including innovative measures or technologies, and receive incentives based on the actual savings they achieve. This program does require more precision in savings verification than the non-custom measures.

The goals of the Innovative Technology Program include:

- Increase customer acceptance and use of energy efficient technologies and practices.
- Encourage and support comprehensive energy efficiency projects that go beyond single measures and common efficiency practices.
- Obtain verifiable, cost-effective and long-term electrical energy and demand savings.
- Provide more opportunities to participate in rebate programs for small and mid-size business customers.

Program Guidelines

- Customer must submit a proposal, via the online upload functionality, along with estimated cost, estimated demand savings, and method of kW savings calculation.
- CPS Energy will meet with the customer to verify the work to be completed and the savings calculations.
- Rebates are calculated individually for all other measures.
- Payment will be made after project completion and verification of savings.
- CPS Energy is the sole determinate as to the inclusion of other measures in the rebate program.
- CPS Energy guidelines and rebate levels are subject to change without notice.

Program Requirements

- All rebate applications are subject to both a pre-inspection and a post-inspection by CPS Energy personnel before the start and after the completion of the project.
- Rebate application must be received within 90 days of project completion.

This rebate only applies to building improvement or retrofit projects. It is not available for new construction projects.

Application Information

For more information on Commercial Rebates for Innovative Technologies, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



COMMERCIAL KITCHEN REBATES

Run your kitchen more smoothly and efficiently. Commercial food service establishments such as restaurants and dining areas in facilities such as hotels, hospitals and schools unknowingly waste as much as 80 percent of the energy they pay for. Energy dollars are often wasted in the form of excess heat and noise generated by inefficient appliances, heating, ventilation, and refrigeration.

That's why CPS Energy is offering Commercial Kitchen Rebates to encourage commercial customers to replace old, inefficient equipment with new, energy-efficient appliances.

With this rebate, you can replace:

- Ice Machines (Air-Cooled Only)
- Commercial Glass Door Refrigerators
- Solid Door Refrigerators
- Solid Door Freezers
- Electric Insulated Holding Cabinets

Program Guidelines

- Applications must be completed and submitted by mail or e-mail within 90 days of installation of the equipment.
- Applications are subject to verification. If the verification cannot be completed, the rebate will not be paid.
- The equipment must be placed in service within the CPS Energy service area. Replaced equipment cannot be reused in the CPS service territory.
- The rebate recipient must be a CPS Energy customer.
- Please allow 8 to 10 weeks after receipt of all documents for the rebate to appear as a credit on your CPS Energy account.
- Program may be discontinued by CPS Energy at anytime.
- All Commercial Kitchen Rebates will be paid based on our Commercial Kitchen Rebate Matrix. (See attachment.)
- All rebate applications are subject to the general provisions including a site visit from CPS Energy personnel after installation of the equipment.
- The application must include model numbers and serial numbers for all equipment.
- The application must include an itemized receipt.
- Missing documentation will delay processing.
- No pre or post inspection required.
- An application can be found on CPS Energy website.

This rebate only applies to equipment that meet the guidelines laid out the Commercial Kitchen Rebate Matrix (See Attachment)

Application Information

For more information on Commercial Kitchen Rebates, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



NEW COMMERCIAL CONSTRUCTION INCENTIVES

CPS Energy is offering incentives for new commercial building construction that will result in lower maintenance and utility costs for the owner / occupant and is good for the environment.

CPS Energy incentives for new commercial construction are based on a "whole building performance" concept. To receive an incentive for energy efficiency in new commercial construction, the building must be at least 15% more energy efficient than the City of San Antonio (CoSA) building codes (IECC 2009) implemented in January 2010.

How the Program Works

The Commercial New Construction program promotes the implementation of energy efficient technologies during the design and construction of new facilities that result in permanent energy and demand savings. Because of the diverse nature of energy uses in the commercial sector and the goal of the program to encourage integrated, optimized energy efficiency solutions that go beyond single measures and common efficiency practices, the program does not define a specific list of eligible measures.

For buildings achieving more than the minimum 15% savings, the program has established three tiers of performance, as follows:

- Tier 1: Savings of 15-24.9% above code
- Tier 2: Savings of 25-34.9% above code
- Tier 3: Savings of 35% or greater above code

Savings are based on the total energy consumption for the building, including all fuel types, and are typically calculated in British Thermal Units (BTUs), which allows for straightforward conversion from fuel-specific energy units such as kilowatt-hours of electricity and CCF of natural gas.

Incentive amounts are calculated individually for each participating building based on the kWh and kW savings that the building achieves beyond code, as shown (Energy Incentive Peak Demand Incentive):

	Energy Incentive	Peak Demand Incentive
Tier 1	\$0.08/kWh	\$125/kW
Tier 2	\$0.12/kWh	\$150/kW
Tier 3	\$0.20/kWh	\$200/kW

Program Requirements

- Applications must be completed entirely and submitted with required documentation.
- Sufficient energy modeling software data must be provided to verify energy savings.
- The Certificate of Occupancy must be dated after 12/31/09.
- Applications must be received within 90 days of Certificate of Occupancy date.
- New construction is not eligible for other individual measure rebates with the exception of solar and geothermal rebates.
- By participating in the program, the developer / builder agrees that CPS Energy obtains and / or retains ownership of all rights to existing and future emission credits, renewable energy rights to existing and future emissions credits, tradable renewable certificates, and / or any and all other environmental benefits associated with constructing the property.
- CPS Energy reserves the right to inspect the building prior to finalizing incentive payment.

Application Information

For more information on Commercial Construction Incentives, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



REFLECTIVE ROOF PRODUCTS

Reflective roof coatings deflect the sun's rays, lowering the surface temperature of the roof and decreasing the amount of heat transferred into a building. Therefore, energy-efficient roofs reduce the amount of air conditioning used by your building, resulting in lower energy bills for your business, a more comfortable environment for your employees and customers and an improved environment for your facility's equipment and furnishings.

Program Guidelines

- CPS Energy will provide rebates for all cool roofs meeting the reflectivity requirements in the program including installations replacing existing cool roof technology.
- CPS Energy is offering a rebate of \$0.10 per square foot for reflective roof coatings.
- Rated reflectivity, test method of reflectivity and a copy of the receipt are required. The reflectiveness of the coating or the integrated, white, single-ply membrane must be measured by test method ASTM E424-71, ASTM E903-96 or a solar spectrum reflectometer. They also must have a minimum reflectivity of 75%.
- All work must be performed in accordance with applicable federal, state, local and manufacturers' codes and standards.
- Customer is responsible for the proper disposition of any hazardous wastes (i.e., PCB ballasts, fluorescent lamps, CFLs etc.) in compliance with federal, state, local laws, ordinances and regulations.
- Replaced equipment cannot be reused within the San Antonio service area and all installed equipment must be new.
- Rebate funding is offered on a first-come, first-served basis.
- In most cases, rebates limits and caps are on a "per facility" basis.
- The \$50,000 cap on rebate credits has been eliminated. The new cap will be "no more than 50% of the total project cost" (including equipment and labor).
- Rebates are payable to the commercial customer who is the end user of the new equipment.
- Rebates for the same equipment can only be applied for under one program.
- CPS Energy guidelines and rebate levels are subject to change without notice.

Program Requirements

- All rebate applications are subject to both a pre-inspection and a post-inspection from CPS Energy personnel before the start and after the completion of the project.
- Rebate applications must be received within 90 days of the project completion.

This rebate only applies to building improvement or retrofit projects. It is not available for new construction projects.

Application Information

For more information on Reflective Roof Products Rebates, or to complete an application, please visit cpsenergy.com/commercial/rebates or call 353-2SAV.



COMMERCIAL MOTOR REPLACEMENT REBATE

Motors can be found throughout a commercial or industrial facility. They often run pumps, air handlers, refrigeration equipment and other important devices. By replacing inefficient motors with premium efficient motors, your company can reduce operational losses leading to decreased energy consumption and lower energy bills. In addition, premium efficient motors will generate less heat, resulting in lubricants and windings lasting longer.

Program Guidelines

- The Motor Replacement Rebate is \$150 per number of kilowatts reduced through the replacement of inefficient motors with premium efficiency motors.
- The rebate is based on the difference between the efficiency of the motor removed and the new unit.
- The efficiency of the old unit must be verified by the CPS Energy
- All work must be performed in accordance with applicable federal, state, local and manufacturers' codes and standards.
- The customer is responsible for the proper disposition of any hazardous wastes (i.e., PCB ballasts, fluorescent lamps, CFLs etc.) in compliance with federal, state, local laws, ordinances, and regulations.
- Replaced equipment cannot be reused within the San Antonio service area and all installed equipment must be new.
- Rebate funding is offered on a first-come, first-served basis.
- In most cases, rebates limits and caps are on a "per facility" basis.
- The \$50,000 cap on rebates has been eliminated. The new cap will be "no more than 50% of the total project cost" (including equipment and labor).
- Rebates are payable to the commercial customer who is the end user of the new equipment.
- CPS Energy guidelines and rebate levels are subject to change without notice.

Program Requirements

- All rebate applications are subject to both a pre-inspection and a post-inspection from CPS Energy personnel before the start and after the completion of the project.
- Rebate application must be received within 90 days of the project completion.
- Rebates for the same equipment can only be applied for under one program.

This rebate only applies to building improvement or retrofit projects. It is not available for new construction projects.

Application Information

For more information on Commercial Motor Replacement Rebates, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



COMMERCIAL SOLAR PHOTOVOLTAIC (PV) REBATE

Solar photovoltaic (PV) systems, or solar electric systems, are reliable, environmentally friendly, and are becoming more affordable every day. These systems generate power for the customer and aid in reducing electrical consumption.

Program Guidelines

- CPS Energy solar rebate is \$3.00 per AC watt based on the calculated expected performance of the system that is less than 100kW. Commercial rebates are calculated up to 50% of project costs or \$100,000 in commercial installations.
- Only systems using eligible PV modules and inverters listed by the California Energy Commission (CEC) website will qualify for rebates.
- All installed PV systems must be new and must carry a 1-year warranty from installer. Solar modules must carry a 20-year warranty from the manufacturer and Inverters must carry at least a 5-year manufacturer warranty without battery back-up.
- It is the responsibility of the customer to obtain all necessary permits.
- All PV systems must be interconnected, at customer's expense, to CPS Energy's electrical grid. For interconnection of systems larger than 25kW up to 100kW, interconnection standards will be handled on a case by case basis.
- If re-roofing is required, PV system removal and reinstallation is at customer expense.
- Batteries are not covered under the rebate.
- Applications are submitted by CPS Energy approved contractors.
- All plans, contracts, and details are submitted with the application and are subject to approval by CPS Energy Meter and Standards group.
- Construction can begin after approval of submitted electrical plans.
- An inspection is performed by CPS Energy after a city electrical inspection. The inspection is to ensure that the equipment and installation are as approved.
- Rebates are submitted to the customer unless they specify, in writing, that the rebate be paid to the contractor.
- CPS Energy guidelines and rebate levels are subject to change without notice and CPS Energy reserves the right to refuse any application / request for incentive payment that does not meet CPS Energy requirements.

Program Requirements

- Rebates only available for CPS Energy customers in the CPS Energy service territory.
- Rebates are only given to those installations using one of the contractors on the CPS Energy contractor list.
- Customers must have a CPS Energy account number and provide access to all applicable meters.
- PV system cannot be moved from CPS Energy service territory.
- Deed restrictions must not prohibit the installation of solar photovoltaic on property.

Application Information

Applications are submitted by an approved contractor on behalf of the customer and must be signed by both the customer and contractor.

For more information on Commercial Solar Photovoltaic Rebates, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



COMMERCIAL LIGHTING REBATE

(50 FIXTURES OR LESS)

Lighting is one of the largest portions of a business' energy bill. On the average, interior lighting accounts for 43 percent of a company's energy consumption. However, with advanced lighting technologies, there has never been a better time to upgrade the lighting in your facility, building or institution.

High-efficiency upgrades can save you energy and money, while improving the light quality and output in your buildings. In many lighting upgrades, you can expect to see a payback on the investment within approximately 12 months.

CPS Energy offers a Small Commercial Lighting Fixture Rebate to encourage small businesses to replace old, inefficient equipment with new, qualifying energy-efficient lighting equipment.

Program Guidelines

- This rebate is designed for 50 or less fixtures. If 50 fixtures are exceeded, the rebate should be applied for under the "Large Commercial Lighting" program.
- Rebates will be based on a per fixture basis – no bulbs will be included in the program rebates.
- Any reduction in lighting usage will be paid based on the Lighting Fixture Rebate Matrix. (See attachment.)
- No pre-inspection is necessary for this program. Random post-inspections will be conducted.
- Rebate applications must be received within 90 days of project completion.
- All rebate applications are subject to the general provisions including a site visit from CPS Energy personnel after completion of the project.
- The application must include an itemized receipt.

Program Requirements

- All work must be performed in accordance with all applicable federal, state, local and manufacturers' codes and standards.
- Customer is responsible for the proper disposition of any hazardous wastes (i.e., PCB ballasts, fluorescent lamps, CFLs etc.) in compliance with federal, state, local laws, ordinances and regulations.
- Replaced equipment cannot be reused within the San Antonio service area and all installed equipment must be new.
- Rebate funding is offered on a first-come, first-served basis.
- In most cases, rebates limits and caps are on a "per facility" basis.
- Rebates are payable to the commercial customer who is the end user of the new equipment.
- Rebates for the same equipment can only be applied for under one program.
- CPS Energy guidelines and rebate levels are subject to change without notice

This rebate only applies to 50 fixtures or less for building improvements or retrofit projects. It is not available for new construction projects.

Application Information

For more information on Commercial Lighting Rebates, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



LARGE COMMERCIAL LIGHTING

Lighting is the largest portion of a business' energy bill. On the average, interior lighting accounts for 43 percent of a company's energy consumption. However, with advanced lighting technologies, there has never been a better time to upgrade the lighting in your facility, building or institution.

High-efficiency upgrades can save you energy and money, while improving the light quality and output in your buildings. In many lighting upgrades, you can expect to see a payback on the investment within approximately 12 months.

Program Guidelines

- Commercial lighting rebate applications are subject to a pre-inspection and post-inspection from CPS Energy personnel both before start and after completion of the project.
- Applications must be processed on-line. (See CPS Energy website for instructions.)
- Rebate applications must be received within 90 days of project completion.
- Lighting eligible for the rebate includes: T8 with an electronic ballast of 28 watts or less, compact fluorescent lamps with installed locking disks, LED Lamps and Fixtures and LED Exit Signs.
- High efficiency electronic ballast must be used.
- Base lighting use is calculated by determining the number and type of lights existing prior to the change-out.
- Rebate is based on the difference in kW between existing and installed lights.
- Rebates are calculated individually for each project.
- Total rebate will not exceed 75% of the total cost of the retrofit project as defined by the contractor invoice price.
- The contractor must submit a detailed Lighting Economic Analysis work sheet to the facility owner that details the quantity and type of existing lights, the proposed quantity and type of lights to be installed, kW and kWh savings, estimated energy cost savings and the proposed cost of the retrofit work.
- The contractor will furnish to the owner a written one-year guarantee on work and materials provided. The contractor supplies manufacturer's written warranty on the materials if applicable. The guarantee should be effective from the date.
- Lighting Ballasts that are accepted are GE Ultramax, Advance Optima, GE Proline or a product with equivalent specifications.
- Bulbs must meet the following specifications:
 - a. T8 bulbs must be 28 watts or less. Exceptions can be made if other bulbs actually reduce amount of energy required.
 - b. T5HO bulbs must be 54 watts or less.
 - c. Compact fluorescent bulbs must have locking discs and must meet the requirements below:
 - 40 watt** - 9 watt or less | **60 watt** - 13 watt or less
 - 75 watt** - 18 watt or less | **100 watt** - 23 watt or less
- A refund shall become due and payable to CPS Energy if the customer fails to ensure CPS Energy that the rebated lighting equipment will be properly maintained for at least 7 years from the time of rebate.
- CPS Energy or its designated agent will perform a pre-inspection of the site; results of the pre-inspection and proposed retrofit will determine rebate eligibility and provide/confirm the data for incentive calculation.
- New construction projects are ineligible for this program. Please refer to the New Commercial Building Construction guidelines.



Program Requirements

- All work must be performed in accordance with all applicable federal, state, local and manufacturers' codes and standards.
- Customer is responsible for the proper disposition of any hazardous wastes (i.e., PCB ballasts, fluorescent lamps, CFLs etc.) in compliance with federal, state, local laws, ordinances, and regulations.
- Replaced equipment cannot be reused within the San Antonio service area and all installed equipment must be new.
- Rebate funding is offered on a first-come, first-served basis.
- In most cases, rebates limits and caps are on a "per facility" basis.
- Rebates are payable to the commercial customer who is the end user of the new equipment.
- Rebates for the same equipment can only be applied for under one program.
- CPS Energy guidelines and rebate levels are subject to change without notice.

This rebate only applies to building improvement or retrofit projects. It is not available for new construction projects.

Application Information

For more information on Rebates for Large Commercial and Industrial Lighting, or to complete an application, please visit www.cpsenergy.com/commercial/rebates or call 353-2SAV.



Reinventing Energy

ENERGY Performance Contracting
Turning solutions into savings

Energy Performance Contracting (EPC) is a multi-faceted contract program that enables clients to replace aging, inefficient, or high-maintenance equipment with new, state-of-the-art, energy-efficient equipment—*with little or no capital outlay*. Energy usage and costs are reduced, operating practices are improved, environmental impact is reduced, and new maintenance and measurement procedures are integrated.

ConEdison Solutions Energy Performance Contracting Promise:
Guaranteed energy savings with little or no up-front capital investment

ConEdison Solutions will design, construct, monitor, measure and help maintain your energy improvements, making it an easy-to-manage turn-key program. And we guarantee that your annual energy savings will be equal to or greater than the overall cost to finance the project.

The Process

Initial Energy Inspection

We'll identify upgrade opportunities and areas for energy performance improvement. Preliminary savings and installation costs will be estimated in order to evaluate the potential energy and environmental improvements.

Investment Grade Audit (IGA)

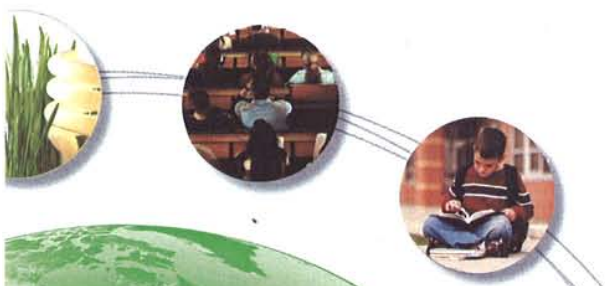
A point-by-point, customized plan detailing specific energy initiatives, along with savings, and implementation costs will be provided. In addition, we'll identify and include any available federal, state, or utility energy grants or rebates.

Project Implementation

We'll develop a project schedule, including integrated engineering and design, and then manage on-site construction and perform system-wide testing to ensure specifications have been met.

The Benefits

- Upgraded/improved energy infrastructure;
- Reduced operating, utility, and capital costs;
- Enhanced equipment reliability and performance;
- Improved, environmentally-friendly and sustainable workplace;



Change the way you think about energy.

Start with ENERGY Performance Contracting

Energy Performance Contracting is good for business and good for the environment. Upgraded, energy-efficient systems deliver long-term energy reductions and cost savings that benefit your bottom line. Environmentally-sensitive, smart energy decisions contribute to saving and renewing the vital ecosystem that is essential to all of us.

ConEdison *Solutions* is committed to energy innovation while protecting our natural resources. To that end we ensure that our energy services provide the triple benefits of *economic growth, environmental stewardship and social responsibility*.

As we look to earth-friendly, sustainable energy resources, we continue to draw on and share our rich heritage of innovation and creativity to lead the way to a greener future. We are reinventing energy usage now to help lower your costs today, reduce your carbon footprint tomorrow, and protect the environment for future generations.

Take the first step toward improving your energy performance. Contact your ConEdison *Solutions* representative today.

Approvals & Accreditations:

Accredited Energy Service Provider (ESP) under the National Association of Energy Service Companies' (NAESCO) rigorous examination and verification of core competencies and business practices.

Certified by the US Green Building Council for LEED assessment.

Approved provider of Energy Services by the Department of Energy (DOE) and Department of Defense (DOD) Energy Service Performance Contracting programs.

Approved contractor for the US Postal Service Shared Energy Savings program.

Approved ENERGY STAR® service and product provider.

The Fundamentals of Energy Savings Performance Contracting

Dale L. Hahs, President, Energy Services Coalition

Energy Savings Performance Contracting (ESPC) continues to grow in acceptance and utilization among public building owners and operators (clients) across the nation. Yet the concept suffers from a lack of fundamental clarity regarding the very principals that created the industry and under which successful projects thrive. This appears to be due to the variety of ways providers and users alike implement projects that they call Energy Saving Performance Contracts. This briefing paper is intended to address the very heart of those principles and provide the reader with an understanding of the purpose and benefit of this burgeoning industry.

The U.S. Department of Energy defines ESPC as "The use of guaranteed savings from the maintenance and operations budget (utilities) as capital to make needed upgrades and modernizations to your building environmental systems, financed over a specified period of time."

Origins

Energy savings performance contracting originated in the late 1970s as a means for electric utility companies in the northeastern United States to invest in consumption efficiency. This was in response to the Public Utility Commissions desire to optimize existing utility supply as a condition to approving new energy generation projects.

Providing a contractual vehicle that would promote the replacement of inefficient energy consuming devices and systems with new and more efficient technologies was key to this drive for consumer efficiency. Regulators required that this proposed efficiency be validated by scientific methodology so that the utility companies could prove that these efficiency efforts had tangible, measurable and reportable benefits. When the efforts of efficiency could be demonstrated, quantified and weighed against observed growth, then and only then could the need for new generation resources be justified.

The utilities provided financial incentives to promote the uptake of efficiency to meet their goals, and still clients remained skeptical that their investments in energy upgrades would be a sound investment.

At the same time, the nation was in an economic stranglehold under the Arab Oil Embargo which limited the supply of petroleum resources. Gasoline pump prices skyrocketed along with the costs for petroleum fueled electric generation which was far more prevalent then, than today. Faced with rising energy costs, considerable technical skepticism and a regulatory need to grow efficiency to supplant energy generation investments and costs, clients began to clamor for proof that the claims of efficiency were in fact worthy of the investment they required.

A group of providers were so confident in the technological advancements of their products and services and their ability to demonstrate and validate the energy consumption reductions from these retrofits that they were willing to write a contractual guarantee. These guarantees were supported by the fundamental that if the savings were not able to be delivered as promised, a check would be provided to the client to cover the shortfall. Still, clients were challenged to realize the considerable return from the capital investment into these technological innovations. So confident were the providers that they agreed to enter into shared savings agreements that outlined payment to the provider only from the realized and validated savings demonstrated on the utility bills along with any justifiable base-line modifications. This concept of sharing the

savings further increased the shedding of the risk of performance for the clients by tethering repayment for the capital improvement to the provider, to the realized savings on the energy bill.

These so called "shared savings" contracts however created extraordinary contingent liabilities on the financials of the providers and effectively choked off the growth of the industry. In addition, this concept created the unintended consequence of pitting the client and the provider against one another wrangling for savings instead of working together to achieve a common and projected goal. Much of the focus of this work at the time, as it is today, is within public sector facilities where budgets are fundamentally fixed but more importantly occupancy is stable and reliable. These public entities are known to be minimum credit risks. The Public Market Sector most commonly known as MUSH (Municipal and State Governments, Universities and Colleges, K-12 schools and hospitals) comprised 69 percent of the 2008 revenues of the Energy Services Companies surveyed¹. (Energy Services Companies (ESCOs) are defined as "business that develops, installs, and arranges financing projects designed to improve the energy efficiency and maintenance costs for facilities over a seven to 20 year time period."). A business solution was needed that bridged the gap between risk aversion and the availability of upfront capital to fund the improvements.

Evolving Financial Structure

To provide the capital source for project implementation and carry the principal until the energy savings from the implemented devices and systems could repay the investment, financial industry experts began to offer Tax Exempt Municipal Leases as an appropriate financing strategy. By providing an escrow account to allow construction draws for work approved and completed and still offering a very aggressive rate structure, municipal leases became the financial mechanism of choice for public sector projects. The nexus of a credit worthy, stable client, reliable payments from the energy savings of the project backed by a guarantee of energy savings performance by the provider and supported by scientific measurement and reported validation made way for continued industry growth.

With a funding source in place and a growing list of providers meeting the financial security, technical and operational wherewithal to support the contractual guarantee, a marketplace of need had met with a solution made to order; complete with a list of benefits that included:

- Single source provider of the engineering, construction and a guarantee of performance
- Comprehensive project development taking into consideration device and system interactions and their effect on equipment sizing and savings projections
- No need for capital dollars or budgeting since the improvements were paid for by the utility dollars that they offset (existing operating budgets)
- Upfront capital to fuel construction funded by financial providers of municipal leases
- Long-term reduction in utility consumption costs
- Hedge against rising utility bills since devices and systems were now as efficient as the technology of the day could provide
- Reduction in maintenance costs since new systems come with warranties and are less likely to need repair than tired and neglected devices and systems they replaced
- Brighter and more comfortable, therefore more productive working and learning environments

¹ Lawrence Berkley National Laboratory report *A Survey of the U.S. ESCO Industry: Market Growth and Development from 2008 to 2011 LBNL-3479E*

- Considerable improvements in Indoor Air Quality further improving working and learning characteristics

Seeing the appeal of capital improvements paid for by energy and operational savings, states across the nation began to enact enabling legislation to insure that their agencies and units of government could participate in these multi-year, alternative procurement financial agreements. Legislation was structured to mirror the very principles on which the industry was founded -- that the facility improvements paid for from the very savings the projects created were protected by the guarantee of providers from the private sector who contractually agreed to "cut a check" if the savings were not realized.

While the concept may have resulted in boundless growth of an industry, individual providers offered individual contracts, concepts and methods to effectively deliver, measure and verify the achievement of savings. There was growing diversity of how to demonstrate the effects of changes in utility rates and uses of facilities and spaces and the considerable impact these changes could make in the clients ability to track the effectiveness of the projects. Space utilization, occupant density, schedule changes for facility or space use, weather changes, office equipment additions and deletions, growing use of computer devices and peripherals even constructed additions are just a few of the events or situations that can impact energy, water and operational needs significantly.

Innovation and Change in the 90s

In the early 1990s, it became clear that the patchwork of methodologies to verify energy savings had caused considerable skepticism as to whether savings were being realized and resulted in slower than projected industry growth. The need for formalized methodology for savings validation prompted the development of the International Performance for Measurement and Verification of Protocol. Even today after multiple revisions, the concepts of Measurement and Verification (M & V) remain largely misunderstood by many clients and providers alike.

The Protocol provides an illustration of best practices for different methodologies depending upon the needs and wants of the contracting parties. One common misunderstanding is the assumption that one of the defined methodologies within the Protocol should be applied to all of the improvements or installed measures; a veritable "one size fits all" concept.

The variety, complexity and sophistication of installed measures should absolutely define the most appropriate validation practices. The M & V protocol and the degree and frequency to which each should be employed for individual measures should be dictated by the pragmatic analysis of the cost for providing the service and reporting weighed against:

- the savings projections,
- risk and responsibility of performance,
- clarity in all assumptions and calculations describing the savings and finally
- the cost of implementing the measures.

And yet, industry reports typically fall considerably short in actually explaining to clients and policymakers the complete picture.

Significant value would come from M & V reports that itemize the conditions, measurements, observations, client input, calculations and assumptions that are considered prior to the execution of an Energy Savings Performance Contract alongside the post construction measurements, observations, and changes that have occurred in the facilities or systems and how they ultimately affect energy consumption. These reports should clearly illustrate the calculations and

assumptions that depict what energy consumption would have been in both units and in dollars and cents should the work not have been performed. In this way, conjecture of non-performance gives way to evidence of success or the contractual remuneration assured by the enabling legislation.

Policymakers and stakeholders would do well to understand and embrace the impact provided by these projects and ultimately hold the providers accountable in the event of a shortfall in the contracted projections. Until all parties associated with these projects begin to demand and subsequently provide the root justification for the very creation of the industry which its improvements are paid for by the savings they create, there will continue to be speculation warranted, or not, as to the effectiveness of funding energy infrastructure modernization through energy savings performance contracting.

ESPC Comes of Age – Infrastructure Modernization and Off-Budget Financing

In today's economic climate, it is paramount that we all strive to do more with less. Yet, some would avoid the costs associated with abrogating the risks of performance through a contractual guarantee and genuine and verifiable Measurement and Verification, for trust in a manufacturer's colorful brochure's claims of efficiency and potential savings. While the information displayed in these claims may be true in many situations, there is jeopardy in assuming that the products and services will be installed and used in exactly the same fashion, term and time for any particular project as was considered appropriate in attracting consumers to buy. Due to the significant shortfall in national revenues, contractors, designers, product manufacturers and consultants are hastening to be the provider of choice to deliver energy solutions. This is particularly true if they can avoid the barriers to market entry of:

- financial security,
- energy expertise,
- the capabilities and methodologies to prove that the savings projected are realized and remain persistent for the term of the payback period and
- the implementation savvy required to stand behind comprehensive solutions with a written guarantee.

Citing one of ESPC's identified best practices, a well-planned and orchestrated team should evolve so that all parties understand and proclaim responsibilities associated with effective maintenance and operating practices of the newly installed devices and systems. These assignments of responsibilities should withstand the comparison to the assumptions made in the original savings projections. In the simplest of examples, it is not uncommon to see dirty air filters on relatively new energy efficient HVAC systems virtually blocking air movement. And while it might be hard to imagine the impact of one filter in one device, these are generally small clues to a more systemic concern regarding the maintenance of systems the lack of which can affect their operational efficiency. Still more common is the correlation between sites that have not effectively created and upheld a responsibility matrix for energy strategies and system monitoring and upkeep and the accusation of poorly performing projects and unrealized savings.

When clients and providers are working in tandem to insure that activities and strategies are maximized to meet the highest levels of efficient operation, then the science of effective design and measurement to validate projections prevail and efficiency as a supply source can become a reality. Clients are rewarded with new equipment and systems. Personnel are trained and therefore updated in their ability to provide tangible services to the sites they so diligently manage, and the onsite concerns diminish or lessen considerably. Spaces become more productive working and learning environments, property values are enhanced through the elimination of long overdue deferred maintenance concerns, and emergency repairs and extraordinary costs are avoided.

Additionally, real jobs are created in the manufacturing and installation of equipment and systems. In turn, this benefits society by restoring personal savings and returning to the disposable income spending that drives our economic engine and financially fortifies the revenues that support our essential community services.

Today, ESPC commonly includes aspects of renewable energy generation and has grown beyond buildings to include energy and water consumers like street lights and traffic signals, asphalt plants, water and wastewater facilities and landfill gas management to mention just a few. With literally billions of dollars of improvements suited to this model, viable examples of statewide programs are being developed that pay for themselves and the resources to manage them. Data systems are evolving to manage complete inventories of facilities and systems to measure and monitor effective energy utilization. And training programs are being developed to assist program implementers with reliable and proven management strategies to insure only the highest quality projects result from this business model where value is determined by life-cycle investment returns, designed, installed and backed by a contractual guarantee.

Over time the industry has produced a vast amount of resources documenting the best practices¹ and the remarkable achievements that have resulted from well managed programs and projects using Energy Savings Performance Contracting. The industry continues to grow at an astounding rate and why not? What other industry or practice can boast the potential to:

- modernize our energy and water consuming systems and facilities,
- eliminate our staggering deferred maintenance obligation,
- reduce our long-term energy consumption and maintenance issues,
- impact national security by reducing our dependence on petroleum imports
- provide environmental stewardship in the reduction of our use of natural resources and
- incite economic development

All this accomplished from the very utility bill budgets annually established and approved without regard to the hidden cost and waste of inefficiency. Substantial benefits with no more financial commitment, no more taxpayer obligation than that required to continue to pay the utility bill year after year.

That's doing all we can with what we've got. That's providing American know-how to the problems we face. That's Energy Savings Performance Contracting.

For more information on Energy Savings Performance Contracting, industry best practices, creating self-sustaining programs and projects, see the Energy Services Coalition @ www.energyservicescoalition.org or contact us at info@energyservicescoalition.org.

¹ <http://energyservicescoalition.org/espc/tools/index.html>



Extras from ACC

We are providing you with an index of all our InfoPAKs, Leading Practices Profiles, QuickCounsels and Top Tens, by substantive areas. We have also indexed for you those resources that are applicable to Canada and Europe.

Click on the link to index above or visit <http://www.acc.com/annualmeetingextras>.

The resources listed are just the tip of the iceberg! We have many more, including ACC Docket articles, sample forms and policies, and webcasts at <http://www.acc.com/LegalResources>.