

The logo for the Colorado Energy Office (CEO) is located in the bottom right corner. It features a green triangle with a white mountain peak and the letters 'CO' in white. To the right is a blue triangle with a white lightning bolt and the letters 'CEO' in white.

Colorado Energy Office
Energy-Water Nexus
NASEO

Michael Turner

Director

Commercial and Industrial Energy Service
Colorado Energy Office

Colorado Energy Office

Overview

Our Mission

To deliver cost-effective energy services and advance innovative energy solutions for the benefit of all Coloradans.



Colorado: Energy-Water Nexus

- Agricultural Energy Efficiency Program. Irrigation water management
- Energy Performance Contracting. Revised statute.
- Floating Solar. First project in Colorado. 5th in the Country.



Statewide AGEE Program

200 producers over 3 years

Program Participants receive:

➤ Phase I

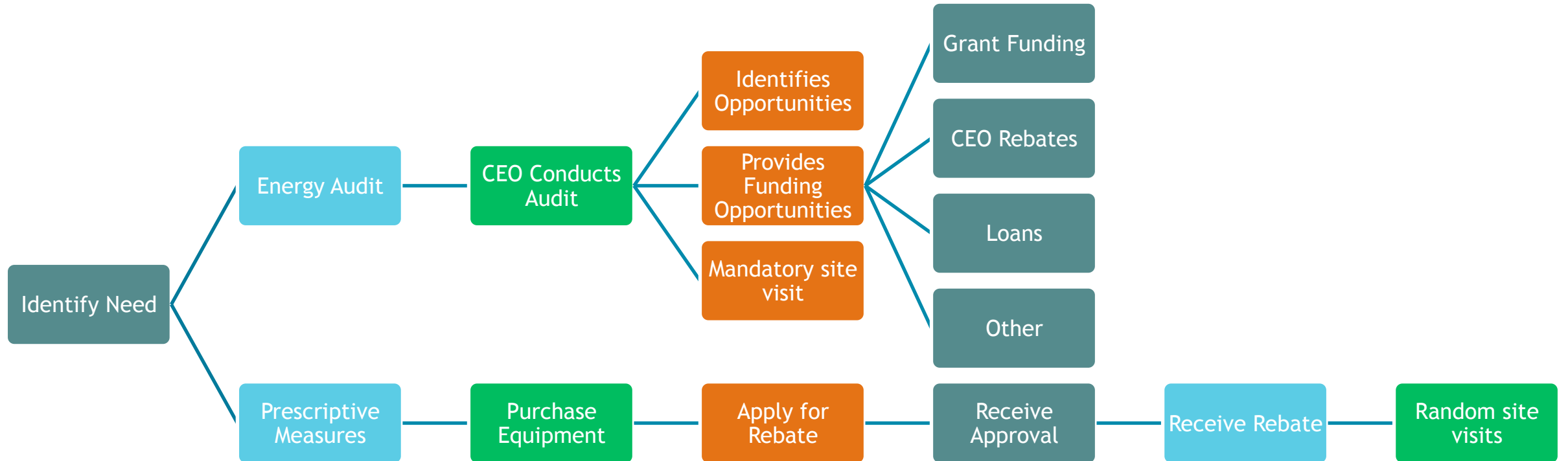
- **FREE energy audit**
- Renewable energy site assessment
- Technical support

➤ Phase II

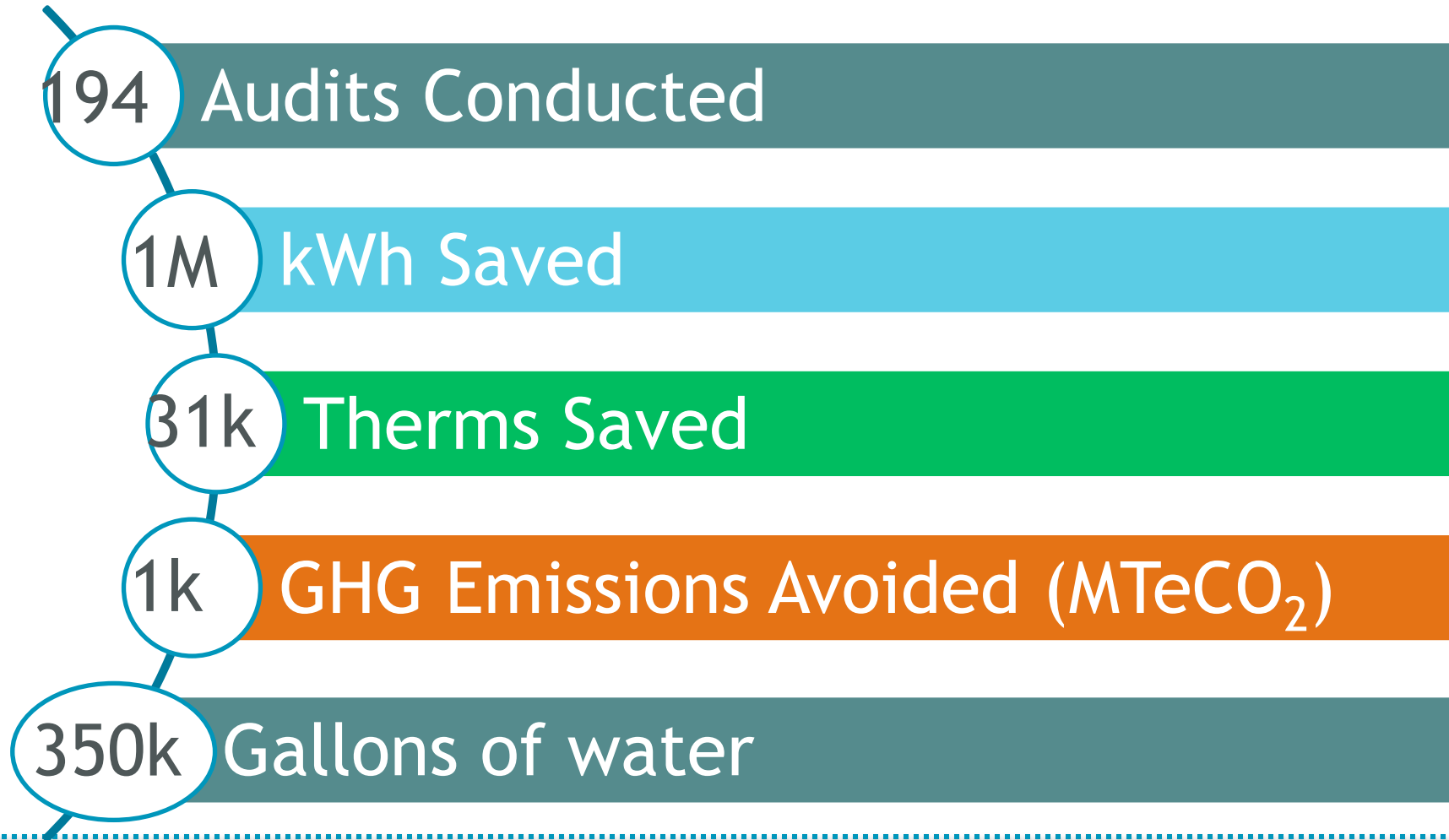
- Access to financial assistance (CDA, USDA, Utility rebates)
- Implementation support and verification



Program Design



Impact on Colorado





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Energy Performance Contracting Program
Colorado Energy Office

COLORADO STATUTES REGARDING ENERGY PERFORMANCE CONTRACTS FOR LOCAL GOVERNMENT

Colorado Statute:

TITLE 29 GOVERNMENT - LOCAL : ENERGY CONSERVATION ARTICLE 12.5. ENERGY CONSERVATION MEASURES C.R.S. 29-12.5-101 (2017)

29-12.5-101. Definitions.

As used in this article 12.5:

- (1) "Board" means a governing body of any municipality or home rule county, a board of county commissioners of any county, a special district, or a board of education of any school district.
- (2) (Deleted by amendment, L. 2002, p. 1027, § 55, effective June 1, 2002.)
- (2.5) "Energy cost-savings contract" means a utility cost-savings contract or a vehicle fleet operational and fuel cost-savings contract.
- (3) "Energy performance contract" means a contract for evaluations, recommendations, or implementation of one or more energy saving measures designed to produce utility costs savings, operation and maintenance cost savings, or vehicle fleet operational and fuel cost savings, which contract:
 - (a) Sets forth savings attributable to the calculated energy cost savings or operation and maintenance cost savings for each year during the contract period;
 - (b) Provides that the amount of actual savings for each year during the contract period shall exceed annual contract payments, including maintenance costs, to be made during such year by the board contracting for energy cost-savings measures;
 - (c) Requires the party entering into such contract with the board to provide a written guarantee that the sum of energy cost savings and operation and maintenance cost savings for each year during the first three years of the contract period shall not be less than the calculated savings for that year set forth pursuant to paragraph (a) of this subsection (3);



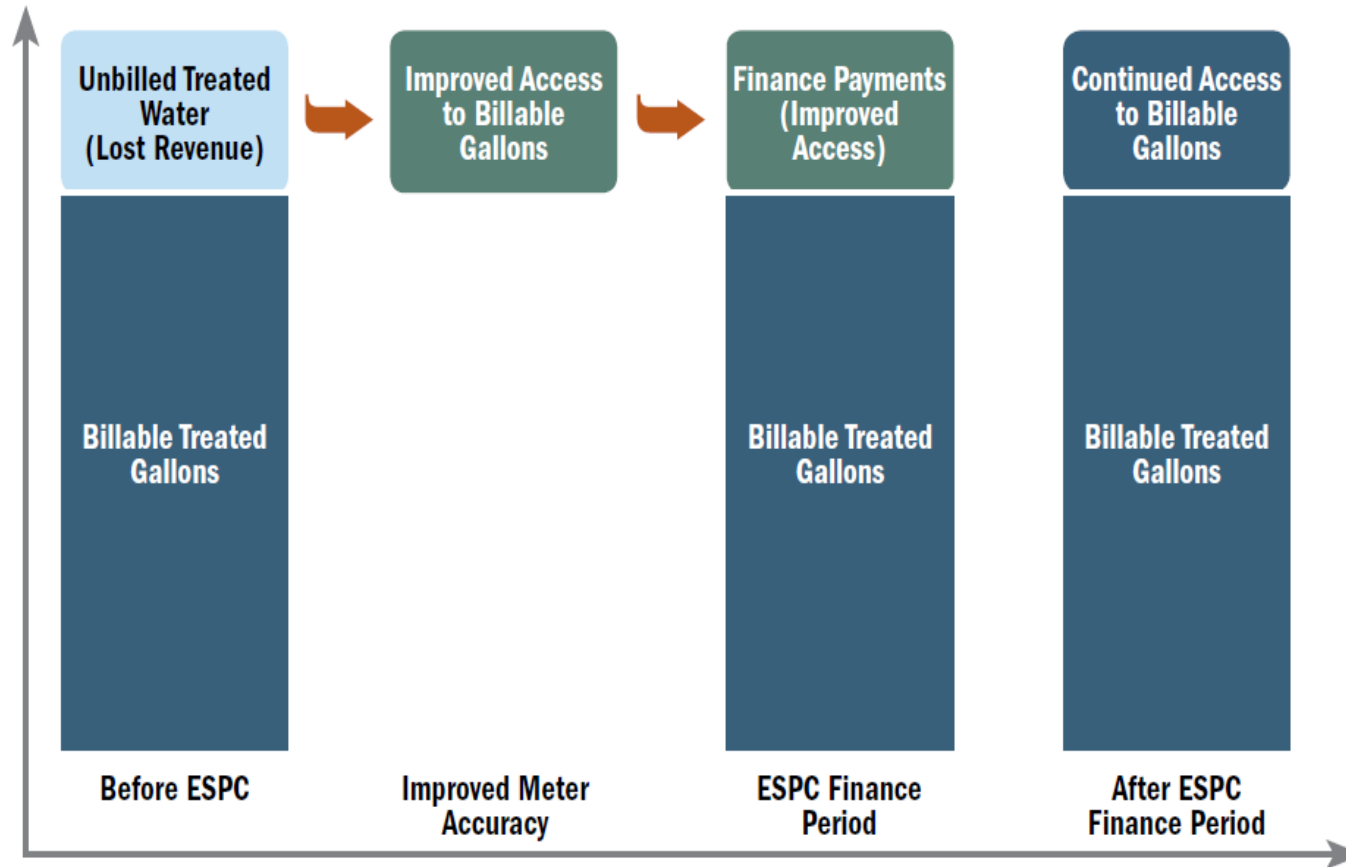
Statewide Savings Potential: Water Meters

Revenue Increase and Apparent Water Loss Reductions Potential Using New Water Meter Projects in Colorado via EPCs:

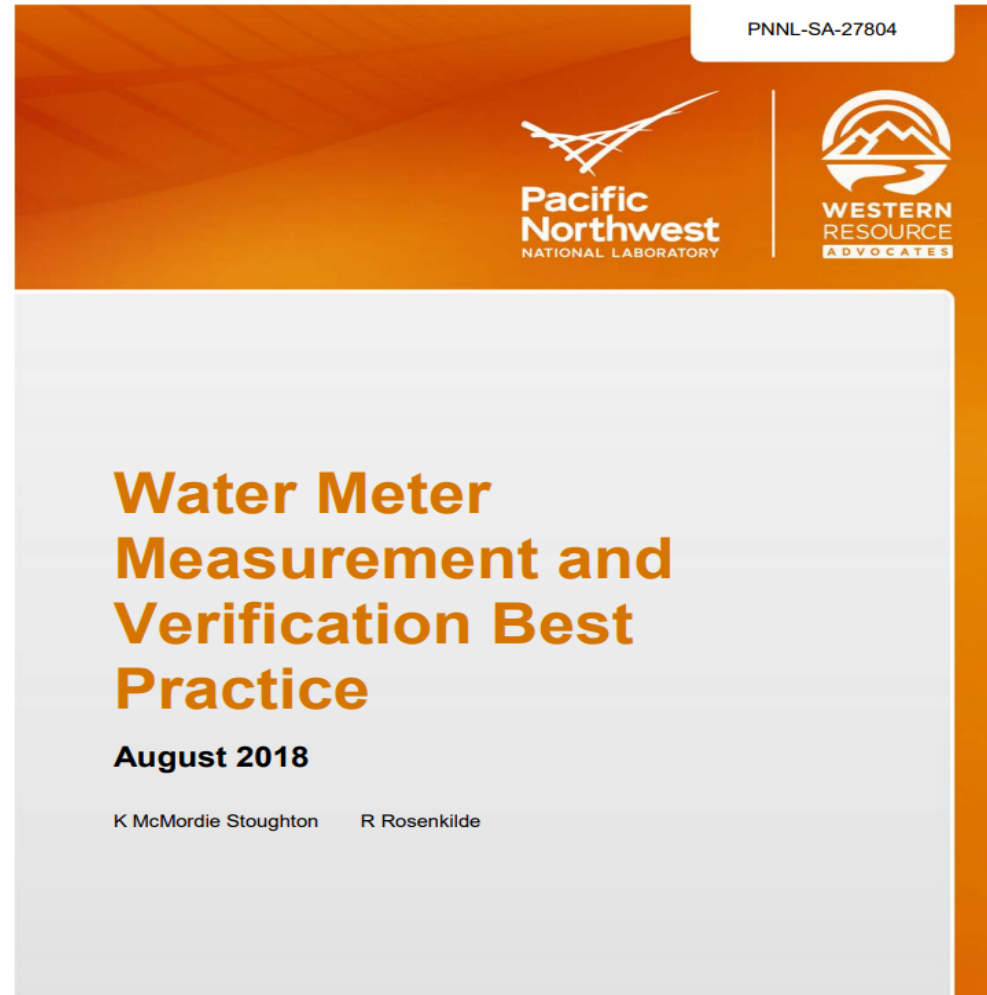
Apparent Water Loss Reductions (acre-feet/year)	Increase in Revenue (\$/year)
38,950	\$34,000,000



Project cycle of a performance contract water meter replacement project



Additional resources:



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Energy Performance Contracting

EPCs for Water Efficiency

- Public Buildings can reduce water bills through:
 - Indoor fixture replacements
 - Cooling towers retrofits
 - Landscape irrigation improvements
 - Landscape conversion from turf to low water-using plants



- Standardized, state-approved documents
 - Best In Class Measurement & Verification (M&V) protocols create consistency and enhance transparency in water savings calculations.
- Protocols increase confidence in water efficiency investments for public sector clients, lenders, performance contractors, state EPC programs, and water utilities.
- New water meter best practice document helps ensure savings are fully and fairly accounted for in water meter projects.



**Cooling Tower
(Evaporative Cooling System)
Measurement and Verification
Protocol**

Brian Boyd and Kate McMordie Stoughton
Pacific Northwest National Laboratory

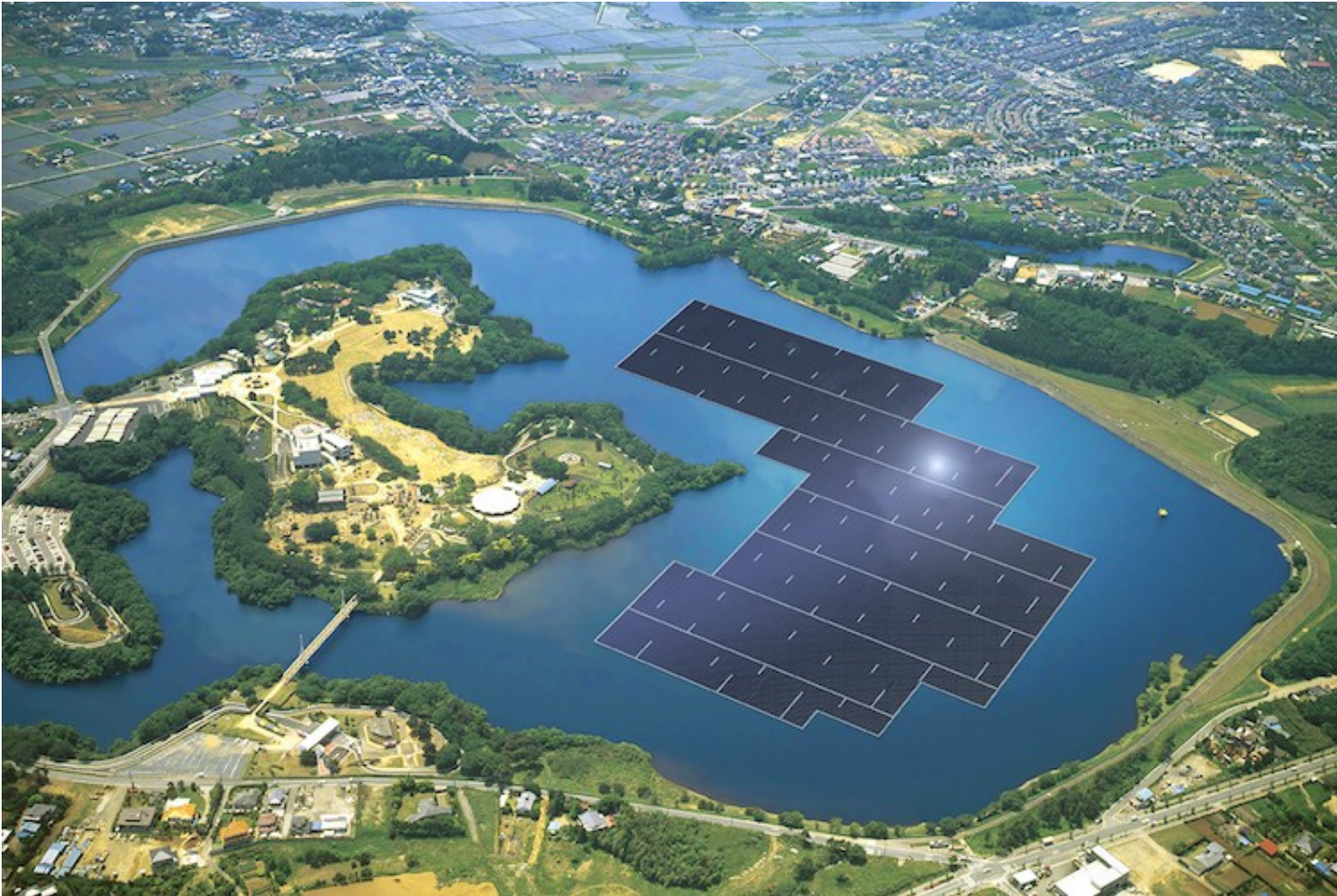
Taylor Lewis
Colorado Energy Office

NREL Technical Monitor: Charles Kurnik

Floating Racking + Solar Photovoltaic System = “Floatovoltaics”



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Yamakura Dam, Japan - 13.74 MW Source: Kyocera

Over 235 MWp
developed worldwide



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Walden's Water Treatment Plant



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Department of Local Affairs



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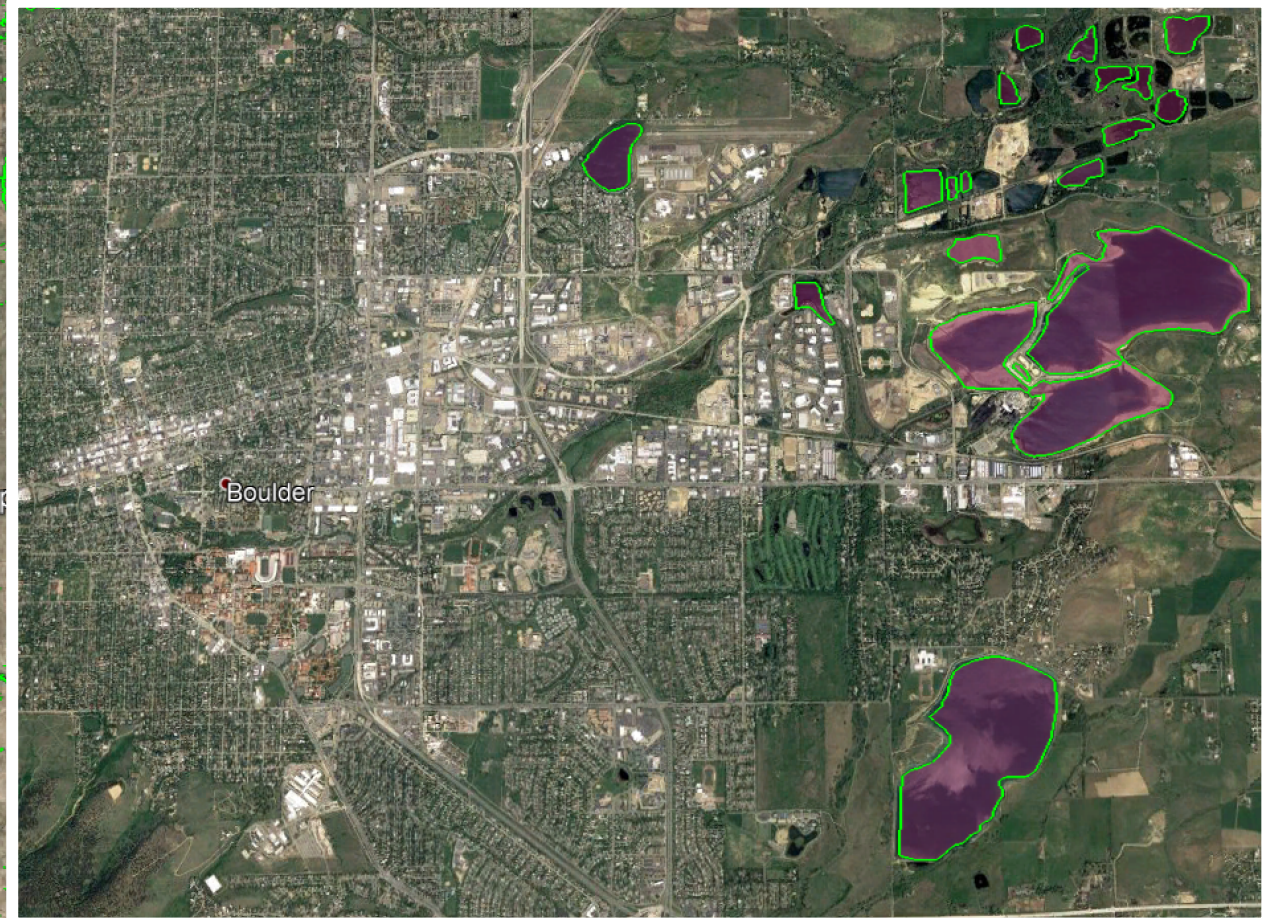
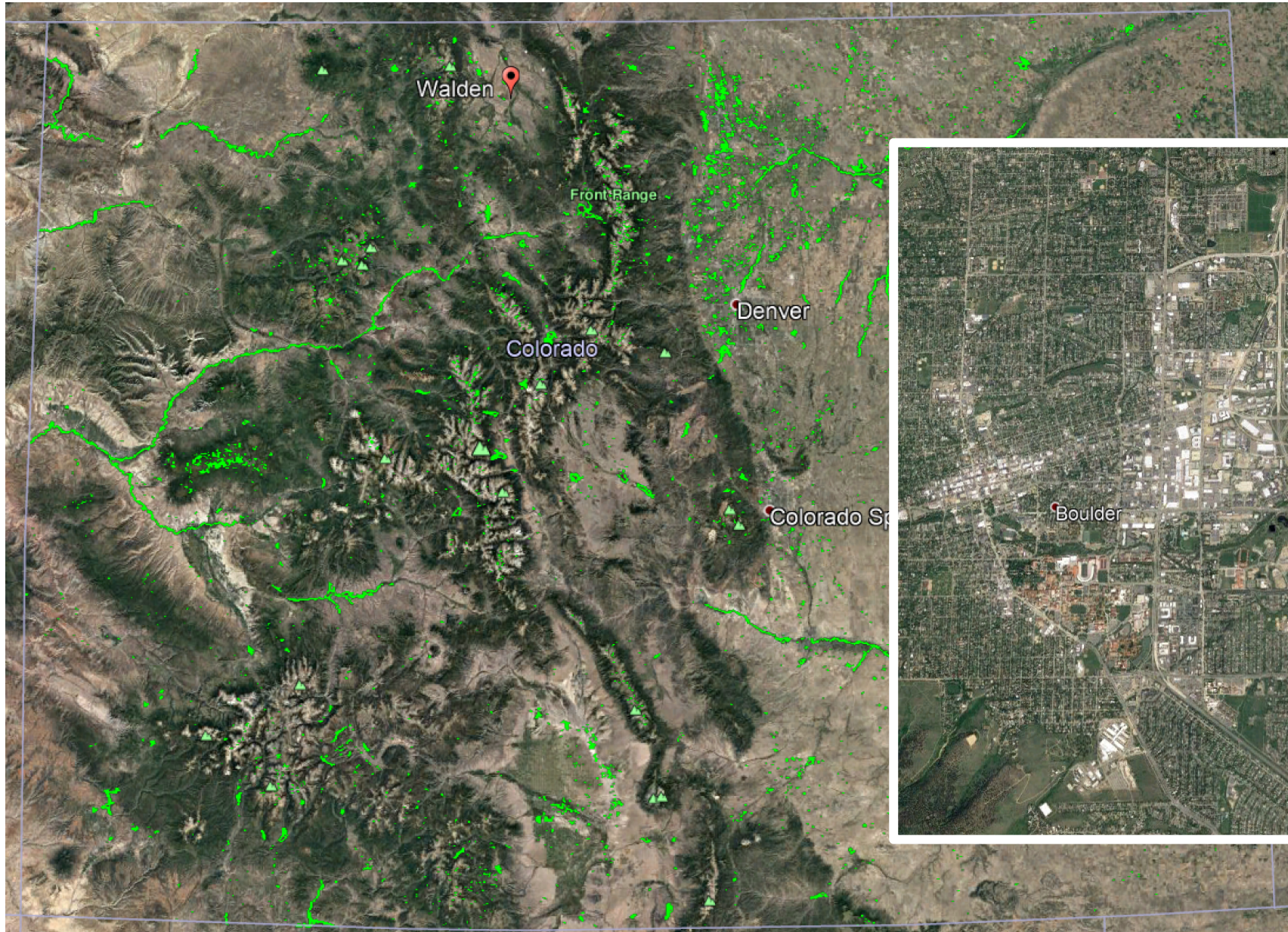
**MOUNTAIN PARKS
ELECTRIC, INC.**
A Touchstone Energy® Cooperative 



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Thank you!

Colorado Energy Office

Michael A. Turner

Director: C & I

Michael.a.turner@state.co.us

