Better Buildings Through

**Energy Performance Contracting:**

*following a path to guaranteed energy savings*
Partnership

Public
- School
- City/County
- Hospital

Private
- ESCOs
- Financing

CEO’s EPC
- Engineers
- Tools
Energy performance contracting (EPC)

- Annual utility costs before EPC
- Identified annual savings guaranteed by ESCO
- During EPC financing period—savings pay the loan
- After financing period—savings are yours!
The 5-step EPC process

MEASUREMENT & VERIFICATION

- ENERGY PERFORMANCE CONTRACT
- FINANCING CONTRACT
- CONSTRUCTION

INVESTMENT GRADE AUDIT + PROJECT PROPOSAL CONTRACT

SELECTION OF A PRE-QUALIFIED ESCO

CLIENT COMMITMENT: (1) Build your team, (2) Sign MOU with CEO
The key elements of success with EPC

- **Standardized, state-approved documents**
  - Developed by consensus, and approved by State Architect + AG + Controller
  - Toolkits, contracts, guidance, protocols on website

- **Pre-qualified ESCOs**
  - Engineering capacity and organizational strength
  - ESCOs contracted with the State

- **CEO advice and technical support**
  - MOU outlining CEO support
  - Dedicated engineer throughout life cycle of project

- **Private market-based financing**
  - Active EPC finance community in CO
The results, through FY17

PUBLIC SECTOR EPC PROGRAM RESULTS as of June 30, 2017

<table>
<thead>
<tr>
<th>Facility investments</th>
<th>$546,416,348</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executed projects</td>
<td>199</td>
</tr>
<tr>
<td>Public clients</td>
<td></td>
</tr>
<tr>
<td>State agencies</td>
<td>8/18</td>
</tr>
<tr>
<td>Higher education</td>
<td>18/26</td>
</tr>
<tr>
<td>Counties</td>
<td>23/64</td>
</tr>
<tr>
<td>School districts</td>
<td>55/179</td>
</tr>
<tr>
<td>Municipalities</td>
<td>32/271</td>
</tr>
<tr>
<td>Special districts</td>
<td>9/??</td>
</tr>
<tr>
<td>Public buildings</td>
<td></td>
</tr>
<tr>
<td>Square feet improved</td>
<td>2525</td>
</tr>
<tr>
<td></td>
<td>80.6 million sf</td>
</tr>
</tbody>
</table>

Office space, schools, housing, libraries, jails, hospitals, street lighting, water & wastewater facilities, swimming pools, ball fields

<table>
<thead>
<tr>
<th>GUARANTEED ANNUAL UTILITY SAVINGS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity (kWh)</td>
<td>180.6 million</td>
</tr>
<tr>
<td>Natural gas, propane,</td>
<td></td>
</tr>
<tr>
<td>heating oil &amp; coal (therms)</td>
<td>9.9 million</td>
</tr>
<tr>
<td>Water (kgal)</td>
<td>506,189</td>
</tr>
<tr>
<td>Utility cost savings</td>
<td>$32.8 million</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ENERGY + WATER CONSERVATION MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>HVAC improvements</td>
</tr>
<tr>
<td>Boiler replacements</td>
</tr>
<tr>
<td>Pumps, fans &amp; drivers</td>
</tr>
<tr>
<td>Equipment controls</td>
</tr>
<tr>
<td>Lighting fixtures &amp; controls</td>
</tr>
<tr>
<td>Occupancy sensors</td>
</tr>
<tr>
<td>Operations &amp; scheduling</td>
</tr>
<tr>
<td>Building envelope improvements</td>
</tr>
<tr>
<td>Water efficiency (low flow fixtures,</td>
</tr>
<tr>
<td>irrigation, evapotranspiration &amp;</td>
</tr>
<tr>
<td>cooling tower controls, ice machine</td>
</tr>
<tr>
<td>&amp; laundry conversions, pool covers,</td>
</tr>
<tr>
<td>valve replacements)</td>
</tr>
<tr>
<td>Street &amp; traffic lights</td>
</tr>
<tr>
<td>Renewable energy installations</td>
</tr>
</tbody>
</table>

CEO
Energy Office
Energy Performance Contracting
IECC Codes

*Map does not indicate which counties have heavily amended codes, nor does it represent the code for every town or city, which may differ from the county code in which it resides.
Code Training and Technical Assistance

- Review existing codes & policies
- Educate on major code changes
- Provide training classes to code officials, building departments
- Serve as subject matter expert at public meetings
- Provide recommendations on proposed code amendments
Residential Financing: Colorado RENU Loan

- **Residential ENergy Upgrade Loan**
- Launched October 2017
- Financing for homeowners to make energy improvements to existing homes (efficiency and solar)
- Loans from $500 to $35,000 and 15-year terms
- Partnership between CEO and Elevations Credit Union
- Contractor-driven model
RENU Loan Process at-a-glance

1. **Credit Approval**
   - Borrower seeks financing from lender.

2. **Project Approval**
   - Lender/RENU approve project.

3. **Complete Project**
   - Contractor completes project; submits final paperwork.

4. **Closing and Funding**
   - Borrower closes loan; contractor is paid for project.
RENU Loan

• 25 authorized contractors statewide
  – Solar contractors serve 48% of state
  – Energy efficiency contractors serve 53% of state

• First 2 loans closed in December; more in queue

For more information or to schedule a training or event in your area, please go to www.corenuloan.com
Agricultural Energy Efficiency (AgEE) & Energy Savings for Schools (ESS)
Agriculture & Energy
Colorado AgEE Program: Statewide

- Enroll 200 producers over 3 years
- Program Participants receive:
  - Phase I
    - No cost energy audit
    - Renewable energy site assessment
    - Technical support
  - Phase II
    - Access to financial assistance (CDA, USDA, utility rebates)
    - Implementation support and verification
K-12 schools spend more on energy than on computers and textbooks combined.

Average age of school buildings is 42 years.

US EPA estimates that K12 schools waste 30% of energy through inefficient buildings.
ESS Program Components

Progress-based
- MOU
- Audit/Assessment
- Technical Support
- Implementation Support
- Verification

Ongoing
- The Exchange

Flexible
- Energy Coaching
- Energy education

Annual
- Gathering/Recognition Event
Participating Schools

Year 1

Year 2

Number of schools assessed

- Moffat High School
- South Routt RE-3
- County
- Estes Park High & Middle School
- Gilpin County School District
- Roaring Fork High School
- Aspen Elementary
- Ridgway School District
- Sunnyside Elementary
- Stukey Elementary
- Gilpin County School District
- Windsor High School
- Platte Valley
- Weld RE-8
- Federal Heights Elementary
- Legacy Academy
- Peyton High School
- Atlas Preparatory School
- Kit Carson School District
- Wiley School District
- Jefferson Intermediate
- La Junta
- La Veta Elementary
Commercial PACE
Property Assessed Clean Energy
Colorado C-PACE: Background

• **C-PACE** is a voluntary tax assessment-based, private financing program
  – Commercial sector, including office, retail, industrial, agricultural, multifamily, etc.
  – Supports energy and water improvements that lead to utility cost savings

• **New Energy Jobs Act (32-20-101 et seq.)** enabled creation of C-PACE
  – Established the New Energy Improvement District (NEID) - Statewide District
  – NEID is to be governed by a Board of Directors from various industries, including banking, real estate, energy, etc.
  – Board’s responsibilities include:
    • Establishing program rules
    • Drafting program paperwork
    • Implementing program framework
    • Overseeing and managing the District/C-PACE on an ongoing basis
A wide variety of properties have used PACE to finance a wide variety of improvements.
Value Proposition

- Finance 100% of project costs
- Longer duration financing = cash flow positive projects that increase NOI
- Avoid unplanned capital investments
- Addresses “split incentive” under some scenarios
- Assessment/lien transfers with the property

Critical Components

- Statewide District
- Voluntary “opt-in” structure (counties)
- Mortgage-holder consent required
- Financing provided by the private sector
- New Construction projects are eligible
County Participation

Participating Counties (19)
• Boulder
• Adams
• Broomfield
• Jefferson
• Denver
• Arapahoe
• Eagle
• Pitkin
• Garfield
• Pueblo
• Routt
• Lake
• Delta
• Fremont
• Montezuma
• Montrose
• San Miguel
• Gunnison
• Weld

**Commercial Building Coverage by County Status**

- Participating: 14,276 (64%)
- In Discussion: 5,888 (27%)
- Unknown: 1,947 (9%)
Project closings are accelerating

- Thirteen (13) projects completed to-date
- ~$15.1M cumulative financing

Significant deal-flow in the pipeline

- 462 projects have been prescreened
- 56 projects are in active development, representing ~$85.0M of projects