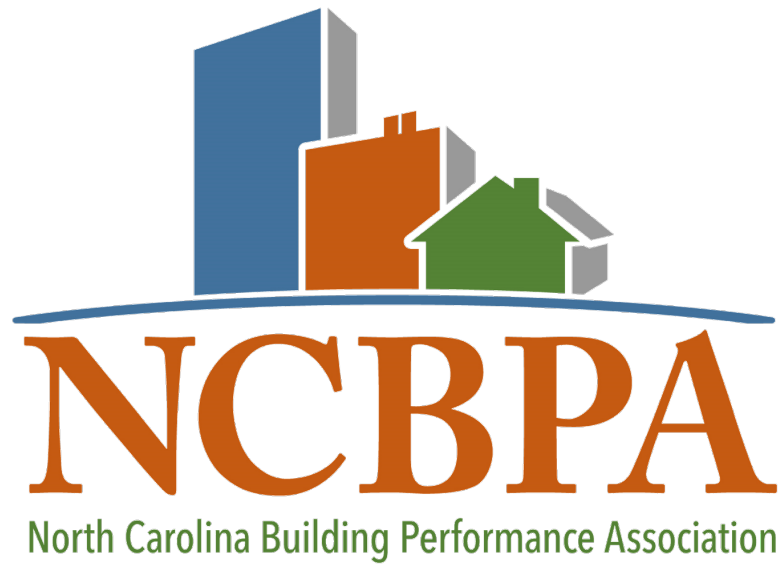




2019 Energy Efficiency Opportunities in North Carolina

AEE Presentation

January 17, 2019



North Carolina's **Building Energy Performance** Trade Association

Membership information available at
www.BuildingNC.org

Highlights of member-funded work in 2018



Innovative Industry & Policy Reports

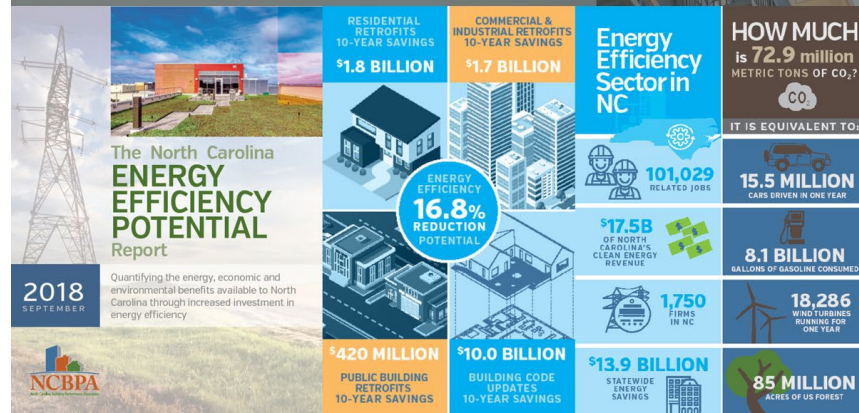
The Business Case for Energy Efficiency: How Investing in *Less* Creates *More* for North Carolina

Recommendations for North Carolina policy makers, regulators and utilities to enable economic development, job creation and building infrastructure resiliency through new and increased investment in energy efficiency.

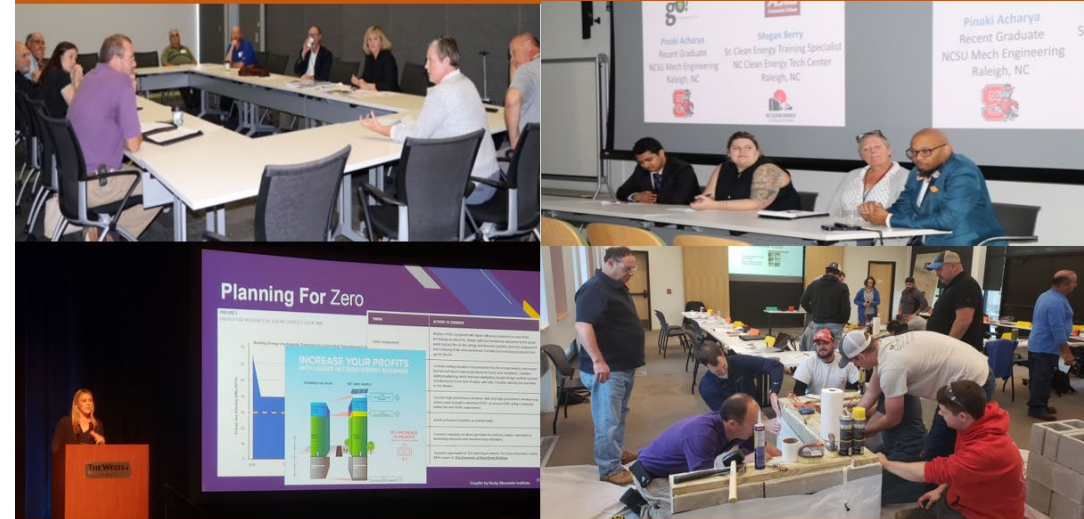
2017 NORTH CAROLINA

ENERGY EFFICIENT, GREEN AND HIGH PERFORMANCE HOME AND BUILDING INVENTORY REPORT

Market research and best practices for increasing consumer awareness of and financial value for high performance homes and buildings in North Carolina



Workforce Development & Training Events



Local, State and National Policy Advocacy





Angela Cacace left a successful career in barbering to start her own construction business and enrolled in the Building Construction Technologies program at Central Carolina Community College (CCCC). On the first day of class, she was surprised to Casey Toth - ctoth@heraldsun.com

Workforce Development

- Defining Career Pathways
- Developing Apprenticeship programs
- Promoting industry careers to students, parents and teachers
- Improving diversity, equity and inclusion in our companies
- Promoting our industry's job creation opportunities to legislators and local government officials

Consumer Education

- Educating home and building owners and operators through NCBPA's free residential and commercial education websites
- Responding to consumer questions and providing referrals to member companies
- Publicly advocating for increased adoption of high performance construction



Member Benefits

Weekly industry news, events and meetings
Discount programs for products and services
Leads and referrals from home and building owners
Exclusive industry survey results and market reports

Market Development & Member Support



Become a Member Company Today!

Step 1:

Join Online

Fill out the short application at
www.BuildingNC.org

Step 2:

Pay Annual Dues

Pay annual membership dues up-front, quarterly or monthly

Step 3:

Receive Benefits

Begin receiving member emails, discounts and more!

Contact us at 919-841-6207 or Info@BuildingNC.org



R
E
S
I
D
E
N
T
I
A
L



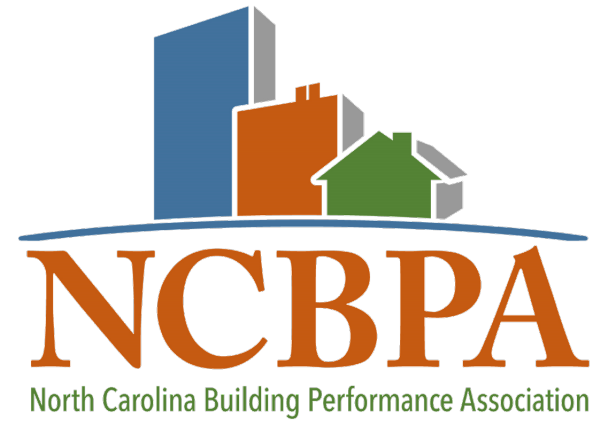
P
U
B
L
I
C



I
N
D
U
S
T
R
I
A
L



C
O
M
M
E
R
C
I
A
L



Where Does EE Fit In?

“Energy Efficiency First”

1. Prioritizes using less energy in the first place
2. Ramps up product manufacturing
3. Offers health, safety and environmental benefits
4. Invests in local service businesses
5. All buildings can participate



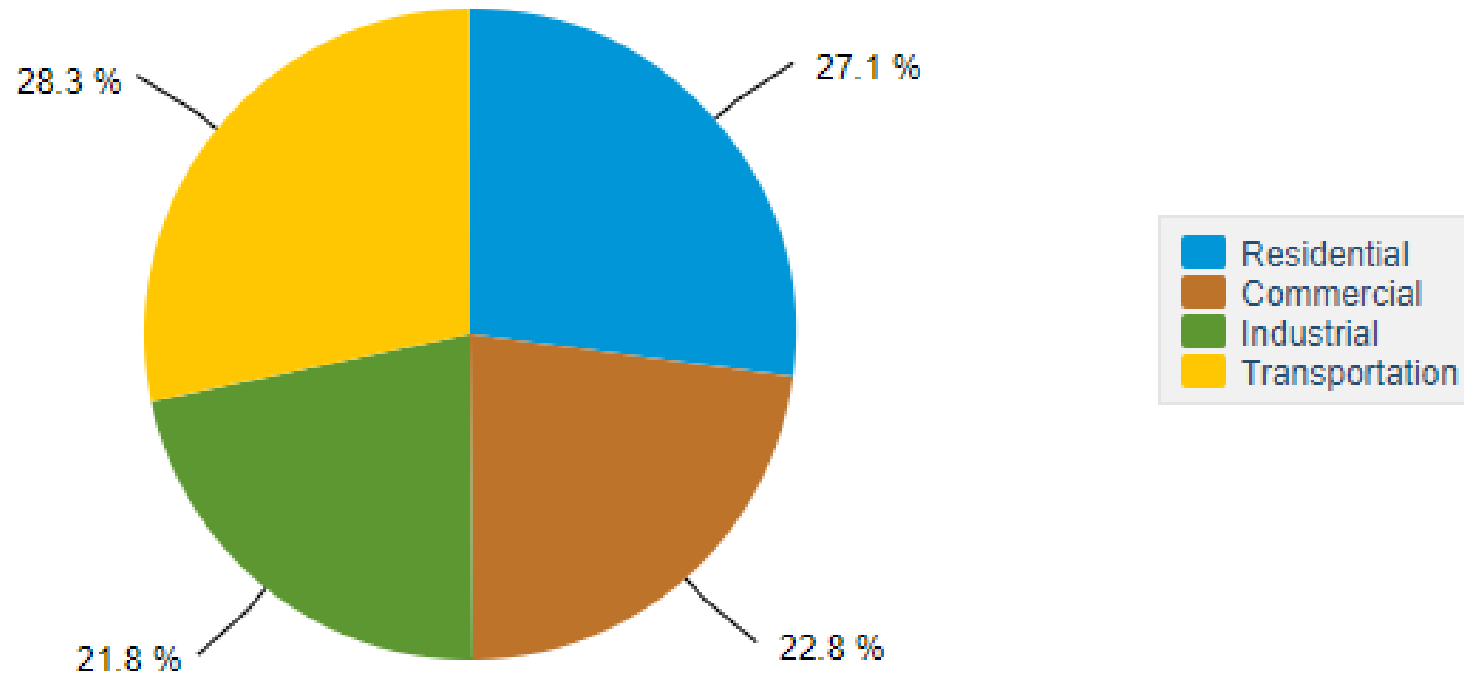
Why Buildings?

In many states

1. Residential buildings account for the largest share of energy consumption in the state
2. 40% of energy consumption is in buildings
3. 20% of energy consumption is in buildings

North Carolina Energy Consumption by End-Use Sector, 2016

 [DOWNLOAD](#)



Source: Energy Information Administration, State Energy Data System

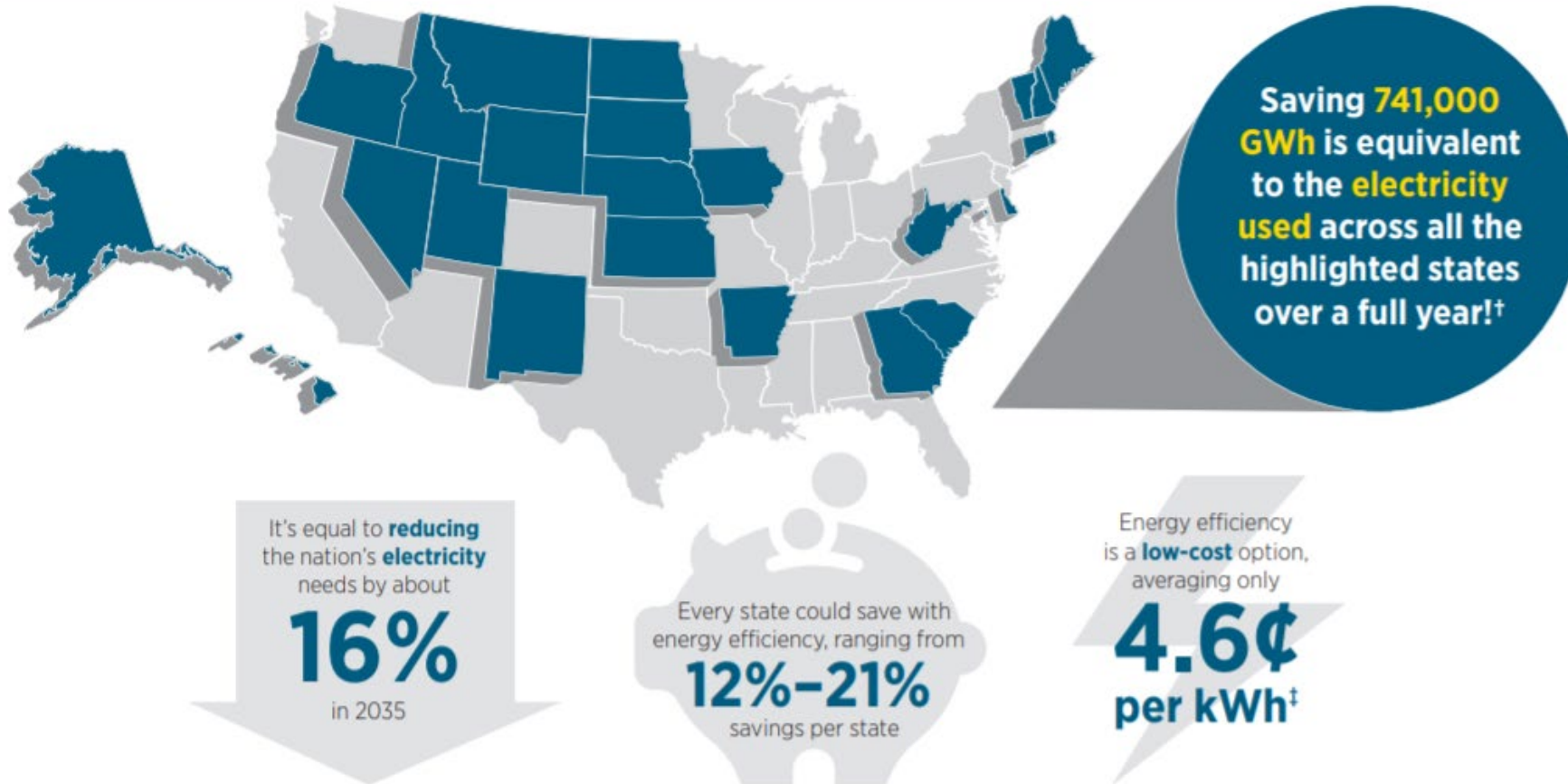
Energy Benefits

Lowering energy demand through building energy efficiency:

- Greater effectiveness for renewables and storage
- Improved grid effectiveness through less wasted energy
- Improved disaster resiliency and recovery
- Increased opportunities for building electrification
- Lowered utility bills

What's the Potential?

The United States has the potential to cost-effectively **reduce** its **electricity** use by **741,000 GWh***



*from 2016–2035. Electric Power Research Institute, *State Level Electric Energy Efficiency Potential*, 2017.

†2015 data; from U.S. Energy Information Administration, "Retail Sales of Electricity by State by Sector by Provider (EIA-861)," Detailed State Data, 2016.

‡Lawrence Berkeley National Laboratory, "What It Costs to Save Energy," 2017.

What's the Potential?

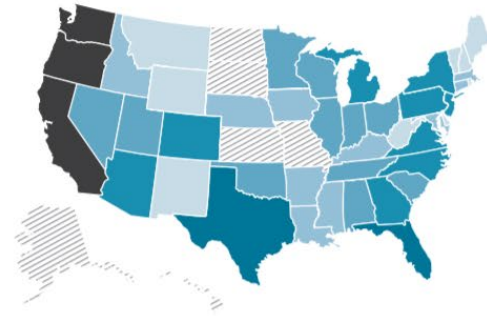
Four pathways to savings across the United States are shown below, with darker blues indicating higher savings potential

Building Energy Codes



Energy codes set **minimum efficiency requirements** for new and renovated residential and commercial buildings. They are a subset of building codes.

12,800
trillion Btu
total national energy
savings potential (2040)

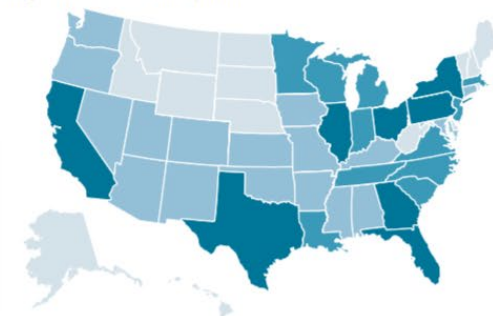


Combined Heat & Power



Combined heat and power is an integrated system that **generates electrical energy** and efficiently **recovers waste heat** as useful thermal energy at a customer's facility, such as a hospital.

148,900 MW
total national electricity
capacity potential (2015)

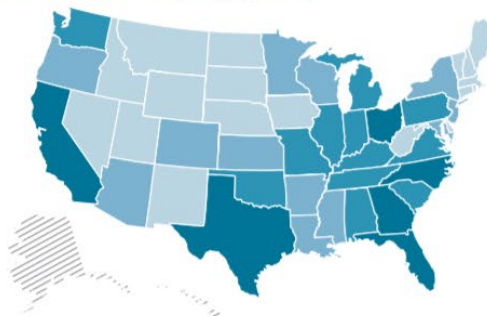


Residential Efficiency



Existing single-family detached homes can **reduce energy waste** by installing insulation, sealing air and duct leaks, and upgrading to more efficient lighting and heating/cooling equipment.

245,000
GWh
total national electricity
savings potential (2042)

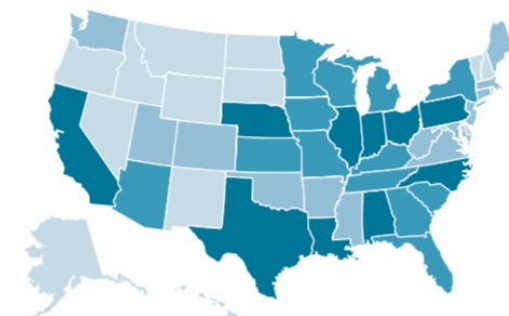


Industrial Efficiency

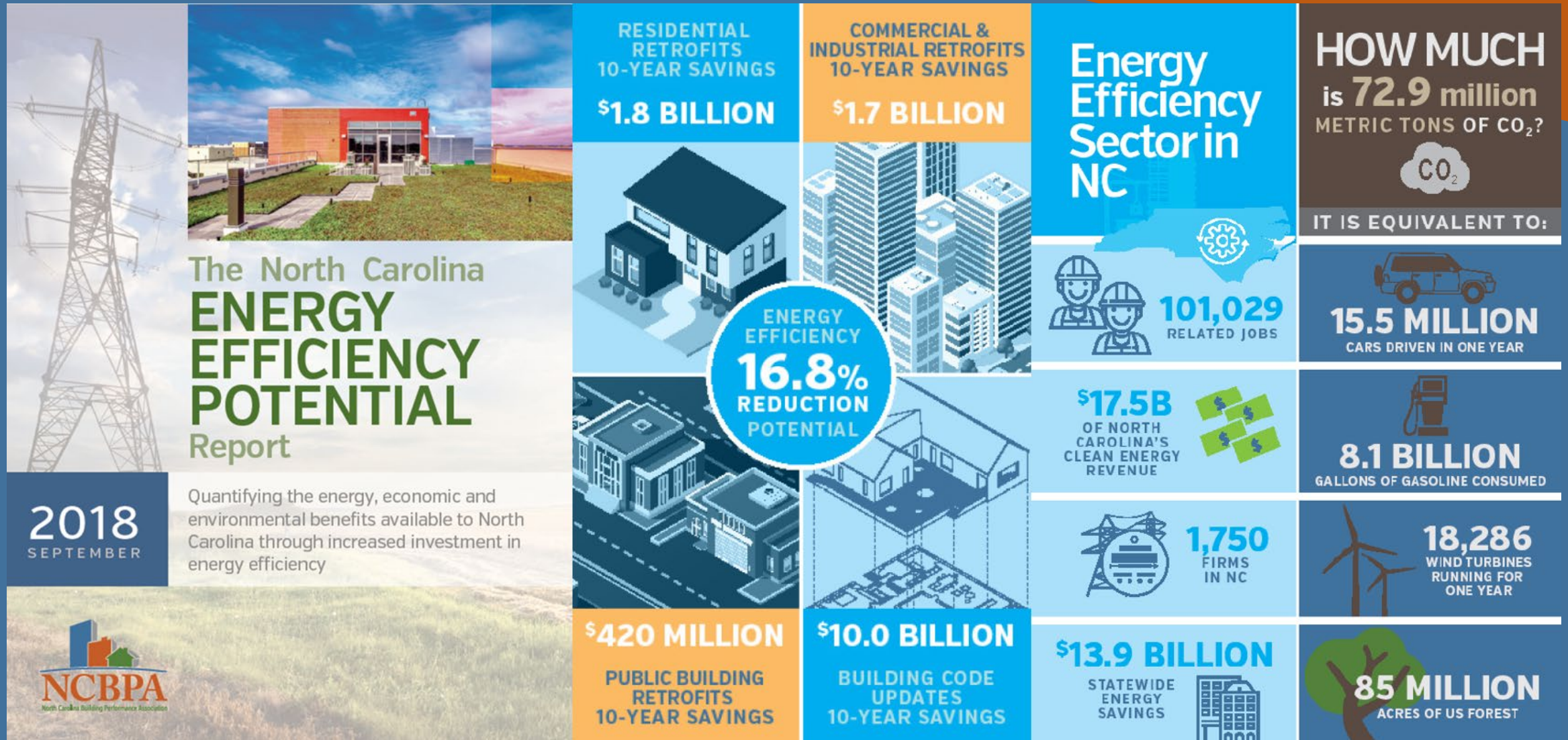


The manufacturing sector can **realize energy savings** from improved equipment, processes, or organizational strategies.

7,500
trillion Btu
total national energy
savings potential (2030)



What's the Potential?



What's the Cost?

Energy • COVER STORY

How will Duke Energy pay for \$13B grid upgrade? 🔑

State regulators have already said no to the company's original rate-hike plan. Will legislators say yes?

	5% Savings	10% Savings	16.8% Savings
<i>Energy Saved (BTU)</i>	<i>99 Trillion</i>	<i>199 Trillion</i>	<i>331 Trillion</i>
Energy Code Savings \$	\$3.0 Billion	\$6.0 Billion	\$10.0 Billion
Public Buildings Savings \$	\$129 Million	\$257 Million	\$429 Million
Commercial Buildings Savings \$	\$508 Million	\$1.0 Billion	\$1.7 Billion
Residential Buildings Savings \$	\$538 Million	\$1.1 Billion	\$1.8 Billion
Total Savings \$	\$4.2 Billion	\$8.3 Billion	\$13.9 Billion
Total Investment \$	\$798 Million	\$1.6 Billion	\$2.7 Billion
Net Savings \$ / %	\$3.4 Billion 526%	\$6.7 Billion 519%	\$11.2 Billion 515%

NC is Making Progress

State Scorecard Rank

31

State Government

★ State Government

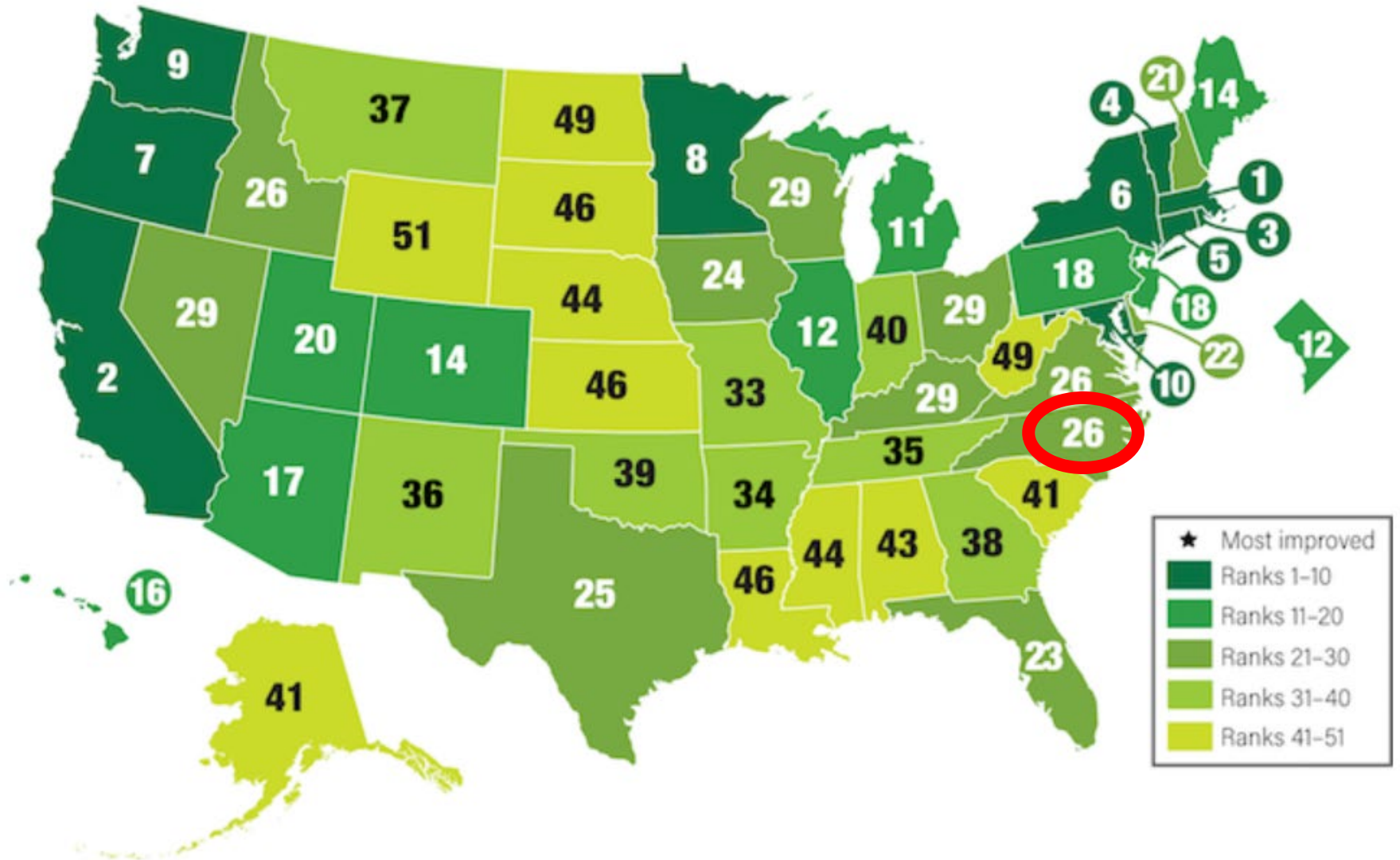
State Government

North Carolina example by recording savings performance

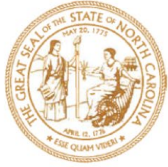
Financial Incentives

Financial incentives in North Carolina programs.

Last Updated: July 2018



In Case You Missed it



State of North Carolina

ROY COOPER
GOVERNOR

ENERGY EFFICIENCY DAY

2018

BY THE GOVERNOR OF THE STATE OF NORTH CAROLINA

A PROCLAMATION

WHEREAS, energy efficiency is North Carolina's first and least-costly strategy for addressing its current and future energy needs; and

WHEREAS, because North Carolina's residential, commercial, and industrial facilities account for more than 70 percent of our end-use sector energy consumption, it is important that new homes and buildings be built to strong energy efficient standards; existing homes and buildings can also be renovated or remodeled to meet these standards; and

WHEREAS, all North Carolinians have the right to live in homes without the financial burden of unnecessarily high energy usage and rates; and

WHEREAS, our state's energy efficiency industry includes 1,500 firms and more than 47,000 jobs, and generates more than \$15 billion of North Carolina's clean energy revenue, supporting local economic development, community education, and workforce development; and

WHEREAS, the Utility Savings Initiative within the North Carolina Department of Environmental Quality is a lead-by-example program supporting energy efficiency in public buildings, created to help manage the cost of energy, water, and other utilities in public facilities; and

WHEREAS, industrial facilities throughout our state can also commit to reduce energy usage and help improve air quality; and

WHEREAS, the United States Department of Energy reports that the total energy efficiency economic potential across the residential, commercial, and industrial sectors of North Carolina is 18.4 percent between 2016 and 2035; and

WHEREAS, a 16.8 percent increase in energy efficiency over ten years could help to reduce the need for North Carolina to generate electricity from coal, create more than 50,000 additional jobs, and offset as much as 72.9 million metric tons of carbon emissions;

NOW, THEREFORE, I, ROY COOPER, Governor of the State of North Carolina, do hereby proclaim October 5, 2018, as "ENERGY EFFICIENCY DAY" in North Carolina, and commend its observance to all citizens.

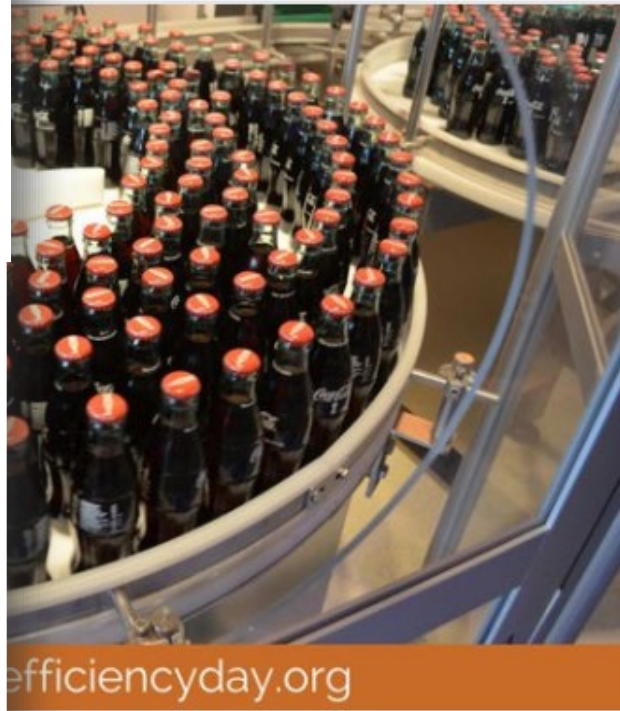


Roy Cooper
Roy Cooper
Governor

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the Great Seal of the State of North Carolina at the Capitol in Raleigh this third day of October in the year of our Lord two thousand and eighteen and of the Independence of the United States of America the two hundred and forty-second.

Buildings · 6h

? #EnergyEfficiency could meet 1/3 of expected power needs by Day2018 #NCEEDay2018 on Oct. 5, let's work together to cut bit.ly/EEDay2018



Today, the U.S. produces
goods and services using

50% LESS ENERGY

than it did in the 1970s,
thanks in part to
energy efficiency!

October 5, 2018

It's #EEDay2018

ENERGY EFFICIENCY DAY

Save energy. Save money.

efficiencyday.org



Cooper sets global warming goal to cut NC greenhouse gas emissions by 40 percent



BY JOHN MURAWSKI AND WILL DORAN

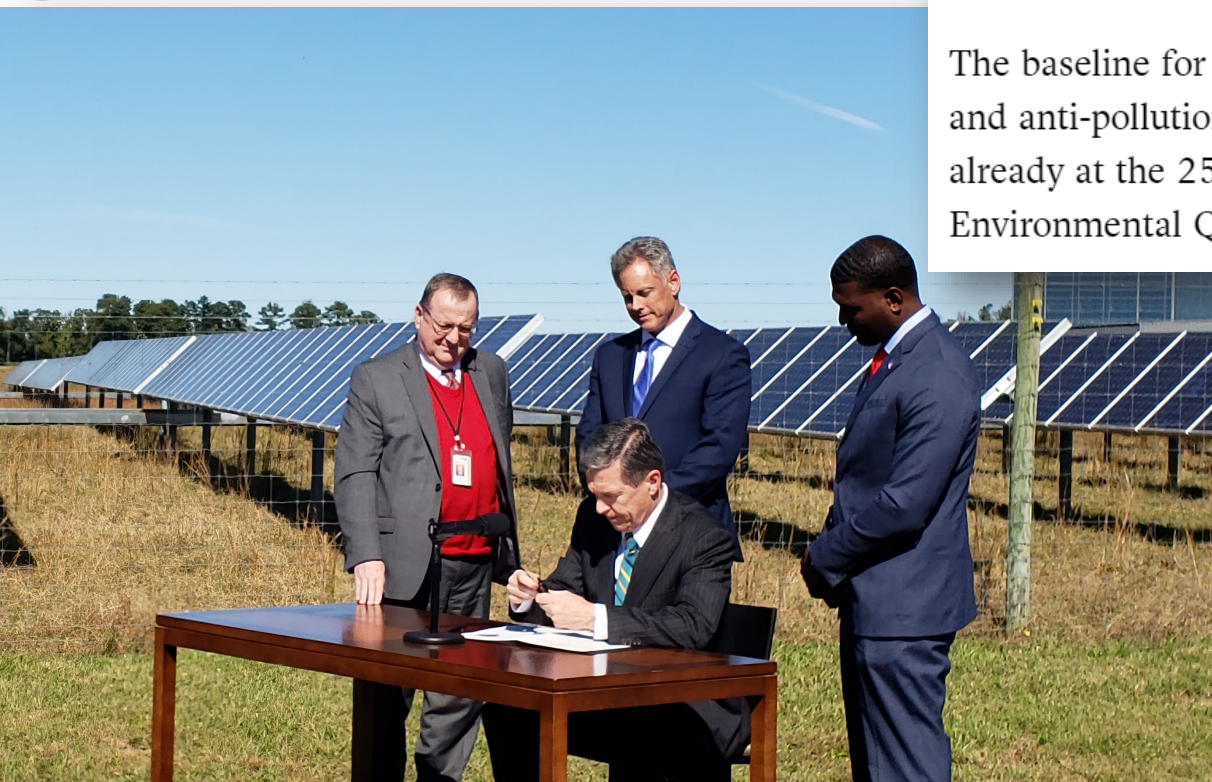
jmurawski@newsobserver.com

wdoran@newsobserver.com



October 29, 2018 04:03 PM

Updated October 29, 2018 05:58 PM



In Case You Missed it

Cooper's goal lists few details at this time, but includes a target of having at least 80,000 electric cars and other zero-emission vehicles in the state by 2025 and developing electric vehicle corridors and other infrastructure. The goals also include reducing energy consumption in state government office buildings for each cabinet level agency, with goals due next year.

The baseline for measuring progress is 2005, a period before a number of energy policies and anti-pollution measures had taken effect in the state. As a result, North Carolina is already at the 25 percent mark of the 40 percent goal, according to the N.C. Department of Environmental Quality.

In Case You Missed it



Energy Policy Council Biennial Report

May 2018

In North Carolina, low-hanging fruit of energy efficiency is going to waste

WRITTEN BY

Elizabeth Ouzts
September 4, 2018

Correction: North Carolina lagged behind 31 states in progress toward its 2017 energy efficiency potential. An earlier version of this story misstated its ranking.

PHOTO BY

Aine / Creative
Commons

A decade ago, energy conservation was widely viewed as the 'low-hanging fruit' of clean energy policy in North Carolina, the cheapest and easiest way to reduce fossil fuel consumption and cut pollution.



Now, experts say too much of that fruit is rotting on the ground.



EPC Recommendations by Committee:

- Energy Infrastructure: 5
- Energy Assurance: 2

Energy Efficiency:
22 related to buildings
5 for transportation



Market Development Categories

2019 Activities

Let's rank them – where would you like to focus?

- **Workforce Development:** apprenticeships, internships and co-ops, diversity/equity/inclusion, technical continuing education.
- **Consumer Education:** building energy efficiency and performance resources for all building owners and operators.
- **Market Valuation:** improving the financial return and value of building energy efficiency/performance products and services.
- **Policy & Legislation:** improving the policy and regulatory environment via utilities, codes, incentives and more.
- **Organizational Collaboration & Partnerships:** better together! ¹⁹



Workforce Development

Why an Honors Student Wants to Skip College and Go to Trade School

As worries about student debt rise, states and businesses increasingly push faster, cheaper paths to the workplace; parents are stumped



Industry Workforce Development Summit

A public-private partnership event to bolster educational resources and career opportunities in NC's building performance industry



Angela Carace left a successful career in barbering to start her own construction business and enrolled in the Building Construction Technologies program at Central Carolina Community College (CCCC). On the first day of class, she was surprised to learn that...

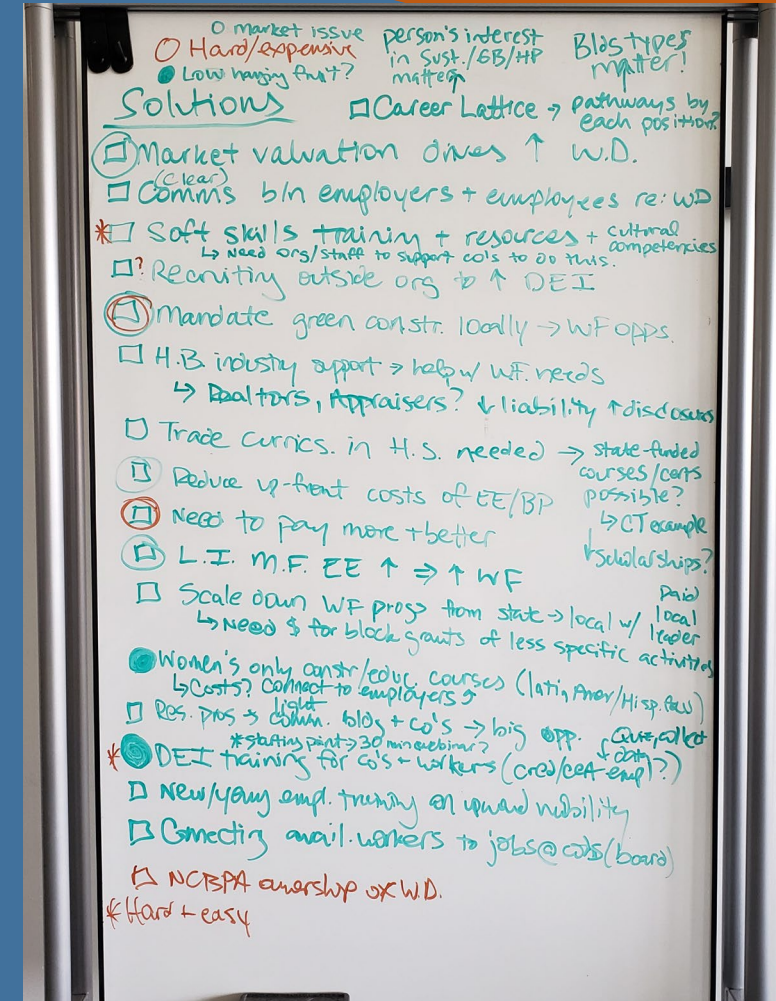


Attend the Summit in September in Raleigh to participate in:

- Developing new career pathways for industry trades
- Defining new apprenticeship program requirements
- Connecting faculty and educators from across the state
- Learning from students and emerging professionals
- Engaging state and local government leaders
- Highlighting success stories and sharing best practices

Registration, date and location coming soon...

2018 Summit



2019 Activities

Our 2019 workforce development activities include:

- **Educating industry pros** through our newsletter and events.
- Developing **Career Pathways** resources for students, parents, faculty and industry professionals.
- Supporting faculty and systems adding or increasing building performance **curricula, courses and programs**.
- Developing and promoting **internships and co-ops** with industry companies.
- Developing **Apprenticeship programs** specific to building energy efficiency and performance.
- Improving **diversity, equity and inclusion** in our workforce.

Career Path: Commissioning Agent

Education

Advanced
|
Industry
Credentials
|
4-Year
College
|
2-Year
College
|
Technical/
Vocational
|
High School



Experience

Executive
|
Manager
|
Foreman
|
Entry Level
|
Assistant
|
Apprentice
|
Pre-
Apprentice
|
Co-op
|
Temp/
Part

Apprenticeship Programs

High Performance Home Design Professional



Home Energy & Performance Contracting Technician

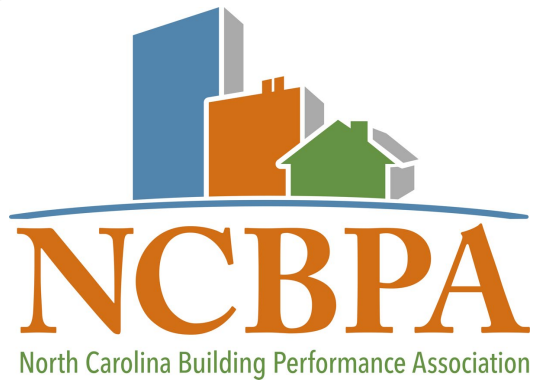


High Performance Building Design Professional



Building Energy & Performance Contracting Technician



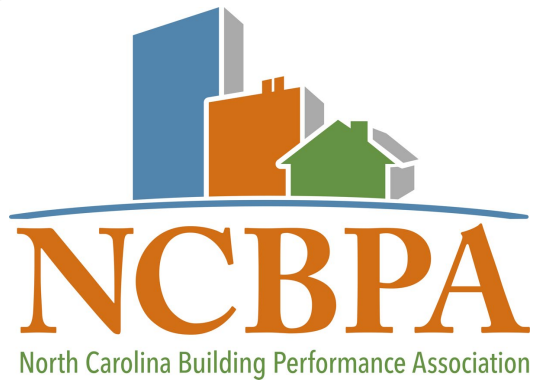


Consumer Education

2019 Activities

Our 2019 consumer education activities include:

- Launching www.BuildingPerformanceNC.org as a free resource for building owners and operators to learn and take action.
- Improving our current www.HomeEnergyNC.org website.
- Offering workshops to employees of industry companies, local governments and others on improving home energy efficiency.



Market Valuation

2019 Activities

Our 2019 market valuation activities include:

- “Greening” NC’s metro-area residential Multiple Listing Service (MLS) systems with energy efficiency and performance data.
- Studying NC’s commercial market for sale price and appraised value of high performance features and certifications.
- Educating realtors, lenders and appraisers on the added value of high performance homes and buildings.
- Creating videos and sharing case studies that educate building owners and operators about their options for high performance construction.



2019 Legislative Session Priorities

2019 Priorities

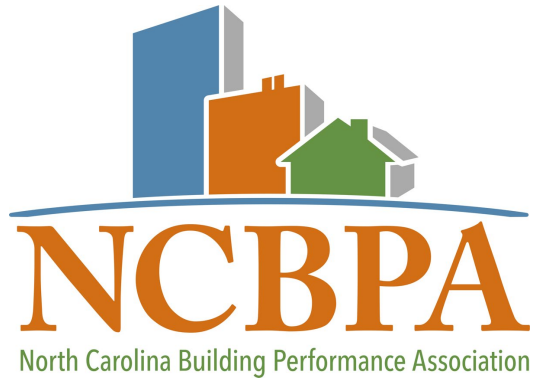
Our 2019 legislative session priorities include:

- Adding an Energy seat to the NC Building Code Council (BCC).
- Increasing the energy and water savings goals for public buildings (non-Cabinet, in addition to EO #80).
- Requiring all utilities to increase EE as a % of annual sales.
- Modifying the existing commercial & industrial opt-out allowance.
- Improving Building Code Council energy education and improving minimum energy code requirements.
- Supporting implementation of the Gov's Executive Order #80.

2019 Opportunities

Additional opportunities NCBPA is pursuing include:

- Energy code improvements (exemptions for residential garages and commercial buildings additions).
- Development of a new State Energy Plan that prioritizes EE.
- Licensure coming to high performance trades.
- Incorporating EE and performance into resiliency and disaster preparedness efforts, requirements and code.
- Energy, water and performance benchmarking and disclosures (maybe via industrial opt-out).
- Enabling Commercial PACE financing.



Utility Policies and Regulations

Opportunities underway in NC include:

- Increasing requirements and goals
- Removing regulatory hurdles to energy saving programs
- Extending the benefits credited to energy efficiency through modernized cost effectiveness testing

Utility Goals & Mandates

NCBPA is drafting legislation to require regulated and non-regulated utilities to invest in energy efficiency.

For regulated utilities:

- 2022: 2% of 2021 NC retail sales (currently ~1%)
- 2025: 3%
- 2028: 4%
- 2031 and thereafter: 5%

Utility Goals & Mandates

How do we write this?

- Regulated utilities, co-ops and munis possible?
- 5% of what? Electric or gas? Impact of renewables?
- How to measure the savings? Kwh? BTUs? Energy intensity?
- Can/should cost-effectiveness overhaul be included?
- What's the impact on Duke's IRP goals for EE?
- Where does Dominion fit in?

C&I Opt-Out Allowance

Through NC REPS:

- Eligible non-residential customers may opt out of either or both rates if they have their own DSM and EE programs.
- Commercial customers with annual consumption of 1,000,000 kWh or greater and all industrial customers may apply.
- “Industrial energy saving activities are happening in NC, we just don’t know where, how or how much.”
- ~50% of firms comprising 25% of NC’s energy opts out?
- Firms have to let Duke know if they opt-out and attest tht they will still do EE.
- Industrial firms concerned that disclosing their EE activities publicly harms their competitiveness.

C&I Opt-Out Allowance

Changes to this regulation may include:

- A requirement that industrial users report EE activities to state agency to *affirm* they are taking action, but not disclose publicly what the action is.
- Creating more narrow scopes for industrial firm categories – e.g. “industrial firms” narrowed to business or building types with different provisions for size, energy usage, etc.
- Allowances that support firms’ needs for a 2-year payback, support resources to do the work, etc.

Cost Effectiveness Testing

Overview of the NSPM

Published 2017 by National Efficiency Screening Project



Purpose of cost-effectiveness testing

What it is

What it is not

- Does not set or change overall C&LM program budgets
- Does not set values for incentives, e.g. it does not dictate the “price” of what the C&LM will pay for the measures
- Is not dependent on funding source (i.e., test itself does not change based on source of funding for C&LM programs)

Connecticut Department of Energy and Environmental Protection

Goal of NSPM

- The goal of the NSPM is to provide a framework for the development of a utility system's policy goals.
- A utility system's policy goals should be developed in a way that is consistent with the state's policy goals.

Implementing the National Standard Practice Manual Principles Involves Seven Steps

Step 1	Identify and articulate the jurisdiction's applicable policy goals.
Step 2	Include all utility system costs and benefits.
Step 3	<i>Decide which additional non-utility system costs and benefits to include in the test, based on applicable policy goals.</i>
Step 4	Ensure the test is symmetrical in considering both costs and benefits.
Step 5	Ensure the analysis is forward-looking, incremental, and long-term.
Step 6	<i>Develop methodologies and inputs to account for all impacts, including hard-to-quantify impacts.</i>
Step 7	Ensure transparency in presenting the analysis and the results.



Where we are:

- Duke's regulatory staff and advocates agree that current EE cost effectiveness testing protocols are about 20 years outdated.
- The National Standards Practice Manual (NSPM) offers a very clear roadmap for modernizing the protocols.
- NCUC and/or Duke Energy can elect to take up this issue.
- OR, legislature can require it.

Cost Effectiveness Testing

Through Duke's Energy Efficiency Collaborative:

- Advocates are supporting EE program improvements.
- Cost effectiveness testing is at the root of it.
- NCBPA performing contractor survey for program feedback.



Public Buildings and 2003's SB 668

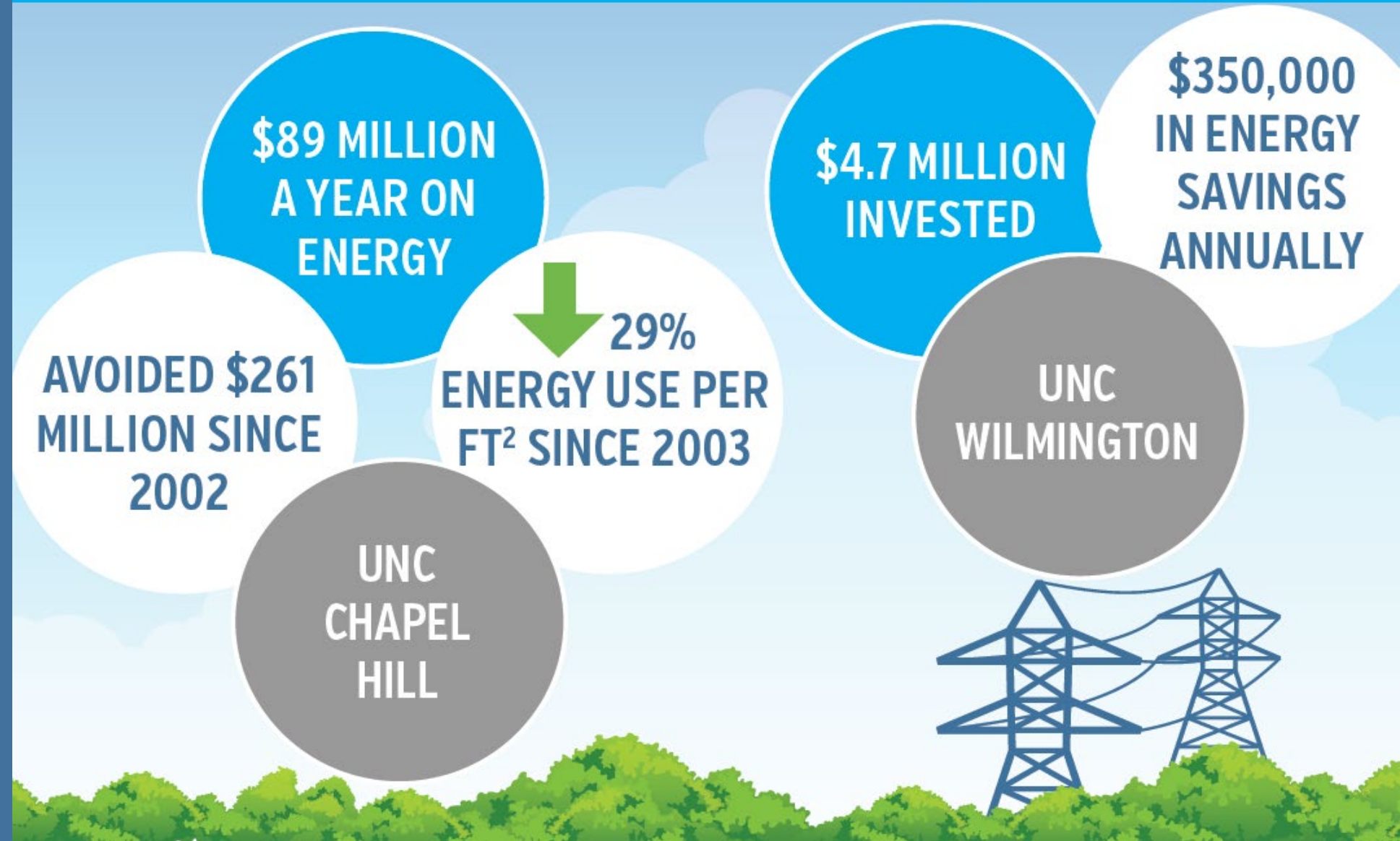
Since 2003:

~ \$60 M state funds

More than \$1.3 B in energy and water savings

Taxpayers fund and benefit

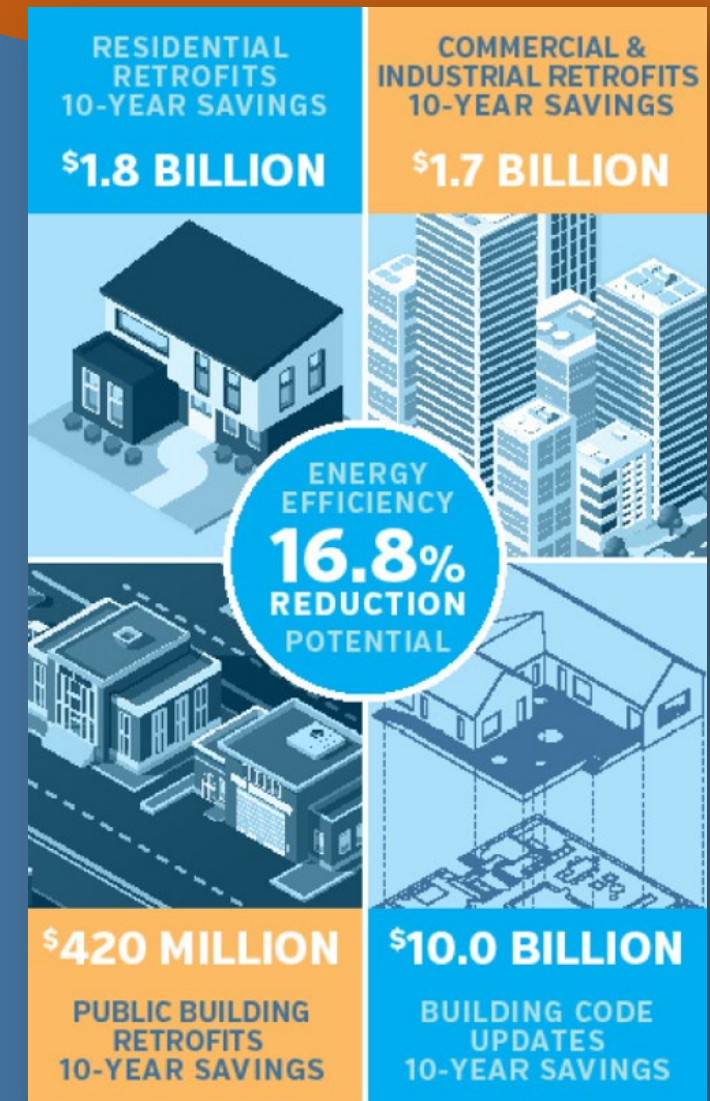
Utility Savings Initiative



What's the Potential?

Our study found 10-year energy savings of:

- \$420 M for public building retrofits



SB668 Updates

Our updates to this legislation will:

- Extend the energy and water savings goals to 40% and 30% by 2025.
- Change the reporting period back to one year.
- Implement energy saving goals and opportunities for state-leased buildings.
- Re-align baseline dates for energy savings targets.
- Add requirements or incentives to increase participation.



Building Code Council Members

North Carolina Building Coded Council

Committees of the Council

January 5, 2017

Building Code Council Members

Administration Dan Tingen-Chair Steve Knight, PE-Vice Chair Keith Rogers, PE Ralph Euchner Robbie Davis Wayne Hamilton David Smith Wade White, PE Leon Skinner	Energy Committee Ralph Euchner-Chair David Smith Frankie Meads Mack Paul Steve Knight Eric Tjalma Tony Conner Tony Sears
Building Committee Robbie Davis-Chair Daniel Priest Tony Conner Tony Sears Wayne Hamilton Steve Knight, PE Eric Tjalma Leon Skinner	Fire Prevention Wayne Hamilton-Chair Robbie Davis Daniel Priest Ralph Euchner Wade White, PE Leon Skinner Tony Conner
Electrical Committee Wade White, PE-Chair Keith Rogers, PE Daniel Priest Tim Fowler Mack Paul Ralph Euchner	Mechanical Committee Keith Rogers, PE-Chair David Smith Tim Fowler Mack Paul Eric Tjalma Wade White Ralph Euchner Keith Hamilton

Chairman: Robbie B. Davis
(General Contractor)
Turn-Key Contractors, Inc.
5998 Dortches Boulevard
Rocky Mount, NC 27804
Ph: 252-977-6680 ext. 31
Mobile: 252-813-1508
Fax: 252-442-1126
rdavis1352@aol.com
Term Expires: 2021

Charles Conner, RA
(Architect)
HagerSmith Design
300 South Dawson Street
Raleigh, NC 27601
Ph: 919-838-5104
tconner@hagersmith.com
Term Expires: 2022

Ralph Euchner
(Gas Industry)
PSNC Energy
P.O. Box 1398
Gastonia, NC 28053
Ph: 704-810-3331
Fax: 704-810-3330
reuchner@scana.com
Term Expires: 2019

Wayne Hamilton
(Fire Services)
Buncombe County
270 Upper Herron Cove Road
Weaverville, NC 28787
Mobile: 828-778-0120
railman1959@aol.com
Term Expires: 2021

Steve Knight, PE
(Structural Engineer)
Steve L. Knight, PE
1507 Mt. Vernon Avenue
Statesville, NC 28677-3539
Ph: 704-878-2996
steveknightspe@bellsouth.net
Term Expires: 2021

Vice Chairman: Daniel Priest
(Architect)
Priest Architecture
P.O. Box 5295
Charlotte, NC 28299
Ph: 704-379-1810
Fax: 704-379-1910
priestarchitect@bellsouth.net
Term Expires: 2022

Gary Embler
(Home Builder)
Niblock Homes
759 Concord Pkwy N, Ste 20
Concord, NC 28057
Ph: 704-920-7115
gembler@niblockhomes.com
Term Expires: 2023

Keith Hamilton
(Plumbing and Heating Contractor)
Element Service Group Mechanical, LLC
1108-B Nowell Rd.
Raleigh, NC 27607
Ph: 919-926-1475
keith@callelement.com
Term Expires: 2019

Bridget Herring
(Public Representative)
Energy Program Coordinator
P.O. Box 7148
Asheville, NC 28802
Ph: 828-484-4852
herring.ncbcc@gmail.com
Term Expires: 2023

Frank Meads
(County Government Representative)
Albemarle Builders Supply, Inc.
P.O. Box 1546
Elizabeth City, NC 27906-1546
Ph: 252-335-4343
Fax: 252-335-5124
albemarlebuilders@usa.com
Term Expires: 2022

Building Code Council Members

Robert Brian Morrow
(Electrical Contractor)
P.O. Box 1121
Pilot Mountain, NC 27041
Ph: 336-420-7231
bobmorrow342@gmail.com
Term Expires: 2019

Tony W. Sears
(Municipal Government Representative)
City Manager
P.O. Drawer 339
Kinston, NC 28502
Ph: 252-939-3111
Fax: 252-939-3388
tony.sears@ci.kinston.nc.us
Term Expires: 2022

David Smith
(Coastal Contractor)
D. Smith, Builder
905 Saltwood Lane
Wilmington, NC 28411
Ph: 910-681-0394
dsmith16@earthlink.net
Term Expires: 2022

J. Wade White, Jr., PE
(Electrical Engineer)
Brite Engineering
2001 Old Westfield Road
Pilot Mountain, NC
Ph: 336-351-3781
Fax: 704-335-0399
wade@briteengineering.com
Term Expires: 2019

Keith Rogers
(Mechanical Engineer)
Bass, Nixon and Kennedy
6310 Chapel Hill Road, #250
Raleigh, NC 27612
Ph: 919-851-4422
Fax: 919-851-8968
keith.rogers@bnkinc.com
Term Expires: 2021

Leon Skinner
(Building Inspector)
City of Raleigh
1 Exchange Plaza, Suite 500
Raleigh, NC 27601
Ph: 919-996-2455
Fax: 919-996-1831
rlskinner2007@gmail.com
Term Expires: 2021

Eric Tjalma, RA
(State Agency)
State Construction Office
301 N. Wilmington Street, Suite 450
Raleigh, NC 27601
Ph: 919-807-4097
eric.tjalma@doa.nc.gov
Term Expires: 2023

Member Education

There is an ongoing and increasingly important need to:

- Educate existing BCC members on clean energy and EE.
- Recommend appointees educated in CE/EE issues.
- Firm up BCC's role vs. legislative changes to code.
- Address discrepancies in education and data regarding up-front costs for EE vs. long-term consumer returns, value and improved affordability.

Adding Energy Seat

There is no “energy” industry pro on the BCC:

- Energy code continues to be most disputed and misunderstood in code development and change proposals.
- As clean energy and efficiency advances, who is the SME?

*Replace a
current seat OR
add two new
seats including
ours?*

Insert a new seat as number 17 (for a total of 18 seats), replace a current seat or add two additional seats, with one being this energy seat:

(17) One energy contractor or consultant involved in the design, development, installation or service of energy efficiency and renewable energy products and services.

Building & Energy Codes

Op-Ed: Maybe It's Time to Improve the Way We Build

[Ryan Miller](#) [Leave A Comment](#)



By: Steve

builder/developer and Board Member of the NCBA trade association representing

[Building and Energy Code](#) [More](#)

Pam Fasse Article on Stronger Building Code Bringing Long-Term Benefits

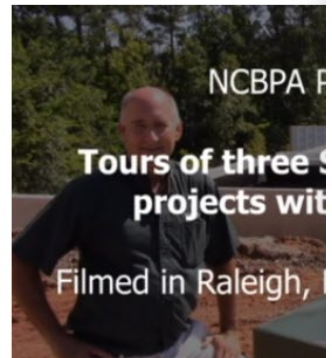
[Abby Coulter](#) [Leave A Comment](#)



Stronger Building Code in North Carolina

[NCBPA News](#)

Learn About High Performance Buildings



Join Dave Box of Superior Construction, a local project in Raleigh, NC. Filmed in Raleigh, NC. In this video, Dave Box, a contractor with helpful insights, describes the challenges his team encountered along the way and shares what he thinks all builders can learn from going Passive. In the second part of this video, Dylan Buonfrisco provides a highly technical tour of the home's foundation, interior walls, mechanical system, air sealing measures and much more.

Tour a Passive House REdesign.k



About the Workshop

Learn how to meet and exceed NC's new commercial energy code



[Home](#) [About](#) [Membership](#) [Learn & Participate](#)

2018 Commercial Energy Code Workshops

NCBPA offers educational workshops for architects, builders and developers, contractors, code officials and others on the new 2018 Commercial Energy Code. Learn how to comply with the new minimum code requirements and exceed them through energy efficiency and high performance design, installation, products and services! Scroll down for more information and contact us to schedule a workshop at your company or in your region!

Have questions or want to schedule a workshop? Please contact us at Info@BuildingNC.org or 919-841-6207.

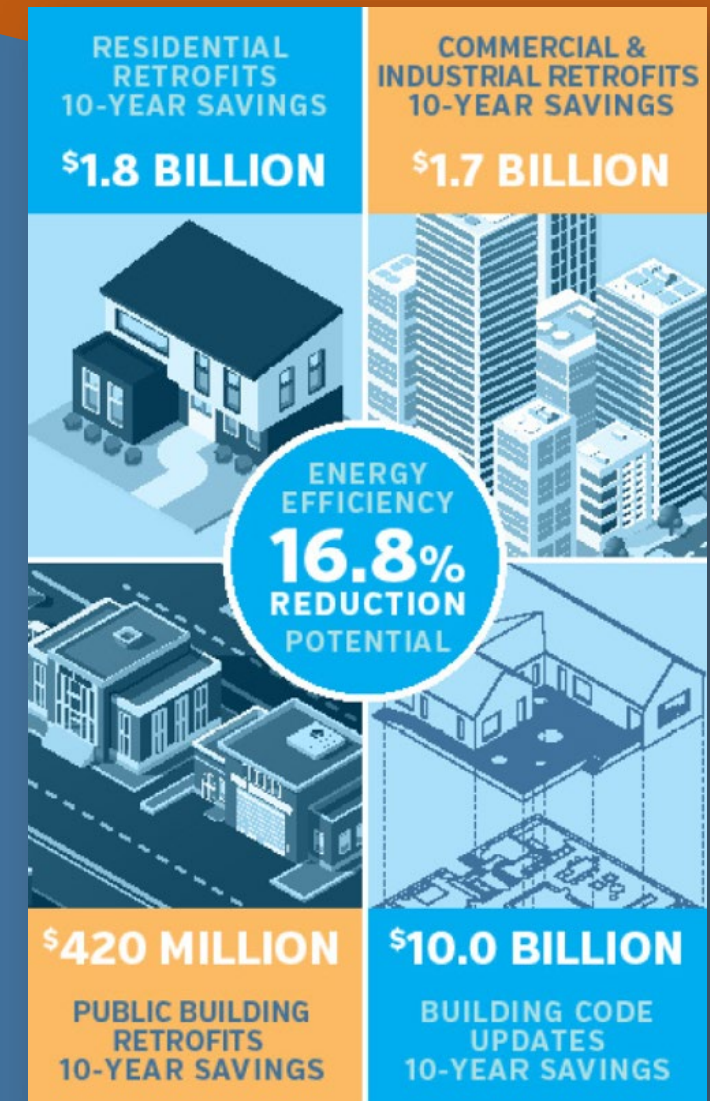
About the Workshop

Learn how to meet and exceed NC's new commercial energy code

What's the Potential?

Our study found 10-year energy savings of:

- \$10 B for new construction code updates



Energy Code

On January 1st, NC started using the new 2018 NC Codes:

- Residential and commercial energy code ~ 2012 IECC
- Developed in 2016 – 2018 by NC Building Code Council and Energy Ad Hoc Committee
- Small increase in residential EE requirements: \$1 to \$3 monthly mortgage cost to homeowners (for builder's \$204 to \$611 cost) yields \$7 to \$9 monthly energy savings.
- Mostly regulatory changes in commercial.

General *opportunities* with energy code:

- Introduce benchmarking/disclosures via state code or local ordinances.
- Increase code official education requirements.
- Improve development and adoption alignment with IECC.
- Improve code appendices in place of full code updates.
- For public buildings, improve EE in State Construction Manual.

Now is the opportunity to begin advancing:

- Solar-ready roof requirements for viable homes and buildings.
- EV and storage-ready electrical connection requirements for viable homes and buildings.
- Up-front cost and safety requirements will be challenged.
- What requirements does our industry want to see?

Commercial Property Assessed Capital Expenditures (C-PACE):

- Drafted in December 2016, introduced in 2017.
- Active bill in Senate Rules with Republican sponsorship.
- Current barrier: Treasury believes the program is unconstitutional.
- NCBPA has \$15k fundraising goal to pay for attorney review and recommendation to Treasurer's office to clear roadblock.



Organizational Partnerships

Partnerships

Industry organizations need to work together to:

- Cross-promote events and share each others' news.
- Reduce organizational memberships (and their fees).
- Work together on policy initiatives that some orgs can work on and others can't.
- Support a collaborative need to address workforce development challenges and resources.
- Improve clarity with building owners and operators on the many variations of best practices, standards and certifications.



**How Will We Be
Successful?**

Economic Benefits

A 16.8% increase in EE investment would:

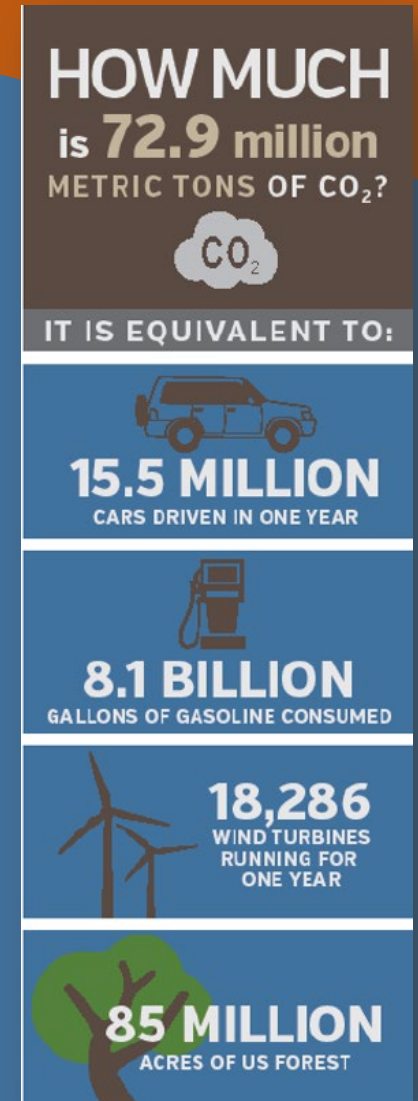
- Create more than 50,000 local jobs
- Increase tax revenue by \$2.5 B
- Add 250 new firms (or grow existing firms)
- Save NC \$13.9 B in energy bills



Environmental Benefits

A 16.8% increase in EE investment would:

- Offset 72.9 M metric tons of CO₂
- Reduce emissions of 15.5 M cars driven for 1 year
- Reduce gasoline consumption by 8.1 B gallons
- 10-year EE carbon reduction = 18,286 turbines running for one year
- Save 85 M acres of NC forest





Ryan Miller

919-521-3385

Ryan@BuildingNC.org

Membership info:

www.BuildingNC.org