



***Commercial Property Assessed Clean Energy
Green Building Lecture Series***

***Presented by
Tracy Phillips, CEM, CDSM, CMVP
Director, Colorado C-PACE Program***

Administered by:



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C-PACE Background

- **Structure:**
 - Statewide “District” enabled by CO legislation
 - Counties voluntarily opt-in to the District
 - Projects financed through private capital
 - Designed to be self-sustaining (2.5% fee on closed projects)
- **Program Sponsor:**
 - New Energy Improvement District (NEID)
 - 7 NEID board members, incl. CO Energy Office

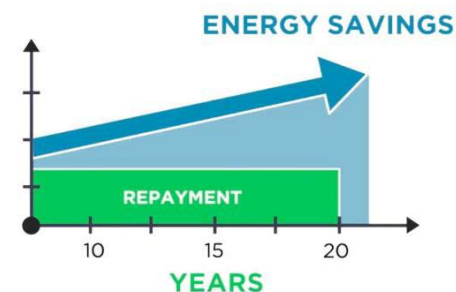
What is C-PACE?

- **New Way financing that provides C&I building owners a smarter way to modernize their buildings:**
 - 100% financing (no out-of-pocket expense, i.e. includes soft & hard costs)
 - Long term (up to 25 years, not to exceed the weighted EUL of eligible improvements)
 - Lower energy costs
 - Combine with utility, tax, and economic development incentives
 - No personal guarantees
 - Special purpose assessment (akin to sewer assessment)

How C-PACE Works

C-PACE is a voluntary tax assessment-based, private financing program

- Building owners choose to install eligible EE, water efficiency and RE improvements
- Costs are spread over periods of up to 25 years
- Repayment via a “special assessment” recorded on the property
- Goal: Energy savings \$\$ > the PACE payments, creating cash flow positive projects
- Repayment obligation can transfer to new owner upon sale

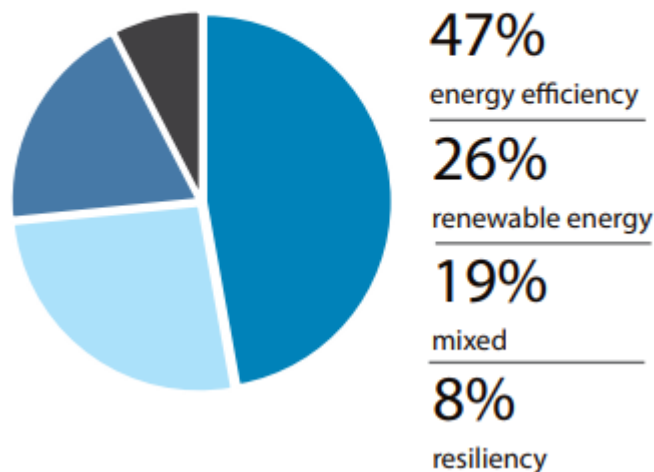


Historical C-PACE Projects

- C-PACE serving broad range of C&I property types & project sizes

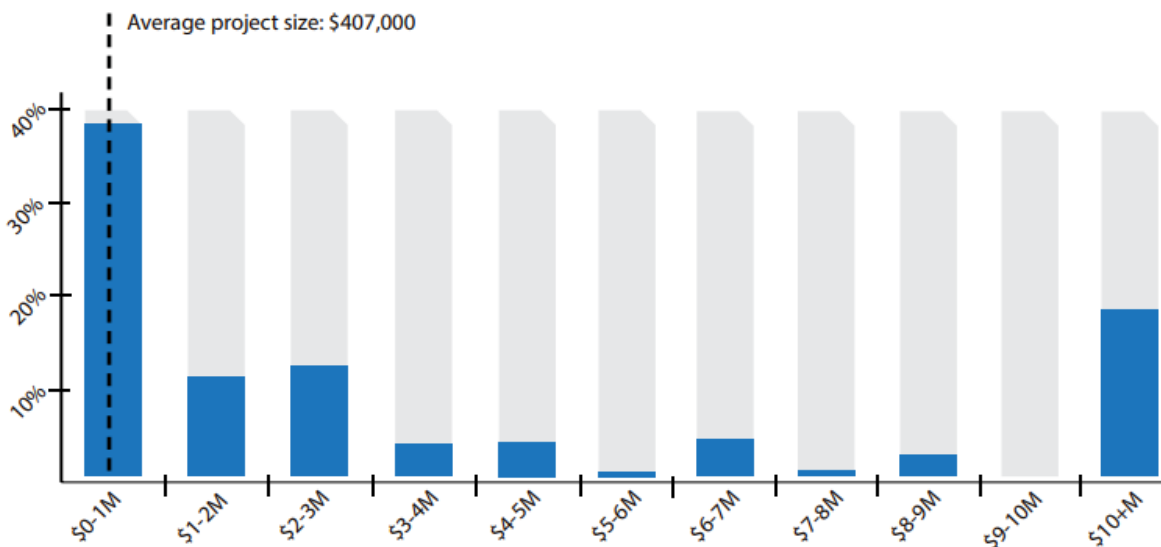
Improvement types

(by \$ funded)



Project sizes

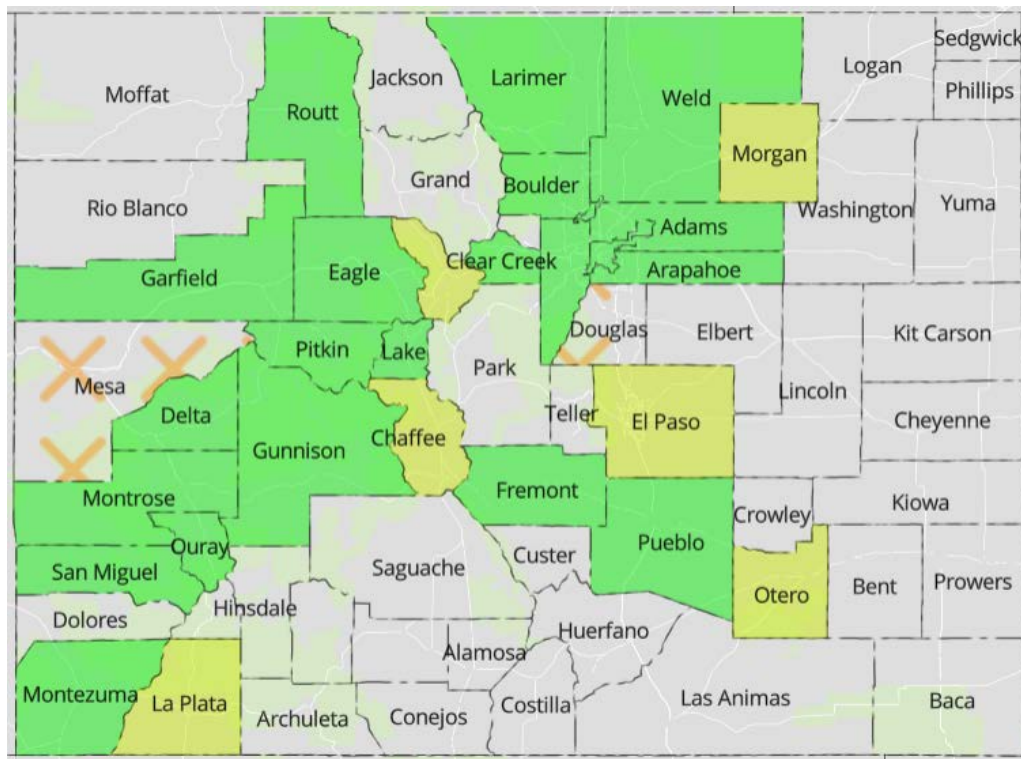
(by \$ funded)



* Courtesy of PACENation

C-PACE Program Structure

■ Counties must opt-in to participate in the C-PACE statewide “District”



■ PARTICIPATING COUNTIES:

- Adams
- Arapahoe
- Boulder
- Broomfield
- Clear Creek
- Delta
- Denver
- Eagle
- Fremont
- Garfield
- Gunnison
- Jefferson
- Lake
- Larimer
- Montezuma
- Montrose
- Ouray
- Pitkin
- Pueblo
- Routt
- San Miguel
- Weld

■ IN-DISCUSSION COUNTIES:

- Chaffee
- El Paso
- La Plata
- Morgan
- Otero
- Summit

- **County Servicing Fee:** to cover semi-annual billing, collections & remittance services
 - Up to 1% of PACE annual assessment amount, included on owners property tax bill

What's Eligible?

■ Eligible Property Types (C&I)

- Office
- Retail
- Hotel
- Industrial
- Agricultural
- Healthcare
- Non-profit
- Multifamily (5+ units)

■ Eligible Improvements (examples)

- Automated building controls
- Boilers, chillers & furnaces
- Building envelope (insulation, windows)
- Combined heat & power (CHP)
- High efficiency lighting
- Hot water heating systems
- HVAC upgrades & controls
- Solar PV systems (roof upgrade)
- Pumps, motors, drives
- Green roofs / cool roofs
- Elevator modernization
- EV charging stations



Colorado Commercial Property
Assessed Clean Energy



COLORADO
Energy Office

What Else is Eligible?

- **Costs related to eligible improvements** (Examples)
 - Engineering studies
 - Energy audits
 - Renewable energy feasibility studies
 - Equipment extended warranties (e.g. PV system inverter extended warranty)
 - Roof upgrades (e.g. associated with rooftop solar PV systems)
 - Building structural reinforcement (support rooftop installations)
 - Environmental clean-up (e.g. asbestos removal for new boiler installation)
 - Maintenance contracts (up to five years)
 - Finance closing costs
 - Program administration fee (2.5% of projects costs, capped at \$50,000)

C-PACE Program Structure

- **C-PACE is designed as an “open source funding model”**
 - Prequalified private Capital Providers fund eligible projects
 - No public funds are used to finance projects
- **Owner may choose a preferred capital provider upfront, OR**
- **Program Administrator can review pre-approved projects with qualified capital providers to determine their funding interest**
 - Capital providers submit financing term sheets for owner decision

Qualified Capital Providers

- 29 capital providers pre-qualified, representing multiple sectors:
 - Community banks, credit unions, and PACE-specialty investors
 - Serving small to large property/project sizes in both existing building & new construction



Colorado LED Funding, LLC



Global Grid Financial Group



C-PACE Program Structure

- **C-PACE assessment requires written consent from mortgage holder**
 - C-PACE assessment lien has priority status akin to sewer assessment
- **Case to provide mortgage lender consent**
 - Increase owner's ability to repay mortgage (better NOI)
 - Increase building's value
 - C-PACE assessment is non-accelerating; i.e. in a default scenario only payments in arrears come due

CO Consenting Mortgage Holders

- **18 consenting mortgage holders in Colorado to date**

▪ Access Point Financial	1 project	▪ First National Bank	1 project
▪ Alpine Bank	1 project	▪ Great Western Bank	1 project
▪ ANB Bank	2 projects	▪ Independent Bank	1 project
▪ Bank of Colorado	1 project	▪ Midfirst Bank	1 project
▪ Bellco Credit Union	2 projects	▪ Midland States Bank	1 project
▪ Citywide Banks	3 projects	▪ Mutual of Omaha	2 projects
▪ Colorado Business Bank	1 project	▪ Security Services FCU	1 project
▪ Colorado Structures Inc	2 projects	▪ UMB Bank	1 project
▪ First Bank	1 project	▪ Wells Fargo	4 projects



C-PACE for New Construction

- Building's baseline energy consumption based on 2015 IECC
- Energy savings credit is delta between code and proposed EE design
- C-PACE financing for 15% to 20% of total eligible new construction costs
- Enables building design to “push the envelope”
- Engage construction lender early in the process



Colorado Commercial Property
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CO C-PACE Program Update

- 36 projects financed; ~\$34.4M in project financing
 - 24 in 2018, ~\$24.8M (452% increase over 2017)
- Smallest project: \$60K; Largest project: \$7.1M
- Five new construction projects financed
- 22 counties opted into the program (>70% commercial bldg stock)
- 172 registered contractors; 29 registered capital providers
- Prescreened projects: 802
- Projects in “active” development: ~50 representing >\$100M

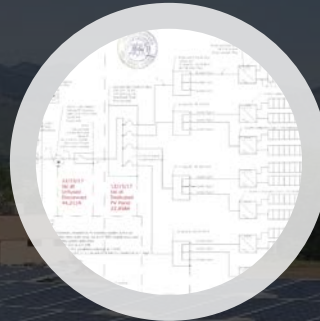


Solar PV & LED Case Study

- **Building: Multi-tenant office & warehouse**
- **Project: 100 kW Solar PV & lighting retrofit**
- **Amount financed: \$330,928; SIR 1.63, 20-year term**
- **Roof Replacement considered**
- **Excluded grower tenant from project**

Solar PV and LED Case Study

- System size reduced to 91 kW due to zoning issues
- Unused meter used to accommodate new system due to switchgear issues
- Additional bracers added to comply with City of Boulder wind requirements



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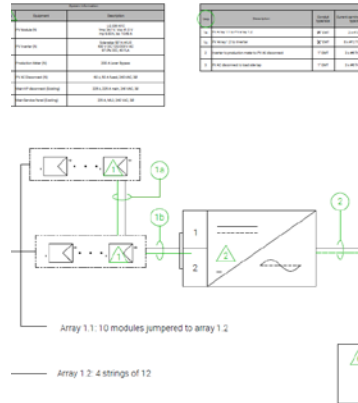


EE & Solar PV Case Study

- **Building:** Office for digital marketing & social media firm
- **Project:** 16 kW Solar PV; RTU replacement; RTU controls; exterior lighting
- **Amount financed:** \$333,798; SIR < 1 15-year term
- **Roof replacement**
- **EV charging stations**

EE and Solar PV Case Study

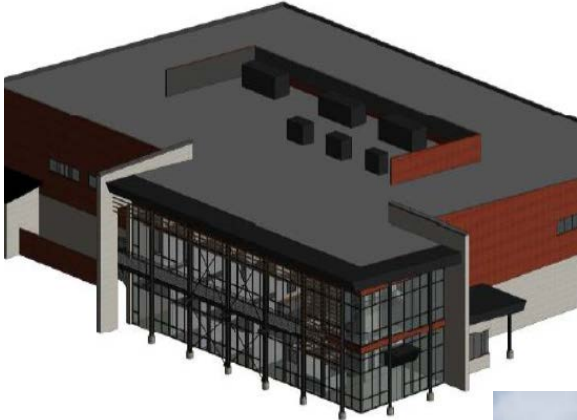
- Protective poles added around EV charging stations
- T-stats relocated
- System rebalanced by TAB contractor (overly warm/cold conference room)
- New diffusers installed to improve airflow





Large EE Case Study

- **Project: Two Large Commercial Office Buildings**
- **Amount financed: \$7,166,166; SIR 0.57, 20-year term**
- **Project: Energy management system; LED retrofit; RTU replacement; evap condensers; advanced metering (FDD); water efficiency**
- **Other measures included: LEED-EB**
- **37% energy reduction**



New Construction Case Study

- **Mayfly Outdoors corporate headquarters and manufacturing facility**
- **41,000 SF ground-up new construction**
- **Efficient VAV RTUs, split system AC, advanced controls, LED**
- **\$1M in C-PACE financing, 20-year term**
- **Complied with IECC 2015 (ASHRAE 90.1-2013)**

New Construction Case Study

- Evaporator fans on RTUs resized (smaller) by MEP from original design
- Air compressor waste heat used to heat manufacturing floor



NO.	DESCRIPTION	LOCATION	UNIT	WATTAGE	PHASE	WIRE	TERMINAL	WIRE	TERMINAL
1	EVAPORATOR FAN	RTU	1	1000	3	10	10	10	10
2	EVAPORATOR FAN	RTU	1	1000	3	10	10	10	10
3	EVAPORATOR FAN	RTU	1	1000	3	10	10	10	10
4	EVAPORATOR FAN	RTU	1	1000	3	10	10	10	10
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Contact Information

Tracy Phillips

Director

Colorado Commercial Property Assessed Clean Energy

720-933-8143

tphillips@copace.com

Ken Gallagher

Manager, Technical Support Services

Colorado Commercial Property Assessed Clean Energy

877-325-1882

kgallagher@copace.com

