

The banner features a vibrant, abstract background with a color gradient from blue on the left to green and yellow on the right, overlaid with a complex, geometric pattern of lines and shapes. The text is centered and written in a clean, white, sans-serif font.

The Energy Services Coalition 2017 Year in Review

The Top Seven ESC Stories of 2017

1. Michigan ESC Chapter recognizes facilities for energy efficiency

In recognition of significant energy efficiency investment and demonstrated energy cost savings at facilities throughout the state, the Michigan ESC Chapter held its Seventh Annual Leaders in Energy Efficiency awards program. The honorees at this year's event included Branch County, City of Grand Rapids, Monroe County Community College, Oakland University, Parchment School District and St. Ignace Area Schools.

In 2015, the National ESC Board of Directors adopted this model award program as a Key Attribute to programmatic design. Education and outreach has long been recognized as an important component of all ESC Chapters, and the Michigan model provides a new tool to achieve this goal. The Michigan model not only provides recognition to the general marketplace, but creates awareness through press releases and has proven effective as a means of collecting case studies of GESPC projects.

Collectively, the 2017 awardees invested over \$39.5 million in energy efficiency improvements through performance contracting. This year's recipients are saving a combined \$2.1 million in energy annually. In the period of 2011-2017, the ESC Michigan Chapter has recognized recipients for a total of \$152.7 million in energy efficiency and renewable energy investments that have resulted in \$9.5 million in annual energy cost savings.

The annual awards event attracts energy efficiency experts from around the state and this year's the event was held at the offices of the Michigan Agency for Energy. The event featured a keynote address by Representative Beth Griffin (District 66) and a facilitated panel discussion with the award recipients.

2. Delaware ESC Chapter holds 4th Annual Energy Conference

On Wednesday, October 18th, the Delaware ESC Chapter and the Delaware Sustainable Energy Utility hosted more than 110 attendees at the 4th

Annual Delaware Energy Conference at the Chase Center in Wilmington. The Lunchtime Keynote was provided by Secretary Shawn M. Garvin of the Delaware Department of Natural Resources and Environmental Control.

The annual conference continues to grow each year with attendees coming from neighboring states and more exhibitors participating as sponsors.

3. Washington and Hawaii pass milestones

The State of Washington reported updated numbers in the ESC's "Race to The Top" database that pushes the northwest state over the billion dollar mark for total investment in guaranteed energy savings performance contracting (GESPC). With \$1,288,925,725 in signed energy performance contracts to date, Washington surpasses Ohio as the number one state in the total GESPC investment and becomes only the second state in the ESC Billion Dollar Club.

The State of Washington has long demonstrated leadership in the area of GESPC, being one of the first states in the country to implement a fee-based program. Now with their latest numbers submitted to the ESC they have surpassed Ohio by \$36 million as the state with the most GESPC investment in the ESC Race toTheTop competition.

Hawaii also reached a significant milestone as it surpassed the half-billion-dollar mark for investment in GESPC. With \$504.3 million in signed energy performance contracts to date, Hawaii becomes just the seventh state nationally to report numbers to the ESC in excess of the half-billion-dollar threshold for GESPC investment.

Hawaii joins a handful of states in the exclusive ESC half-billion club for total investment in energy saving projects. Other members of the ESC's Half-Billion Dollar Club (those reporting investments to the ESC) include the states of Washington (Billion Dollar Club), Ohio (Billion Dollar Club), Colorado, Kentucky, Massachusetts, North Carolina, Virginia and Massachusetts.

4. Delaware's Job Hours Tracker Case Analysis

In the summer of 2017, the Delaware Sustainable Energy Utility (DESEU) developed an Excel template for tracking job hours as a co-benefit of energy efficiency revenue bonding projects. The "Jobs Calculator" template was highlighted at the ESC Annual Conference in Nevada. The calculator is designed to track energy efficiency projects involving state agencies and school districts that are financing investments in energy efficiency through DESEU issued bonds. The data input represents total job hours generated at different project stages including design and administration, management, construction, and measurement and verification (M&V). The template asks users such as energy efficiency contractors and sub-contractors to identify and submit total job hours.

Recently, the DESEU and intern, Joohee Lee, conducted a preliminary analysis of the job hours tracker and submitted this report to the ESC for publication:

DESEU used the case of a Delaware school district's energy saving performance contract work in Q1-Q3, 2017. During the reporting period \$5,499,327 was expended on the \$7,675,000 contract, and the total job hours created was 21,744 hours. The job hour number is the equivalent of 14 full-time equivalent (FTE) jobs (an FTE is defined as one employee working 2,080 hours per year.) During the three quarters examined there was an employment effect comparable to hiring 14 full-time employees.

"In terms of job category, construction accounted for the largest share of the total job hours (75%), generating more than 10 FTE jobs. Within the construction category, electrician was the most dominant sub-category (85%) providing 9 FTE job opportunities, followed by plumbing (9%), boiler (4%), and building automation system controls (3%). Design and administration and management categories contributed to 25% of the total job hours, which is comparable to 4 FTE job creations. M&V created only 72 job hours (less than 1 FTE job) during the same period." (Note: the energy project was launched only recently and therefore jobs under the M&V category have not been in high demand, yet.)

"Considering the total project cost invested during this period the Delaware school district project created one full-time job for one year for nearly every \$400,000 invested."

For future analysis, the DESEU hopes to see how the percentage of total job hours by job category changes as the project proceeds. Also, a further sophistication of the methodology (e.g., calculating both direct and indirect job creations) has been identified as helping to understand the employment effect more precisely. The DESEU will continue to monitor the tracker as more agencies and school districts begin construction.

5. ESC Completes Year Two of DOE Cooperative Agreement

On May 31, 2017, the ESC completed Year Two of its three-year cooperative agreement with the US Department of Energy. The agreement calls for the ESC to provide technical assistance to states working to facilitate public sector guaranteed energy savings performance contracting, and increase awareness and support for the process. Among the notable accomplishments in Year Two were the following:

- **ESC State Needs Assessment.** The ESC Needs Assessment was distributed to all 50 states (33 states returned completed assessments). The Needs Assessment reflected the key attribute adoption per state and investments in GESPC. Based on their responses, states were designated as either a Top 10 state (Energy

Stewardship Champion State) or a Tier 2 state.

The data obtained through the Needs Assessment provided insight into the trends for developing and maintaining programs throughout the country. An analysis of this work effort has been posted to the ESC website.

The Energy Stewardship Champions were recognized and presented with the ESC Energy Stewardship Champion awards at the Annual Market Transformation Conference.

- Website support for all State Chapters. The ESC has developed and hosts 32 State Chapter Facebook pages and State Chapter website pages. These pages are continually updated with new materials or items.**
- States' GESPC Program and Policies "At A Glance." The ESC has established a webpage with state-specific information on all things GESPC for 26 states who completed the Needs Assessment. These pages have helped establish the ESC as the one-stop shop for state specific information on GESPC.**
- The ESC conducted quarterly conference calls open to all states and territories to support peer-to-peer exchange of successful strategies in overcoming barriers to ESPC project implementation, and sharing lessons learned and best practices in program development and implementation. Forty-two state program managers and/or staff (representing 28 states) participate on a regular basis.**

6. ESC recognizes its Champions

The ESC and the Nevada ESC Chapter hosted the 6th Annual Market Transformation Conference August 9 through the 11th, 2017 in Henderson, Nevada. The conference was attended by more than 125 people from 35 states.

As part of the conference's closing ceremonies the ESC presented its annual awards. This year's recipients included:

- The State of Hawaii was presented with the 6th Annual "Race to the Top Award." The "Race to the Top" recognizes the nation's per capita leader in total GESPC investment as reported to the ESC. Performance contracts signed by state and local government agencies in Hawaii since 1996 include 295 buildings and facilities covering more than 112 million square feet. The savings are the equivalent of powering 388,210 homes for one year.**
- The Energy Services Coalition recognized Mary Blackmon of Alabama DECA's Energy Division for her work furthering the performance contracting concept. Mary becomes the fifth ESC Public**

Sector Champion since the award's inception in 2012.

- Rhonda Courtney was named the Energy Services Coalition 2017 Private Sector Champion. The Award recognizes the outstanding contribution of an ESC private sector member to the organization and in the promotion of GESPC. Rhonda becomes the third recipient of the private sector award.

7. Three New Chapters Join the ESC Network

During the past year the ESC assisted three states re-establish or launch ESC State Chapters. Chapters in Tennessee, Indiana and Pennsylvania joined the network of ESC Chapters across the country promoting the benefits of, providing education on, and serving as an advocate for the widespread use of energy performance contracting in public and private facilities.



In this special edition of the ESC Monthly Newsletter we take a last look at some of the other stories that made headlines in 2017.



In the Spotlight: Energy Stewardship Champions

The Energy Services Coalition Energy Stewardship Champion awards were given to 12 states in 2017. Champion states were recognized for a combination of their political leadership, programmatic design, and the amount of private sector investment in guaranteed energy savings performance contracting (GESPC) in their state. The Champion states include: Pennsylvania, Georgia, Colorado Massachusetts, Delaware, Kentucky, New Mexico, North Carolina, Hawaii Washington, Virginia and Ohio.

Connecticut

January 4, 2017: The town of Enfield

recently signed an \$8.79 million GESPC with Honeywell Inc. for energy efficient upgrades to town buildings in line with the energy performance referendum passed by voters in the previous election. It was the third time voters had been asked to approve the \$11.2 million referendum to make 23 town and school buildings more energy efficient. Voters rejected two similar plans in previous years.



Illinois

January 7, 2017: A new report shows Cook County has reduced greenhouse gas emissions linked to energy usage in county buildings by 22 percent over the past five years. The county says its ahead of its goal to reduce emissions from its

buildings by 80 percent by the year 2050. Twelve of the county's nearly 200 buildings had some energy efficiency updates including a \$24 million GESPC at the Stroger Hospital campus and \$36 million GESPC at Department of Correction facilities. The upgrades will save about \$4 million a year in operational and utility costs over the 20-year contract period.

New York

January 26, 2017: Garden City High School's Investment Bond and Energy Performance Contract was completed less than two years ago with a total \$36.5 million invested in physical plant of the district. The GESPC was projected to pay for itself in 15 years. To date \$1.436 million has been saved in electrical cost (usage) measuring the kilowatt hours. The school district is not using oil burners as a result of the Energy Performance plan, and in just over 12 months that saved 248,000 gallons of oil. The cost savings from eliminating oil is an additional \$826,783 in savings - more than the contract's guaranteed saving of \$731,000.



Massachusetts

January 31, 2017: The Metropolitan Area Planning Council (MAPC) selected Honeywell for a GESPC on behalf of the communities of Bolton, Boxborough, Malden, Saugus and Southborough. This group procurement will allow each town to

save on its energy audit and energy management services, and will ultimately result in financial and energy savings in each town. MAPC issued an RFQ in August 2016 and responses were evaluated by a selection committee comprised of three municipal representatives from Boxborough, Malden, and Southborough.



Participating municipalities will execute their own individual agreements with Honeywell.

Michigan

February 18, 2017: Michigan enacted legislation in June 2016 on energy conservation financing for local governments, making Michigan the 47th state to allow tax-exempt lease purchase agreements. TELP agreements allow governments to void accruing debt and are paid through annual appropriations that can be suspended if there is dissatisfaction with the purchase, according to the House Fiscal Agency's legislative analysis. TELP agreements cannot exceed the useful life of the item purchased and are renewed annually during budget deliberations.



The City of Marquette became one of the first cities to use the new law when it approved a project development agreement with JCI to move ahead with a GESPC. The cost of the project, estimated to cost about \$18 million, will be funded through a loan. Under the new law the loan won't register as debt due to the 2016 legislation because the upgrades would then be self-financed through the generated energy savings over the life of the contract.



Nevada

February 22, 2017: The Nevada ESC Chapter, together with the Governor's Office of Energy (GOE), facilitated a half-day workshop at Reno's Innevation Center. The workshop brought together building owners, financial managers, facility managers, energy engineers, and

contractors to focus on performance contracting and the benefits of utilizing GOE's Performance Contract Audit Assistance Program (PCAAP). Since the inception of PCAAP in 2014, the GOE has awarded \$1.1 million to accelerate performance contracting and expects to provide more than \$890,000 in incentives to offset the costs of an investment grade audit and have led to \$38.3 million in performance contracts in FY 2018.

Georgia

March 2, 2017: Georgia World Congress Center Authority (GWCCA) unveiled upgrades to the Atlanta convention center that are expected to cut energy costs and reduce the Center's carbon footprint by 39 percent annually, saving more than \$2.5 million in the first year alone.



The GWCCA, featuring the landmark convention center, represents a significant economic driver for the state. GWCCA leaders report that the 2016 economic impact of the convention center was \$1.1 billion and that in its entirety, the GWCCA, including the convention center, currently ranks as the number one sports, entertainment, and convention destination in the world. The GWCCA funded the \$28 million project through the Georgia Energy Savings Contracting Procurement program, making it the state's largest stand-alone energy performance contract and the nation's largest for any public assembly venue.



Pennsylvania

March 23, 2017: The Philadelphia School District launched an energy-savings pilot program that could eventually save hundreds of millions of dollars and help make a dent in the system's \$4.5 billion in deferred capital projects. Philly.com reports that district officials estimate that entering into an energy

performance contract could cut the school system's energy costs in half. Over 20 years, more efficient systems and practices could save the district \$600 million.

If a three-school pilot program is successful, the program could go citywide over the next several years. The district currently spends about \$45 million on energy costs annually. Officials say they believe they can get that down to about \$23 million. An assessment of district buildings released earlier this year found more than 12,000 outstanding repairs at public schools across the city.

Massachusetts

April 4, 2017: UMass Memorial Health Care has begun work on the second phase of a 10-year energy performance contract with Siemens. The GESPC is designed to align with the health care system's master energy plan to reduce energy consumption and energy purchasing costs, while maximizing the use of renewable energy wherever possible. With Phase 2 underway, UMass Memorial is projected to save almost 2 million kilowatt-hours of electric energy in the project's first year, and over the course of the 10-year contract, it is anticipated to generate \$5 million in energy savings and operational cost savings. When combined with UMass Memorial's Phase 1 contract as well as other efforts, it is anticipated that the facility will generate a total savings in energy and operational costs of approximately \$24 million over the next 10 years.



Nevada

April 10, 2017: Carson City School District, in partnership with McKinstry, has begun a series of building modernizations that will save the district \$357,000 annually. The savings will pay for the \$6.1 million project

over the next 18 years and will assist in

improving the educational environment in 11 different campuses.

Carson City School District is also set to launch McKinstry's three-year educational-focused energy awareness and operational efficiency program called powerED. The program engages students, staff and faculty across the district in energy, water and waste conservation efforts. This program will augment the district's Science, Technology, Engineering and Math (STEM) initiatives.

Missouri

April 24, 2017: Two Missouri towns have entered Guaranteed Energy Savings Performance Contract (GESPC) projects that will drive more than \$575,000 in energy and operational savings, as well as create new revenue streams to further improve city services. The Cities of Maryville and Shelbina have embarked on GESPC projects encompassing a variety of metering and energy efficiency upgrades that will provide citizens with a clearer view of how water and energy are being used in their homes and businesses.



The \$3 million Maryville project includes replacement of more than 4,250 water meters and the installation of leak detection technology that identifies water loss throughout the distribution system while establishing a plan for routine meter replacement. In total, these improvements will generate nearly \$400,000 in new revenue for the city.

In the City of Shelbina, the city replaced 3,000 utility meters, many were over or approaching 20 years in operation and installed a fully integrated automatic meter reading (AMR) system. These improvements will create more than \$64,000 in new revenue for the city.



Kentucky

May 24, 2017: The Kentucky ESC Chapter participated in a workshop on energy improvements in public facilities. The workshop, co-hosted by a number of organizations including the Kentucky Energy and Environment Cabinet Department for

Energy Develop and Independence was titled "High Performance Public Facilities Workshop" and was held at the Madisonville Community Technical College.

Colorado

June 5, 2017: The Colorado General Assembly passed HB 17-252 during the 2017 legislative session. Prior to passage, Colorado allowed boards of political subdivisions to enter into energy cost-savings contracts for utility cost savings. However, utility cost savings were defined in law



as an installation, modification, or service that is designed to reduce energy consumption and related operating costs in buildings and other facilities. New language adopted by the legislature expands the definition to include meter accuracy. The bill specified that the boards may also enter into energy cost-savings contracts for increasing meter accuracy, which it defined as a utility cost-savings measure. The new law states: "Meter Guarantee" means a stipulated or agreed upon increase in billable revenues to result from the guaranteed increase in meter accuracy, based on stipulated or agreed upon components of a billable revenue calculation in a utility cost-savings measure. The bill also clarifies that operation and maintenance cost-savings calculations must be made on net basis. The bill was signed into law by Governor John Hickenlooper and became effective immediately.



Wisconsin

July 6, 2017: The Waterloo School and Superior School Boards approved Wisconsin Act 28 Energy Projects and performance contracts. Act 28 is used by schools to assess an extra tax to taxpayers outside of the limits for school revenue. The allowance

is for energy efficiency improvements only. The Waterloo district will use the levying authority provided by Act 28 to pay for its \$417,627 GESPC project. The Superior board approved a \$31 million GESPC.

New York

July 12, 2017: Warwick Valley School District held a ground-breaking ceremony to celebrate the start of construction of its solar power system on the campus of Sanfordville Elementary School. The 2,419

kilowatt system, funded by a GESPC, will be the largest school solar array in the state. The system will produce enough electricity to offset the district's entire electricity bill, saving the school district approximately \$250,000 a year.



North Carolina

July 20, 2017: The North Carolina Department of Transportation is replacing existing highway lighting statewide with energy-efficient LEDs as part of a massive GESPC project with a \$32.3 million price tag.

The contract covers 15 years with a guaranteed savings of more than \$50 million in electrical and operational costs. Brady Trane is undertaking the construction which is targeted for completion in November 2018. Costs will be financed through Bank of America under a 2.1 percent interest rate.

ESC

August 9, 2017: The ESC and the Nevada ESC Chapter hosted the 6th Annual Market Transformation Conference August 9 through the 11th, in Henderson, Nevada. The conference was attended by more than 125 people from 35 states.



Massachusetts



August 17, 2017: Worcester City officials and Quinsigamond Village neighborhood flipped a ceremonious switch on its 28,600 solar panel array that is projected to save the city \$60 million over the system's 30-year life span. The \$27 million project is expected to pay for itself in six years. The solar generation is the energy equivalent to power 1,340 homes per year. The city signed a GESPC with Honeywell in 2011 that targeted bringing renewable energy to 92 city-owned facilities. The solar project was part of a larger GESPC project that also included replacing 14,000 streetlights with LED bulbs.

Montana

August 19, 2017: The Montana Department of Environmental Quality launched its Energy Performance Contracting Virtual Assistant website.



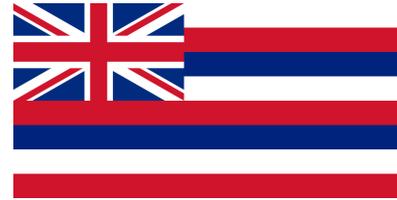
Arizona

September 22, 2017: Peoria's Sustainability Action Plan was adopted in 2012 and ratified by mayor and council in 2016. The plan outlines specific goals and initiatives centered on reducing energy costs, conserving resources, implementation of smart water principles, an extensive education component, and even transforming the way the city designs, operates, and maintains facilities.

This summer, the City of Peoria made another giant leap in its reaching its sustainability goals by entering into an Guaranteed Energy Savings Performance Contract. This agreement will result in significant savings by making 16 existing city facilities more energy efficient through the addition of solar power.

Hawaii

September 24, 2017: In June 2015, Gov. David Ige signed into law a bill making Hawaii the first state in the nation to set a 100 percent renewable portfolio standard for the electricity sector by 2045. On the same day, he signed a bill requiring all 10 campuses of the University of Hawaii to be net zero by 2035. University of Hawaii Maui College is on track to reach that goal by 2020 at the latest, and possibly as early as 2018. In doing so UHMC would become the first college campus in the United States to reach net zero. A Phase One GESPC helped reduce consumption campus-wide through energy efficiency - more efficient lighting and air conditioning. It also included a PPA (power purchase agreement) for renewable energy that resulted in a solar covered-parking lot. A Phase Two is expected to begin in 2018.



Tennessee

October 3, 2017: Bledsoe County Schools in Pikeville reached a \$500,000 energy savings milestone as a result of a GESPC entered into in 2009. Bledsoe County Schools partnered with Schneider Electric to conduct a comprehensive energy audit and install \$1 million in infrastructure and efficiency improvements across its five schools and Board of Education building. In addition to annual energy savings, the project has also made a substantial environmental impact on the community, removing 4,329 metric tons of CO2 from the atmosphere, which is equivalent to taking 914 passenger vehicles off the road for one year, powering 451 homes for one year or planting 112,195 trees.

October 3, 2017: Bledsoe County Schools in Pikeville reached a \$500,000 energy savings milestone as a result of a GESPC entered into in 2009. Bledsoe County Schools partnered with Schneider Electric to conduct a comprehensive energy audit and

New Hampshire

October 4, 2017: Cannon Mountain Ski Area, New Hampshire Department of Natural & Cultural Resources (DNCR) and Ameresco, completed an approximately \$5.1 million energy efficiency initiative at Cannon Mountain. The State of New Hampshire owns



Cannon Mountain and sought solutions to enact energy efficiency and conservation measures for both Cannon's snowmaking and energy-supply systems. The work, which has been underway for the past year, included the replacement of 388 existing energy intensive land based air/water snow guns with tower mounted low-energy snow guns, and some portable units. The new tower guns greatly reduced compressed air energy as well as the labor required to move the old land guns around the mountain. Twelve-hundred feet of water/air lines were also added, as well as a new pump house located at 3,170 feet, to expand Cannon Mountains snow making ability at higher elevations. Annual energy cost savings are expected to be approximately \$386,000.



Arkansas

October 4, 2017: The University of Arkansas at Pine Bluff hosted a ribbon cutting ceremony to celebrate the completion of its solar park. The solar park is the culmination of a \$19.3 million

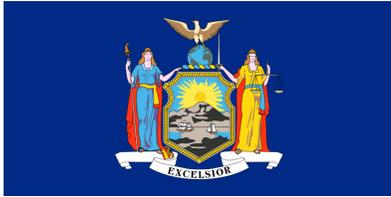
19-year energy performance contract through the Arkansas Energy Performance Contracting (AEPC) Program. The keystone of the project is a 321 kW photovoltaic solar array that ranks as the largest public solar installation in Arkansas. The energy performance contract is also the largest of its kind completed under the AEPC Program. The panels will decrease UAPB's energy consumption by a sizeable 32%, making UAPB the first state university to meet the 30% energy reduction mandate signed into law by Act 1494 of 2009.

Colorado

November 1, 2017: In 2016 the University of Northern Colorado signed a GESPC with McKinstry. UNC took out an \$8.86 million loan to pay for energy efficiency improvements in 18 buildings across campus. The energy savings - \$547,000 per year - will repay the loan over 15 years. As cost-effective as those measures are, the real challenge is changing the habits of the people who use those buildings.



McKinstry conducted social science research about what causes people to change their behavior and found internal motivation isn't enough - such as when people start going to the gym or quit smoking. Peer pressure, incentives, recognition for committing and making that commitment a social norm go a long way toward getting people involved. To that end, UNC and McKinstry launched a campaign called "People. Power. Planet" to effect behavioral change in students, staff and faculty. Any member of the UNC community can create an account online and track the steps they take to save energy and earn points for everything they do. People who earn enough points get real-life rewards, such as gift cards. More than 600 students, faculty and staff signed up in its first year and cut energy use by 12 percent.



New York

November 2, 2017: Fulton County government is starting to see savings from a GESPC it entered into in 2014-15. At a recent briefing, staff reported excess savings of over \$6,700 in the past year. The \$6,732 in excess savings for 2016-17 resulted when the energy savings of \$120,891 exceeded the guaranteed savings of \$114,159.

New Mexico

December 29, 2017: Bernalillo County's Metropolitan Detention Center is getting \$13.9 million in energy upgrades. Commissioners voted unanimously in December to enter a guaranteed energy performance contract with Yearout Energy Service Co.. In addition to lighting, controls and hvac improvements, the project will also include the installation of a 1.5 megawatt solar pv system. The upgrades will reduce MDC's energy consumption by 32 percent and save the county 47 percent in utility costs for the 500,000-square-foot jail. The county is expecting to save \$472,000 on MDC's electric bill and \$23,000 on the jail's natural gas bill during the first year alone.

