



Enhancing Performance Contracting for K-12 Schools, Community Colleges, and Local Governments

With a competitive award from the U.S. Department of Energy's State Energy Program (SEP), North Carolina successfully helped 30 local governments implement Energy Savings Performance Contracting (ESPC) projects that will result in more than \$70 million in lifetime savings. ESPCs allow building owners and operators to use future energy savings to pay for comprehensive building improvements.

North Carolina's Utility Savings Initiative (USI), a lead-by-example program housed in the Department of Environmental Quality (DEQ), has been instrumental in the state's long track record of ESPC success, facilitating more than 75 ESPC projects since its launch in 2002. These ESPC projects have led to a 31% reduction in energy use intensity in state-owned buildings. The USI program has attracted around \$500 million in private sector investment, subsequently generating more than \$1.2 billion in cost savings for taxpayers.

Although North Carolina enjoyed early ESPC success with state buildings, some local governments faced difficulties following suit. These local government agencies were either unaware of ESPCs or unclear as to how ESPCs could benefit their building stock. Consequently, substantial energy and cost savings potential in smaller buildings, primarily located in North Carolina's many rural communities, remained untapped.

In 2012, North Carolina jump-started its efforts to address this untapped potential with funding from the SEP competitive award. SEP funding allowed USI to partner with an energy consulting nonprofit and the Energy Services Coalition (ESC) to streamline the state's ESPC process, making both legislative and programmatic changes to help increase interest from rural communities. As a result of its efforts, the USI team successfully generated first-time interest in ESPCs from more than 30 rural public school systems, county governments, and municipal governments, and identified \$70 million worth of ESPC projects.

Goal



Reduce North Carolina's energy consumption by 20% by 2020 from a 2008-2009 baseline by accelerating the uptake of ESPCs among smaller governmental units.

Barrier



Lack of understanding and buy-in at the local level to use ESPCs for small building-sector projects.

Solution



Enhance the value proposition of ESPCs for local governmental units—including community colleges, small public school systems, and county and municipal governments—by simplifying the contracting process for small projects and providing third-party technical assistance to help local officials identify opportunities, execute projects, and measure success over time.

Outcome



North Carolina helped more than 30 communities adopt ESPC projects over 3 years, with estimated cost savings of more than \$70 million. State and local officials continue to advance new projects with North Carolina's help.

Policies

As in many states, public facilities in North Carolina face a backlog of needed improvements. The challenge is particularly acute for local governments. ESPCs, which have enabled many private sector projects in larger communities throughout North Carolina, can be a budget-neutral solution for many of these smaller, often rural communities as well.

North Carolina passed legislation in 1993 authorizing the state to use ESPCs to design, implement, and fund energy efficiency projects for public buildings. Since then,

executive and legislative actions have been adopted to enhance the state’s ability to implement ESPCs, as shown in the table below.



While North Carolina’s USI program successfully helped large state facilities implement ESPC projects, working with smaller local governments was not a priority. The SEP Competitive Award provided USI the resources it needed to prioritize local governmental units’ use of ESPCs.

Actions to Support ESPCs in North Carolina

Year	Action	Outcomes
2002	Governor Mike Easley issued a memorandum of understanding authoring DEQ to lead USI	<ul style="list-style-type: none"> Established USI as the entity responsible for executing the state’s ESPC program for state agencies and local governments Provided funding via Petroleum Violation Escrow dollars (settlements from oil overcharge cases)
2007	North Carolina General Assembly passed Senate Bill 668	<ul style="list-style-type: none"> Set a long-term goal to reduce energy intensity within state-owned buildings 30% by 2015 from a 2002-2003 baseline Required state-owned buildings undergoing deep retrofits to achieve 20% greater energy efficiency than American Society of Heating, Refrigerating and Air-Conditioning Engineers 90.1-2004 standard Dedicated state general funds for technical assistance activities for state government and university buildings Required USI to collect program data and conduct project analysis (i.e., energy savings, cost reductions)
2018	Governor Roy Cooper issued Executive Order 80	<ul style="list-style-type: none"> Established a new goal requiring state agencies to reduce energy intensity 40% from the 2002-2003 baseline Mandated a 40% reduction in greenhouse gas emissions from a 2005 baseline



Process

Program Design

USI augmented its team by partnering with Advanced Energy, a nonprofit energy consulting firm specializing in building management technologies and energy efficiency, and the North Carolina Chapter of ESC. Adding ESC as a third-party partner was instrumental in providing outreach to local communities and provided public facility owners and operators access to expertise needed to confidently launch and complete ESPC projects. As the trade association that advocates for the use of ESPCs, ESC helped secure industry buy-in for the project and brought further expertise to the project team.

Once assembled, the project team developed a targeted plan for engaging municipal governments, community colleges, and small K-12 school districts over the course of several months. Part of this plan was an education and outreach program to increase local governments' awareness of and interest in ESPCs.

The team outlined a curriculum, which was used to create a detailed presentation and handouts that covered information critical to local governments considering ESPCs:

- The statutory definition of an ESPC for North Carolina
- The process and potential pitfalls of adopting an ESPC project
- How energy savings are defined and estimated
- The financial mechanisms associated with ESPCs
- How to determine whether the local government has a feasible project.

Implementation

The early engagement of stakeholders to determine areas of opportunity in the ESPC process was critical to the success of North Carolina's project. Feedback received at and subsequent to the workshops from local government officials responsible for rural and small community building management helped the project team refine its strategy and tailor the ESPC process changes to best suit local governments.



1. Education and Outreach

Over the course of three months, project team members delivered the formal ESPC presentation, disseminated the handouts to local officials, and held Q&A sessions at eight four-hour workshops across the state. Local officials had the opportunity to network with ESC members in attendance at the workshops.

The team selected workshop locations across the state so that prospective participants would not have to drive more than three hours to attend. ESC covered all costs for the workshops.

The team distributed flyers with online registration information through existing networks of local government officials, including: The North Carolina League of Municipalities, the North Carolina County Commissioners Association, the North Carolina Community College system, the North Carolina Association of Community College Finance Officers, and the North Carolina Public School Maintenance Association. Each of these organizations included workshop flyers in their newsletters or distributed flyers to their members. A total of 144 people attended the eight workshops.

2. ESPC Process Improvements in Legislation

After the workshops, the project team contacted and visited workshop participants who were interested in pursuing ESPCs. USI used a survey to collect feedback from participants. Participant feedback revealed that the existing ESPC process in North Carolina, while successful for larger facilities with staff and capital resources, had proved more cumbersome for smaller governmental units. Therefore, the project team worked with North Carolina lawmakers to make five changes to ESPC legislation to facilitate local adoption of ESPCs:

i. Investment Grade Audit (IGA) Timing

IGAs are conducted to analyze all cost-effective energy efficiency building upgrades and are needed for ESPC planning, but they can often take 18 months or longer at considerable expense. North Carolina statute required that IGAs be conducted in the bidding process, which was often cost-prohibitive or could significantly delay the selection of an energy service company (ESCO). The project team used feedback received at the workshops to make a change to the ESPC process so that the IGA would be required only after an ESCO was selected by the governmental entity, saving time in securing an ESPC.

ii. Single-Bidder Approval

North Carolina requires local governments to use Requests for Proposals (RFPs) to solicit and select contractors. Prior to this project, if a local government received only one response to its RFP, it would be required by state statute to rebid the project, hindering ESPC adoption. The USI project team worked with the state legislature and ESCO community to eliminate the statutory requirement that a local government reissue an RFP if “at least” one ESCO submitted an acceptable response. This legislative change reduced the risk to ESCOs responding to local governments’ RFPs and also reduced the burden on local governments, which did not have the capacity to issue multiple RFPs.

iii. Defining “Qualified Providers” and “Qualified Reviewers” and Identifying Prequalified ESCOs

Industry stakeholder feedback from the workshops alerted USI’s team to inconsistent terminology in state ESPC informational resources. USI worked with the state legislature to define a “qualified provider” in North Carolina law as an ESCO that can provide ESPC services to governmental units. The USI project team then issued an RFP to develop a list of prequalified ESCOs and associated services to ensure consistency in ESPCs. The identification of prequalified ESCOs has relieved individual public entities of the tasks of issuing a solicitation, reviewing bids, and selecting an ESCO each time they seek to execute an ESPC—a prequalified ESCO can

now be selected directly from the list. Likewise, a “qualified reviewer” is now defined by North Carolina statute as either a licensed professional engineer or architect. By statute, a governmental unit must have a qualified reviewer review RFP responses for an ESPC. These changes helped local officials identify and hire qualified ESCOs and personnel capable of reviewing RFP responses, which can include dozens, if not hundreds of pages of technical documentation.

iv. Redefining the “Total Cost” of a Project

Prior to this project, the total cost of an ESPC as defined by legislature included neither utility incentives nor state or federal grants to be applied to the project. These offsets, when available, reduce the amount of financing needed, making more projects cash flow positive and more viable.¹ The USI team worked with the North Carolina Legislature to facilitate a legislative change that redefined the total cost of an ESPC to include these offsets to reduce the burden on local governments.

v. Measurement and Verification (M&V) Guidance

Finally, the USI team worked with the North Carolina Legislature to adopt formal M&V rules for ESPC projects. M&V is the process of quantifying actual energy and cost savings. North Carolina legislation now requires the use of specific American Society of Heating, Refrigerating and Air-Conditioning Engineers, Federal Energy Management Program, and International Performance Measurement and Verification M&V guidance and is the single most important item in a performance guarantee. This change ensures verification of project outcomes, and it helps local governments compare benefits of different projects and legitimize their performance guarantees.

Energy Saved from ESPC Projects



746,496,402 kWh

11,750,406 therms

4,644,429 MMBTU

¹ Session Law 2014-115 - Allows the “application of the utility company, State, or federal incentives, grants, or rebates” to reduce the total cost of the project. This is especially useful for small contracts.

3. Standardize ESPC Documents

A key challenge for local governments was completion of the paperwork required for an ESPC project. USI staff reviewed ESPC templates with ESCOs and third-party engineers to identify redundancies and places where contract language could be clarified. The review and revision process continued throughout the project, with USI and engineering partners meeting every six months to identify further improvements to the state templates. The review process resulted in a much shorter, clearer set of documents that could be used and adapted by local government procurement and contracting officials.

4. One-on-One Technical Assistance

Staffing levels of the USI department consisted of five individuals who were assigned geographic territories within the state, four of whom were hired for and funded by the SEP award. These individuals provided valuable process and program assistance to the governmental entities.

Once the legislative barriers had been addressed, the project team focused on engaging individual local governments. The workshops provided a starting point for USI to provide technical assistance to help local governments navigate the ESPC process with ease. Sign-in sheets from the workshops provided an initial target group for USI staff to visit and educate. Technical assistance typically began with a walk-through building assessment with a facility manager, during which project team members discussed the viability of an ESPC. These preliminary discussions often helped generate support from facility managers at the early stages of ESPCs.

The USI team also focused on building support among local governments' senior management by holding individual meetings with facility owners' highest level of management. Either USI or Advanced Energy staff provided education sessions to the appropriate local board or committee members to build a baseline of background information and knowledge regarding ESPCs.

USI staff members also helped local governments manage the ESPC process by reviewing all RFPs, financials, and M&V findings, including some state-specific requirements, such as development and submission of final project applications to the local government commission for approval. USI staff also attended prebid meetings and oral interviews and followed up with building owners at every step of the ESPC process.

Upon ESCO selection, the USI team sought greater engagement with local officials—especially throughout the IGA process. Early involvement in the technical aspects of the project—starting at the IGA phase—while time consuming, also increased transparency, improved decision-making and helped ensure project success. Site visits took considerable time but were essential to the success of projects, as they helped the USI team identify ESPC champions at the facility manager level and at the highest levels of local government. Management support was crucial to the project

team's success—without it, ESPCs could not get off the ground. USI found that on-site assistance is critical to educate, build confidence in, and provide technical expertise to those carrying out the ESPC program or project. Site visit timelines varied depending on the location and needs, but a typical site visit lasted approximately one to two hours.

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5. Third Party Engineering Support

North Carolina applied much of its SEP award funds toward the third-party nonprofit energy consulting partner to provide technical assistance to interested owners. The unbiased third-party review of ESPC documents was key to project success; such insight consistently increased confidence of local partners in the viability of ESPCs, which was especially important for local officials who lacked the expertise to evaluate contracts and assess the value of ESPC projects to taxpayers. Advanced Energy also developed a comprehensive M&V training program for ESCOs and other licensed engineers seeking to provide services as qualified reviewers to ensure consistency of all ESPC annual reporting.

USI closely monitored the technical assistance provided by the project team to determine the relative value added to the process. By the second year, USI determined that Advanced Energy's time would be best spent reviewing RFPs, financials, and IGA documents, while USI staff time was best spent attending local public building meetings and maintaining relationships with local government officials.

Measuring Success

North Carolina's ultimate goal was to accelerate the uptake of ESPCs to save energy in local governments throughout the state. The project team used the following metrics to gauge its success:



The cumulative energy cost savings made possible by USI's efforts are expected to more than double current levels, reaching an estimated \$3 billion by 2025.

Outcomes

North Carolina began its project with the goal of engaging at least 22 local government building owners. As a result of the USI team's efforts, North Carolina far exceeded this goal—working with more than 40 governmental units to help identify cost-saving projects, resulting in energy efficiency upgrades for small facilities across the state, many in rural communities. Collectively, the projects are expected to save more than \$70 million in energy and water costs for local governments over the life of the ESPCs, and new projects continue to move forward.



In 2017, recognizing the success of the program and the overall ESPC efforts in North Carolina, ESC presented North Carolina with an Energy Stewardship Champion award due to its outstanding accomplishments in using ESPCs to achieve energy savings, infrastructure modernization, environmental stewardship, and economic development.

Without the USI program and the technical assistance USI offers, North Carolina would not be able to achieve the goals laid out by Executive Order 80. The cumulative energy cost savings made possible by USI's efforts are expected to more than double current levels, reaching an estimated \$3 billion by 2025.



Tools and Resources

§ 143-64.17F. State agencies to use contracts when feasible; rules; recommendations. State governmental units shall evaluate the use of guaranteed energy savings contracts in reducing energy costs and may use those contracts when feasible and practical.

About the USI. The **Utility Savings Initiative (USI)** is North Carolina's lead-by-example program supporting energy efficiency in public buildings. The program was created to assist North Carolina governmental units in managing the use and cost of energy, water, and other utilities in their facilities.

North Carolina's ESPC templates are published and available for use by all governmental units on the state website: <https://deq.nc.gov/conservation/energy-efficiency-resources/utility-savings-initiative/performance-contracting>.

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