

RICHMOND ADVANCED ENERGY COMMUNITIES

Integrating Local Policies with Voluntary Programs
to Drive Zero Carbon Communities

Presented at the 2017 ACEEE
National Conference on Energy Efficiency as a Resource
November 1, 2017 | Nate Dewart, Energy Solutions



Agenda

01

BACKGROUND

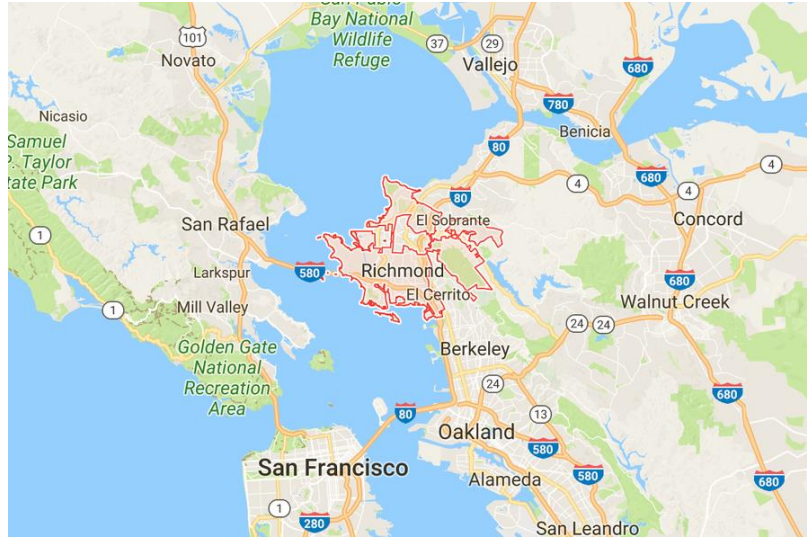
02

INTEGRATION

03

SCALABILITY

RICHMOND, CA - BACKGROUND



CLIMATE ACTION PLAN

80 percent reduction below 1990 levels by 2050



HEALTH IN ALL POLICIES

Health must be considered in all new policies



UTILITY

Community Choice Aggregation



\$3M SOCIAL IMPACT BOND

Converting abandoned homes for first-time buyers

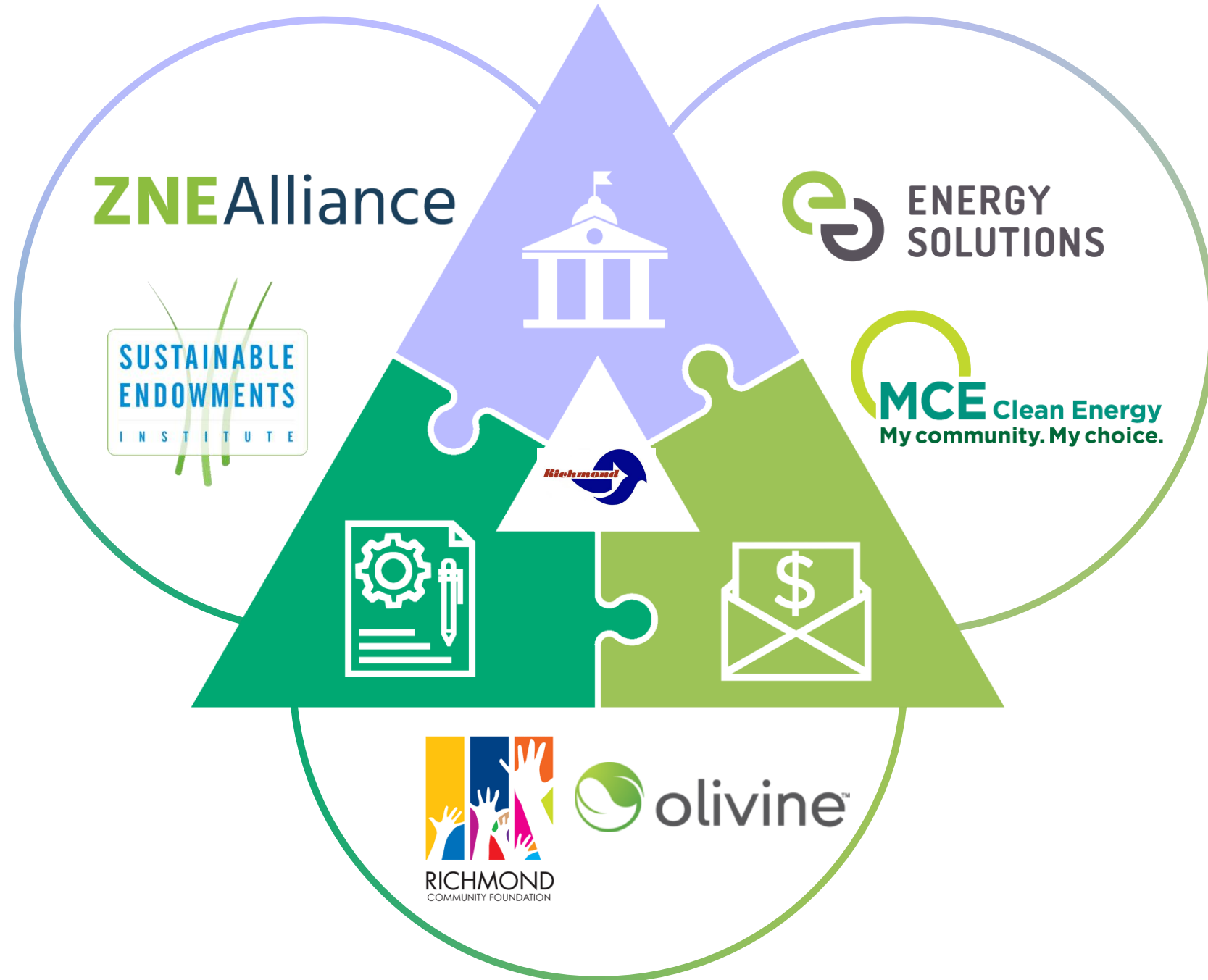


RICHMOND BUILD ACADEMY

Free training & certification



ADVANCED ENERGY COMMUNITIES GRANT (DESIGN PHASE)



CLIMATE ACTION PLAN



- Emissions Reductions
- Health & Resilience
- Economic Prosperity
- Engaged Community

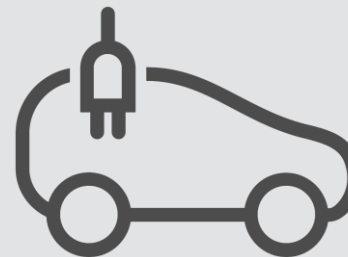
CLIMATE ACTION PLAN – GRANT FOCUS

Goals

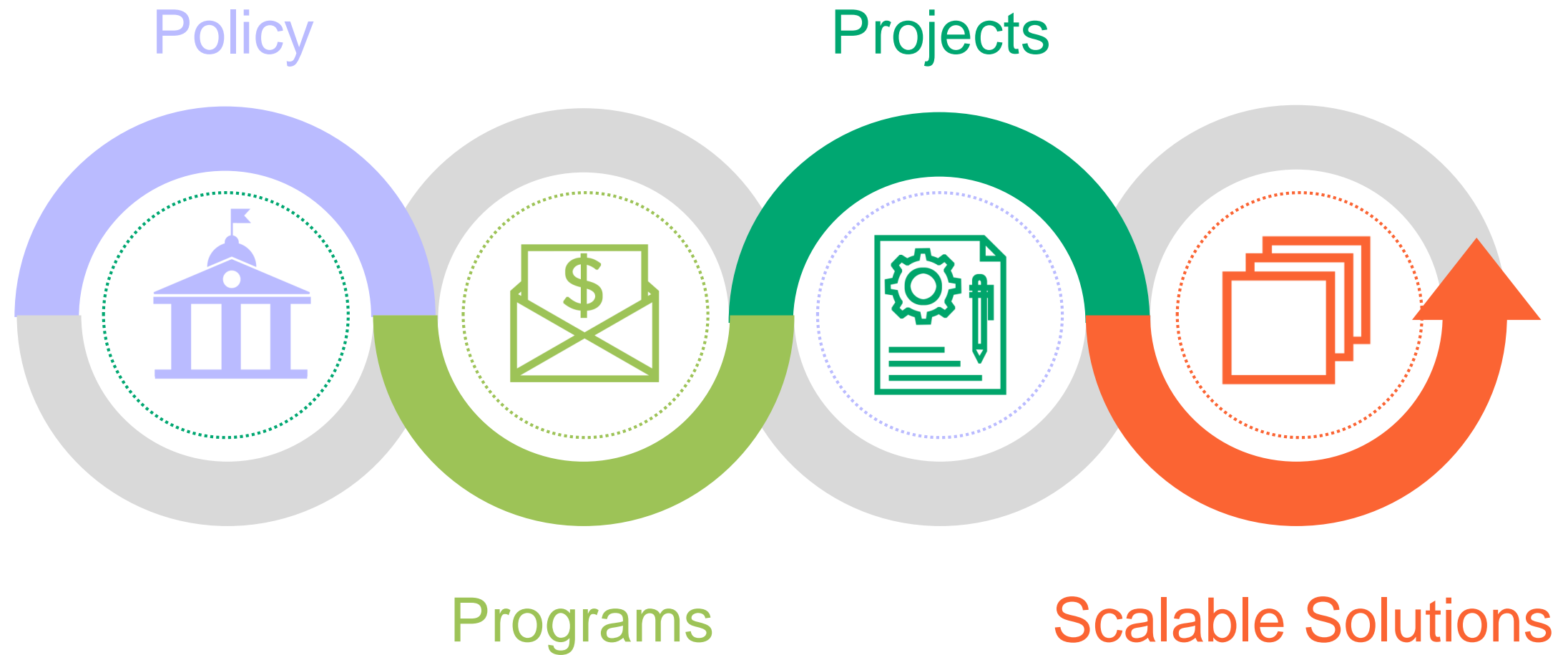
Objectives

Strategies

- Emissions Reductions
- Health & Resilience
- Economic Prosperity
- Engaged Community



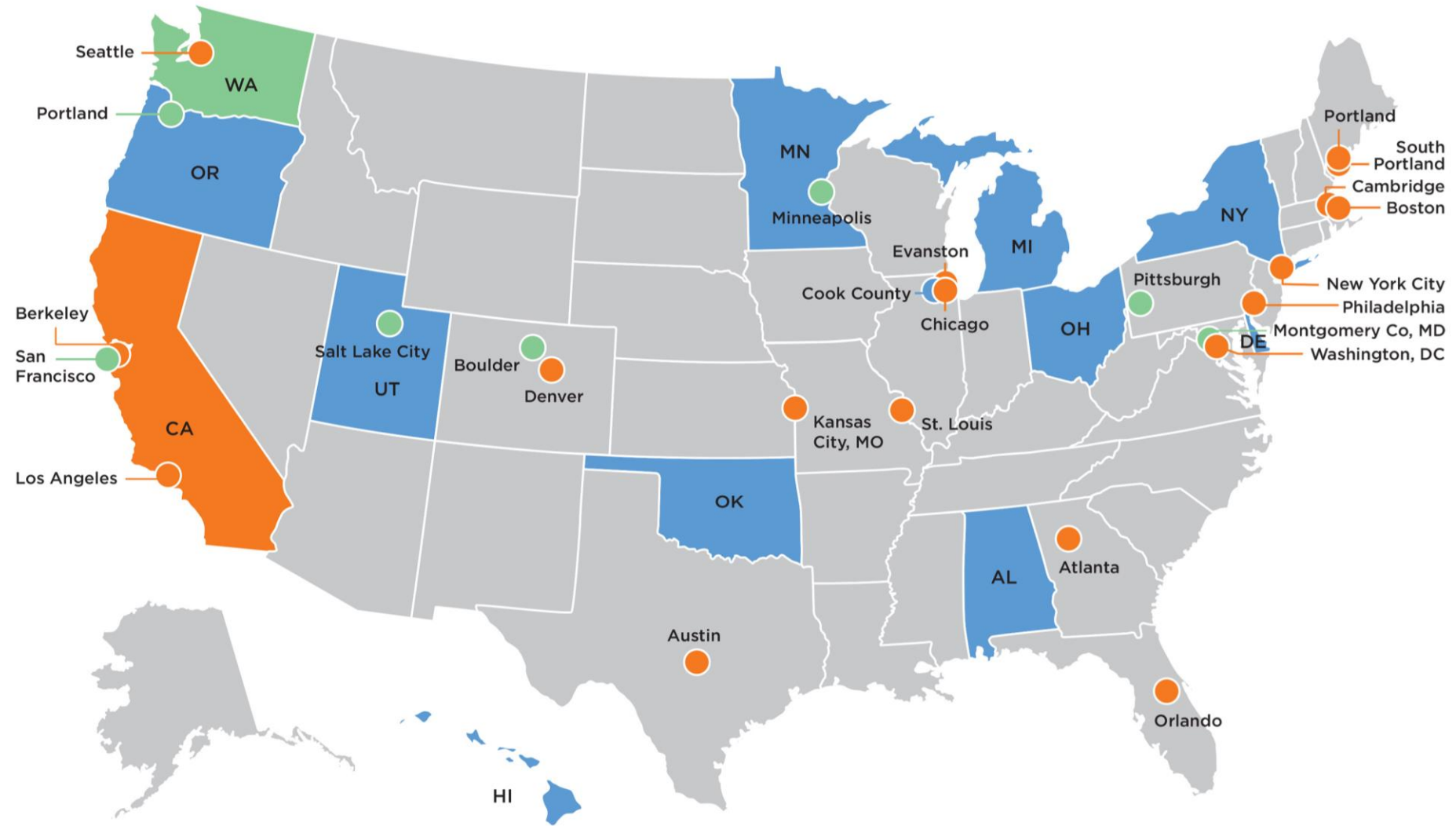
INTEGRATION OF STRATEGIES



An aerial photograph of a dense city skyline, likely New York City, featuring numerous skyscrapers and buildings. A large white circle is superimposed over the center of the image. Inside the circle, the text "INTEGRATION #1" is written in a white, sans-serif font. In the background, several buildings have large yellow signs with the word "ENERGYGUIDE" and a downward-pointing arrow, along with smaller text and a table. The sky is a clear, pale blue.

INTEGRATION #1

U.S. BUILDING BENCHMARKING & TRANSPARENCY POLICIES



- Public, commercial, and multifamily building benchmarking policy adopted
- Public and commercial building benchmarking policy adopted
- Public buildings benchmarked



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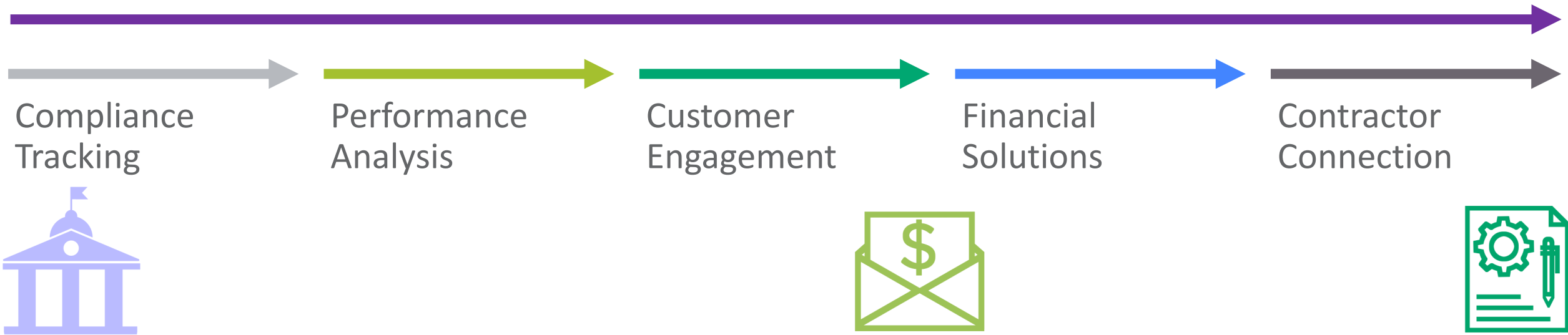
INTEGRATION #1: EXISTING BUILDINGS



WEB-PLATFORM CONCEPT

Benchmarking

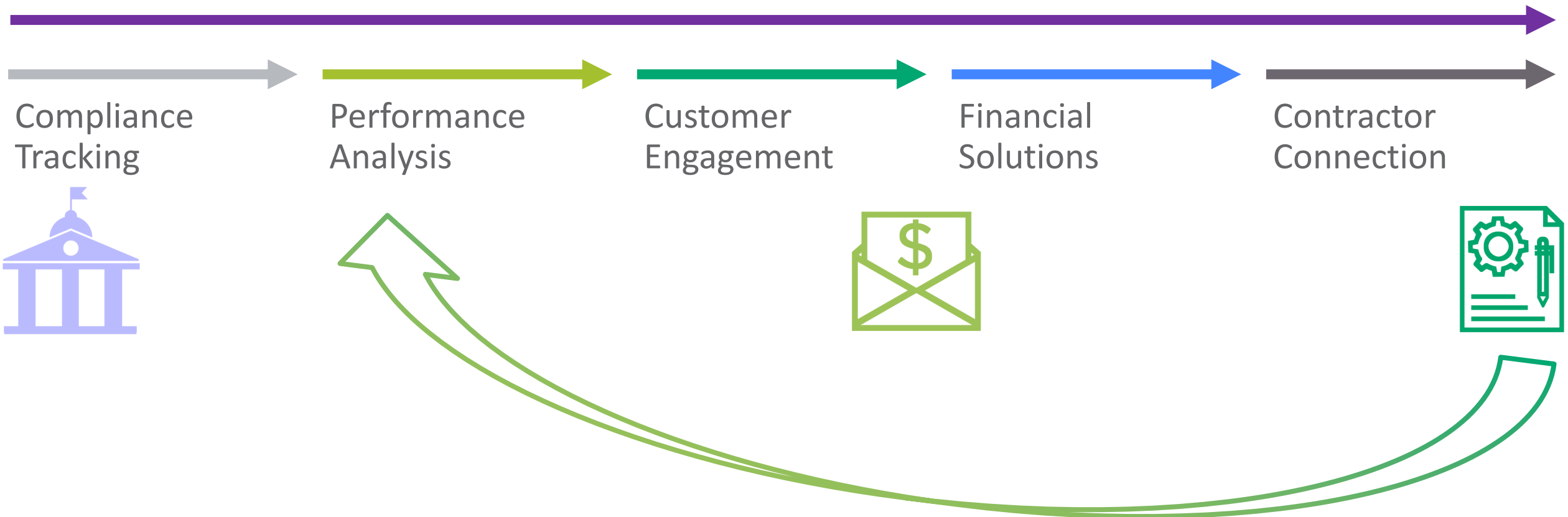
Savings



WEB-PLATFORM CONCEPT

Benchmarking

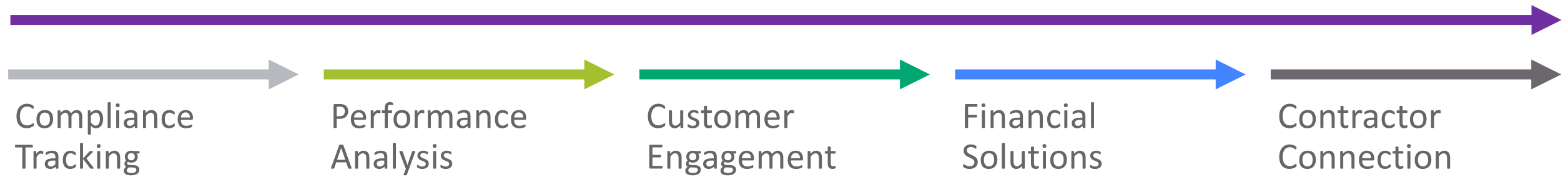
Savings



WEB-PLATFORM CONCEPT

Benchmarking

Savings



Customers

City Staff

Utilities



WEB-PLATFORM CONCEPT

Benchmarking

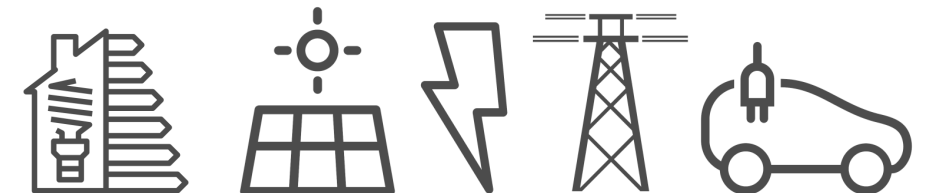
Savings



Customers

City Staff

Utilities



An aerial photograph of a residential neighborhood built on a hillside. The houses are mostly two-story structures with dark roofs and light-colored siding. In the background, there are green hills and a body of water under a cloudy sky. A large white circle is superimposed over the center of the image, containing the text 'INTEGRATION #2'.

INTEGRATION #2

INTEGRATION #2: NEW RESIDENTIAL



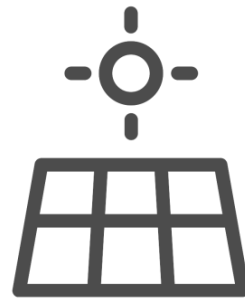
Single-family Housing



Multifamily Housing



Policy



INTEGRATION #2: NEW RESIDENTIAL



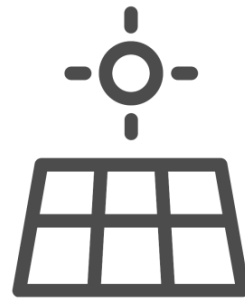
Single-family Housing



Multifamily Housing



Policy



INTEGRATION #2: NEW RESIDENTIAL



Single-family Housing



Multifamily Housing



Initial Concept



Policy



Programs



Projects

SOCIAL IMPACT BOND

- Partnership:
 - City of Richmond
 - Richmond Community Foundation
 - Mechanics Bank
- \$3 Million at 0% Interest
- 50 homes in 5 years
- Abandoned home - \$7k per year for Code Enforcement
- Local contractors – hire from Richmond Build
- Sell to Contra Costa County SparkPoint graduates



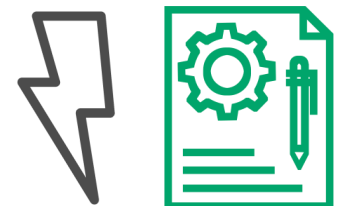


SOCIAL IMPACT BOND ZNE PILOT HOMES



ONE PATHWAY TO ZNE - ELECTRIFICATION

	Benefits
City/Utility	<ul style="list-style-type: none">• Enables shift to cleaner energy sources• Creates opportunities for local solar generation
Occupant	<ul style="list-style-type: none">• Improved indoor air quality• Eliminates gas leak and combustion risk• No monthly gas meter fee• Improves opportunity for electric vehicle integration and battery storage
Builder	<ul style="list-style-type: none">• Avoid gas hookup fees



SINGLE FAMILY CONSTRUCTION COSTS - ELECTRIFICATION (EXAMPLE)

Richmond gas line and meter installation (example bill)

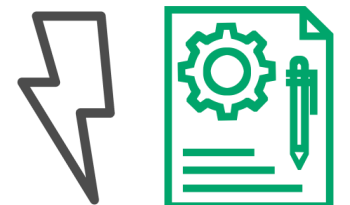
		GAS
Total Service Costs		\$14,768.82
Residential allowance, a CPUC-approved credit applied to the cost of the job	-	\$1,498.00
Advance payment credit	-	\$1,500.00
Subtotal:		\$11,770.82

Category

Net Savings

Gas line and meter installation	+ \$ 10,000
Water heater	\$ (500)
Heating & Cooling	\$ (2,700)
Cooktop/Range	No change
Dryer	negligible
Gas plumber vs. Electrician	No change
Solar PV (GRID Alternatives)	No change

Total Project Savings: \$ 6,800



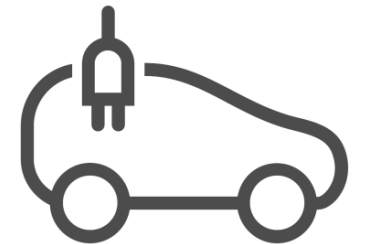
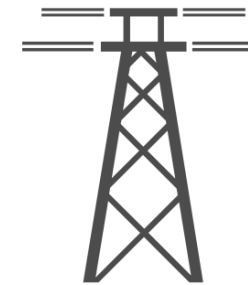
POTENTIAL EXPANSION: NEW RESIDENTIAL



Single-family Housing



Multifamily Housing



Policy

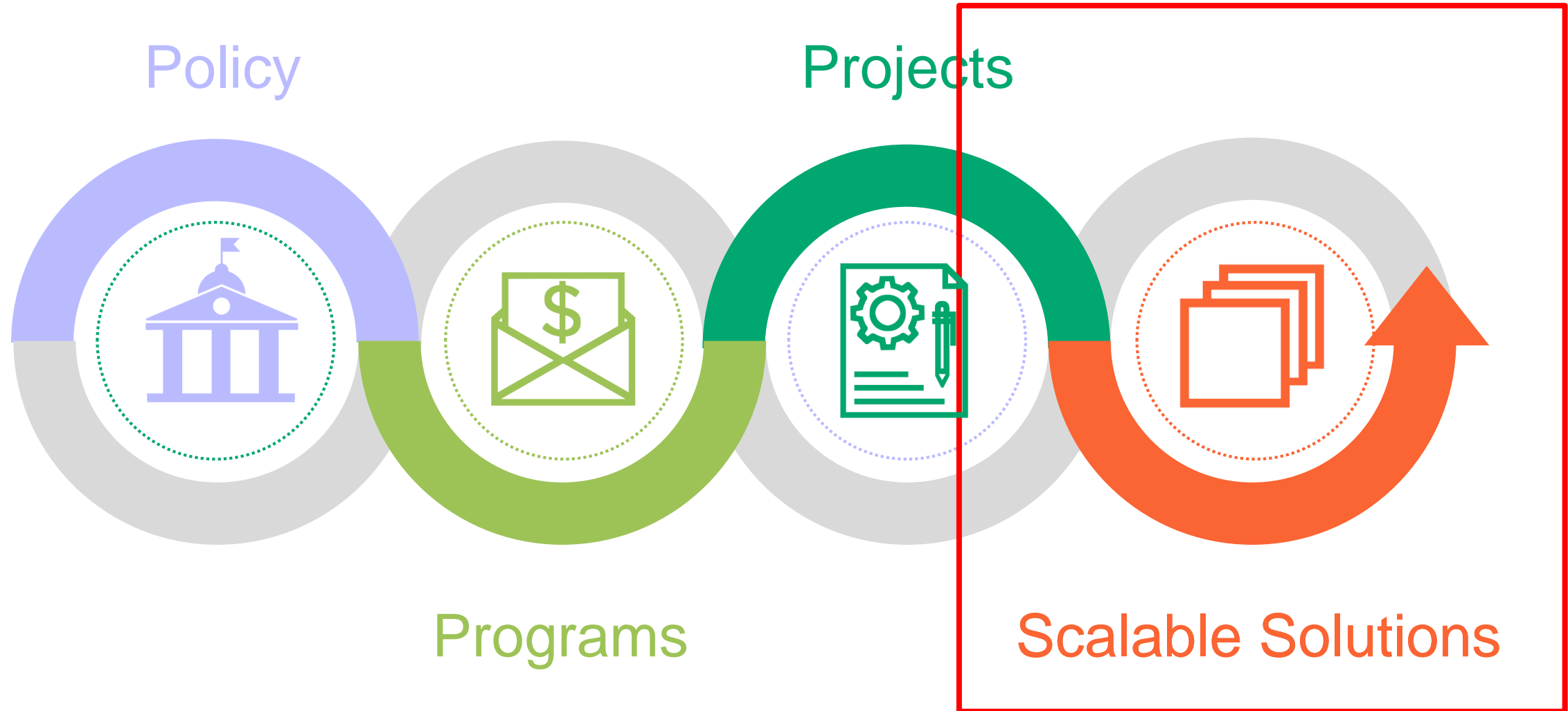


Programs



Projects

SCALABILITY?



Thank You

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About Energy Solutions



Experienced

Over a decade of codes & standards market transformation at scale



Results-Oriented

Market-based, cost-effective energy, carbon, water management solutions



Mission-Driven

Founded in 1995, we work to create large-scale environmental impacts



Geographically Diverse

Offices in CA, OR, MA, WA and growing.