

HIGH PERFORMANCE SUSTAINABLE *EXISTING* BUILDINGS

Effecting Sustainable Building Changes in Large EB Portfolios

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CHALLENGE - CONFUSING REQUIREMENTS

Determining Compliance with the Guiding Principles for Sustainable Federal Buildings

February 2016

This document is a companion to the revised *Guiding Principles for Sustainable Federal Buildings* (Guiding Principles) issued by the Council on Environmental Quality in February 2016, per Executive Order 13693, *Planning for Federal Sustainability for the Next Decade*.

Full implementation of all principles, elements and sub-elements described in the Guiding Principles is strongly encouraged. The tables below include metrics for agencies to use to evaluate compliance with the Guiding Principles. For new construction, 20 out of 21 metrics are required, and for modernization, 19 out of 21 metrics are required. For existing buildings, although agencies are strongly encouraged to meet as many metrics as possible, 12 out of 18 metrics are required—eight specified plus four additional—in order to determine that a building is in compliance with the Guiding Principles.

When evaluating a building for compliance with the Guiding Principles, the new construction and modernization criteria should be applied when the project that an agency is undertaking in an existing building is essentially a comprehensive replacement or restoration of virtually all major systems, interior work (such as ceilings, partitions, doors, floor finishes, etc.), and building elements and features.

New Construction or Modernization

For new construction, metrics number one through 20 are required, and for modernization, metrics number one through 18 and number 21 are required, as specified below.

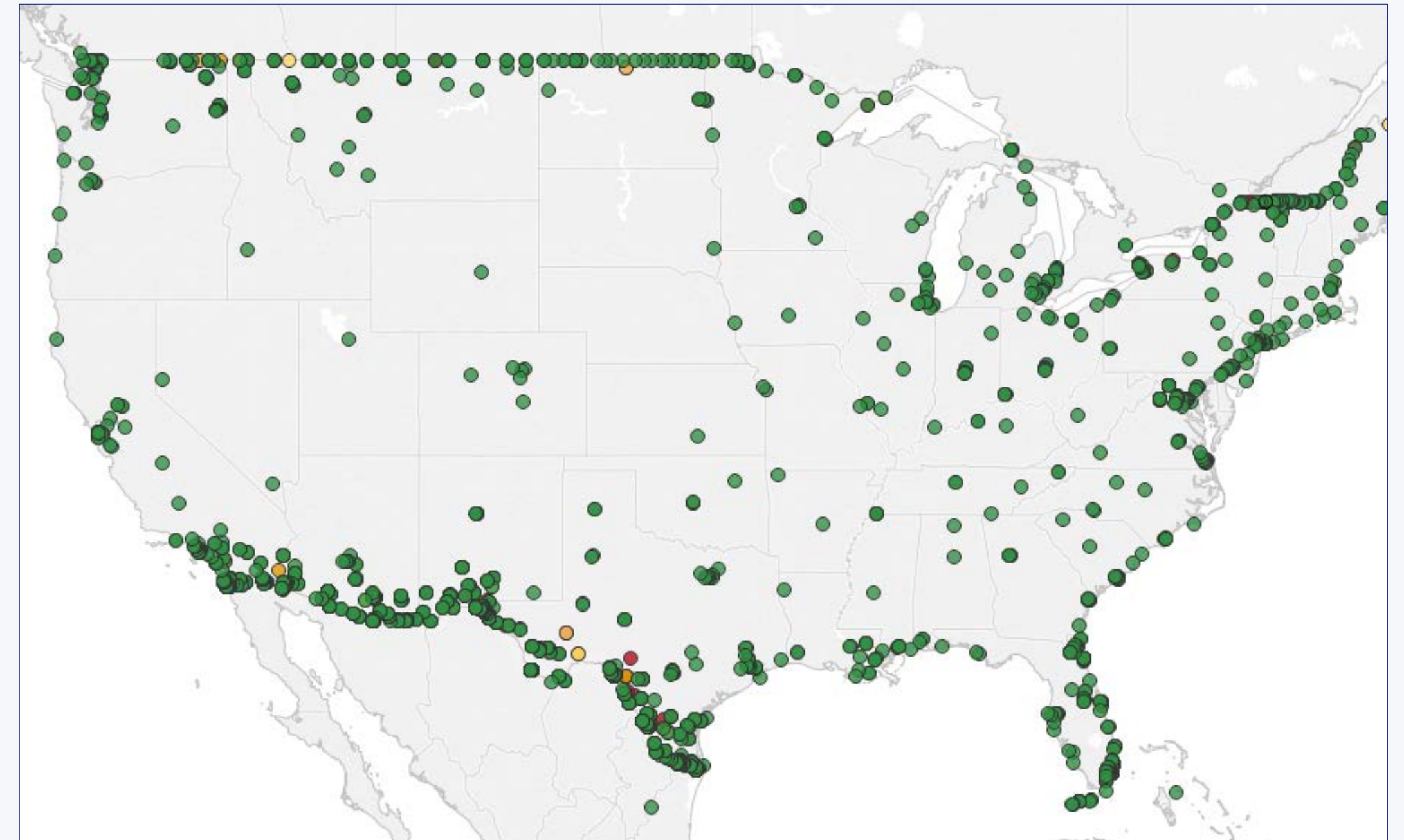
	I. Employ Integrated Design Principles	Yes/No
1	Integrated Design: Consider the environmental impact of siting decisions and use an integrated project team to: establish energy and other environmental performance goals in the design process; follow sustainable landscape design principles; evaluate electric vehicle charging needs; consider design choices that improve environmental performance, support health and wellness of building occupants and consider climate risks including wildfire; and consider all stages of the building's life cycle. [Required]	
2	Commissioning: Commission and recommission at least every 4 years to	

CHALLENGE - CONFUSING REQUIREMENTS



CHALLENGE - LARGE PORTFOLIOS

- Distribution of requirements
- Gathering of information
- Availability of Services
- Project Prioritization
- Funding



When you can't do it all, where do you start?

CHALLENGE – COMPLIANCE MINDSET

2016 Guiding Principles Checklist for Existing Buildings v2.1

Per Executive Order 13693, the 2016 Guiding Principles were issued on February 26, 2016 by the White House Council on Environmental Quality, Office of Sustainability, in two documents: "Determining Compliance with the Guiding Principles for Sustainable Federal Buildings" (GP Compliance Document), which outlines evaluation criteria on which the Guiding Principles will be scored, and the "Guiding Principles for Sustainable Federal Buildings and Associated Instructions," which provides instructions, guidance and recommended practices. This Checklist was developed by the U.S. Department of Energy, Federal Energy Management Program, as a voluntary tool for evaluating and tracking a building's progress towards meeting the evaluation criteria defined in the GP Compliance Document. Agencies are invited to use this Checklist as is, or to reformat it to suit agency needs. Some cells in this worksheet are protected. For the password, contact the FEMP sustainability program at the link below.

For more information about the Guiding Principles and FEMP support: <http://energy.gov/eere/femp/guiding-principles-sustainable-federal-buildings>

Agency:

Building Name:

Date:

Department/Region:

Address (street, city, state, zip):

Building meets ongoing operational requirements: ☒ Yes ☐ No

Federal Campus:

Checklist Manager:

Federal Real Property ID:

Instructions: Achieve 12 of 18 metrics to comply with the Guiding Principles for Existing Buildings, eight of eight (8 of 8) metrics specified as "Required" and four of ten (4 of 10) metrics specified as "Additional." Only metrics marked as "Yes" count towards compliance. Responses of "N/A" for Required metrics should be minimized and should be justified and documented.

Checklist Notes:

Total Achieved (meet 12 of 18)

Required Metrics (meet 8 of 8)

Additional Metrics (meet 4 of 10)

0 of 18 Metrics Achieved

0

0

0

8

0

0

0

0

10

0

Needed for Compliance or N/A Justification
(only Required metrics need justification where N/A is used)

8

4

Guiding Principle

Required or Additional

Metric

Suggested Evidence of Compliance
(may need one or more)

Yes

In Process

No

Not Assessed

N/A

Notes/Comments

What do you do when a building will be non-compliant?

CHALLENGE – NO CLEAR PROGRAM OBJECTIVES

- Reactive approach to sustainable buildings
- Lacking leadership buy-in
- Disjointed efforts without a common voice
- Policies without guidance



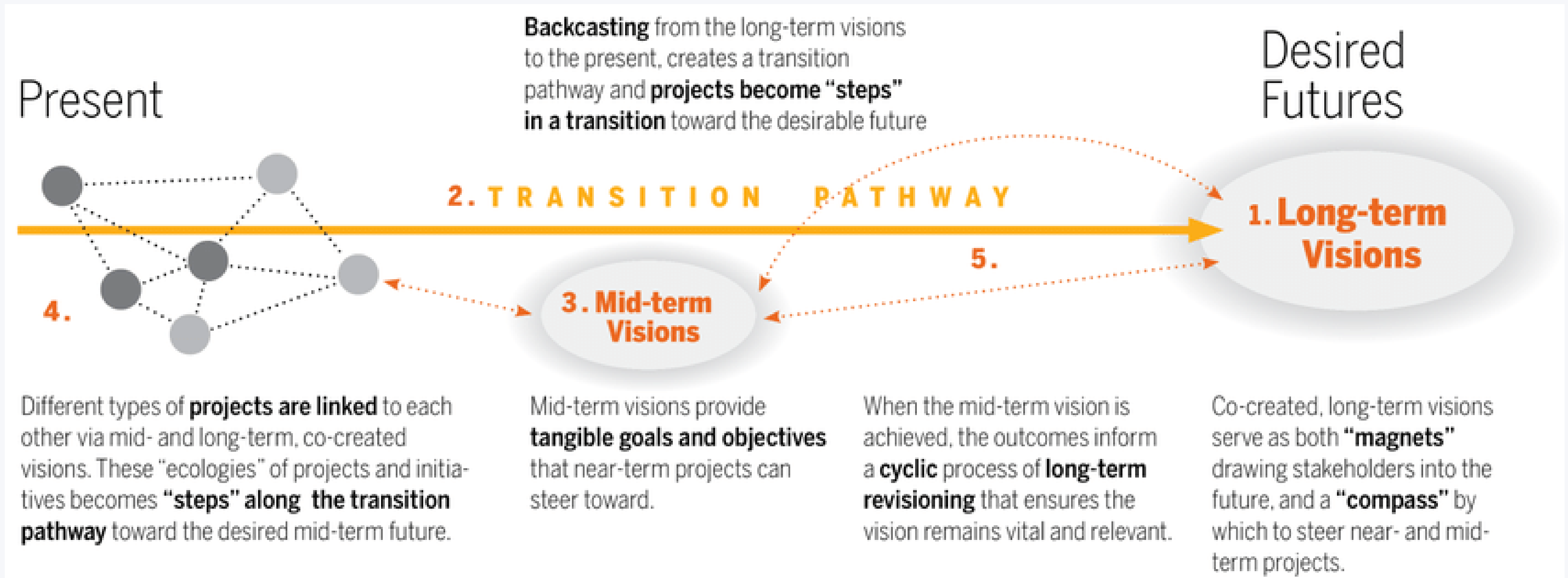
What is your agency focus? What value are you looking to achieve?

A word cloud on a dark blue background with the word "Implementation" in large white font at the center. Surrounding it are various business-related terms in different colors (white, light blue, orange, and yellow) and orientations. The words include: "IDEA", "STRATEGY", "PLAN", "Creativity", "SUCCESS", "Performance", "STRATEGY", "Business Performance", "MANAGEMENT", "IDEAS", "MANAGE", "STRATEGIC", "FUTURE", "Solutions", "Ideas", "RESULTS", "BUSINESS PLAN", "GOALS", "Manage", "TEAM", "INNOVATION", "VALUE-ADD", "PLAN", "Improve", "PROBLEM SOLVING", "Progressive", "DYNAMIC", "STRATEGY", "FUTURE", "MISSION", "ACTIVITIES", and "SUCCESS".

IDEA
STRATEGY
PLAN
Creativity
SUCCESS
Performance
STRATEGY
Business Performance
MANAGEMENT
IDEAS
MANAGE
STRATEGIC
FUTURE
Solutions
Ideas
RESULTS
BUSINESS PLAN
GOALS
Manage
TEAM
INNOVATION
VALUE-ADD
PLAN
Improve
PROBLEM SOLVING
Progressive
DYNAMIC
STRATEGY
FUTURE
MISSION
ACTIVITIES
SUCCESS

Implementation

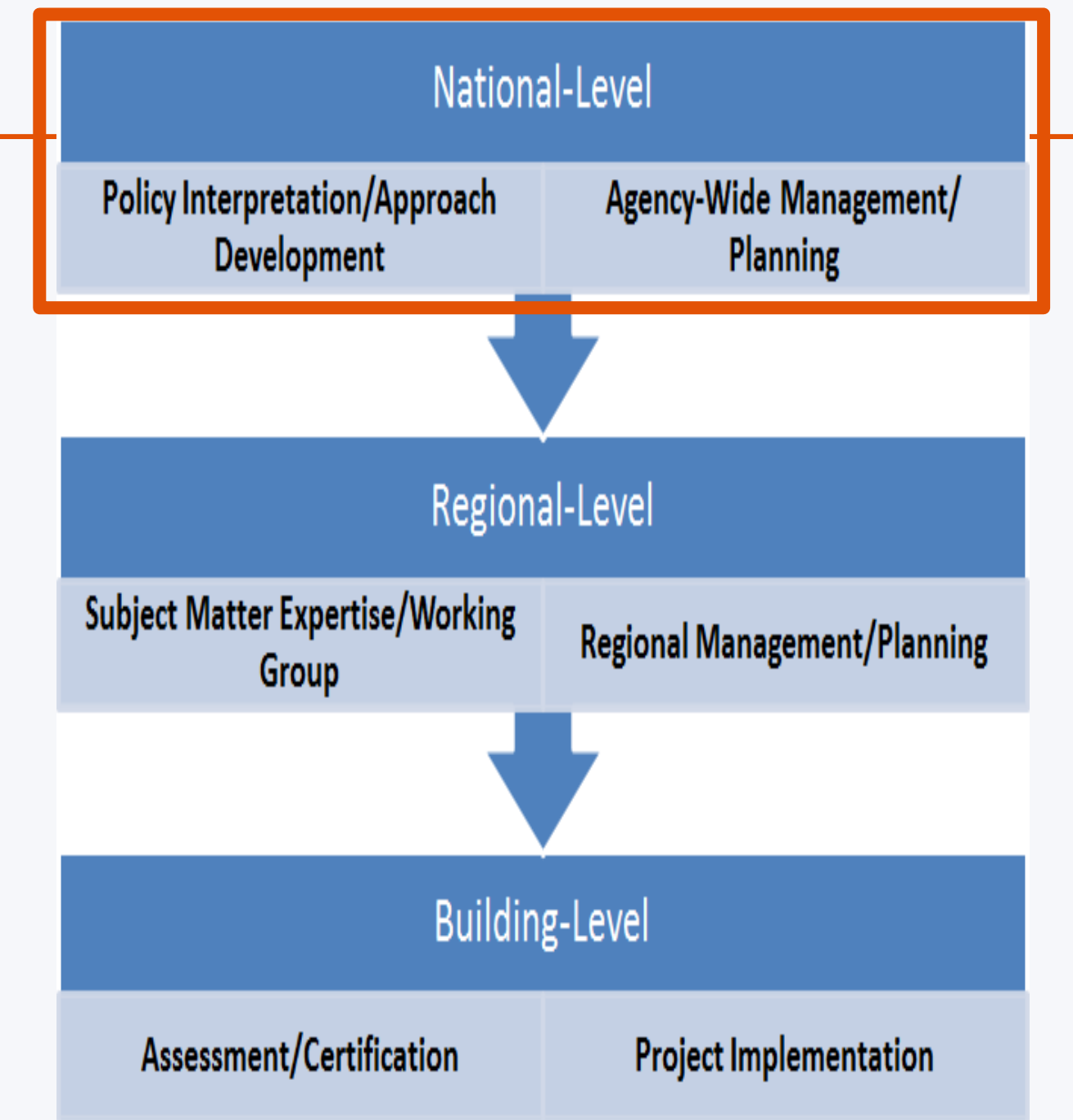
CREATE PROGRAM OBJECTIVES



Irwin, Terry. (2018). [The Emerging Transition Design Approach](#). DOI: 10.21606/dma.2017.210.

CENTRALIZE PROCESSES & REPORTING

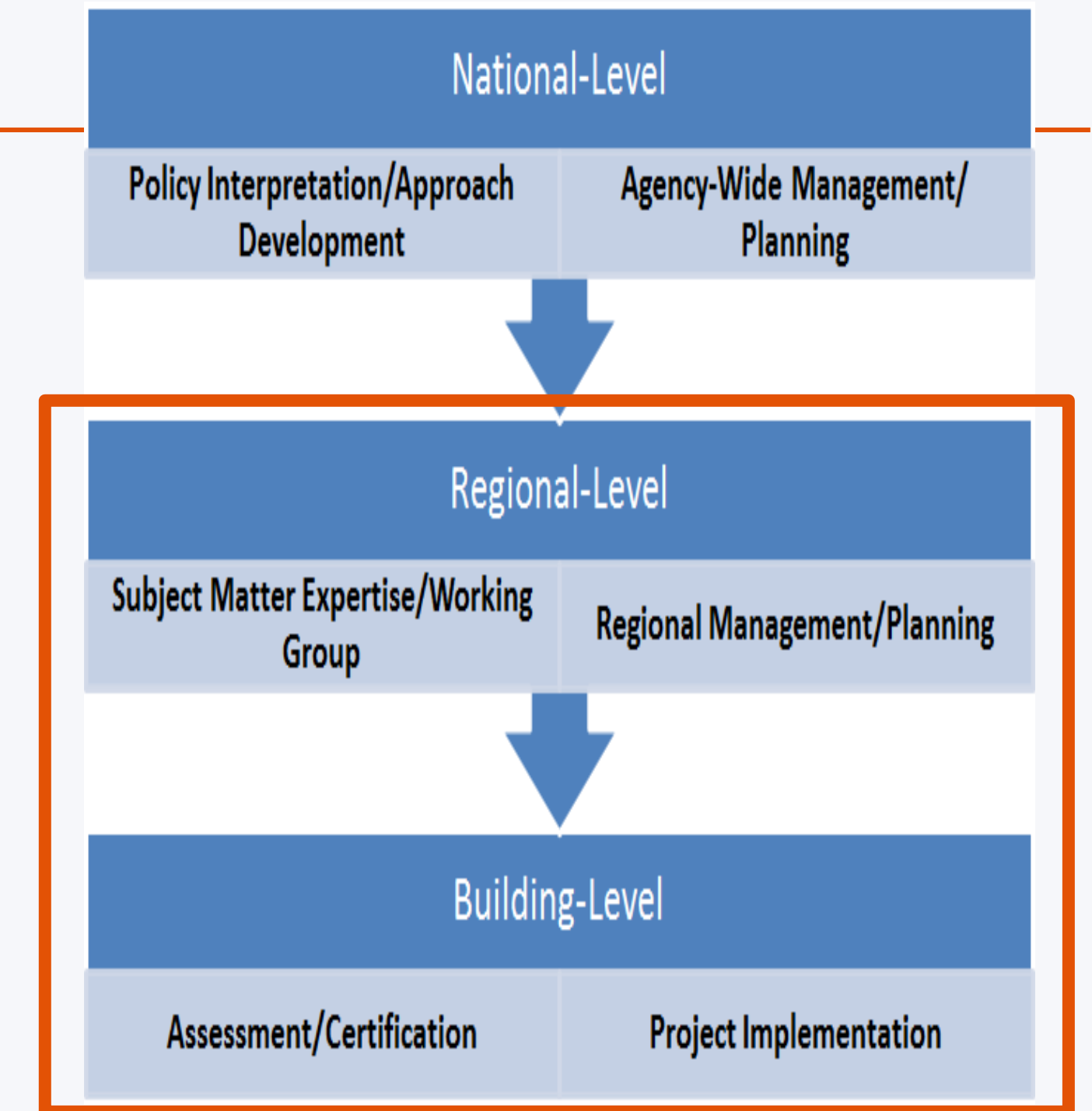
- Tools
- Forms
- Systems
- Guidance



Ad-hoc processes are time-consuming for everyone!

DECENTRALIZE OPERATIONAL ACTIONS

- Solicit stakeholder feedback on processes, tools, systems, best-practices, etc.
- Encourage actions that support sustainable building operations.
 - Low-hanging fruit (Treasure Hunts)
- Provide information and support
- Give recognition



COMMUNICATE



- Define success
- Create or compile resources and guidance
- Message the principles, not just the specific requirements
- Educate more than you enforce
- Show how the efforts add value
- Focus message on your mission
 - Lighting upgrades: “~~Saves energy~~” → “Enables better mission performance”
 - Installing solar: “~~Decreases cost~~” → “Increases facility resilience”

How do you quantify return on investment?

INCREASE TRANSPARENCY

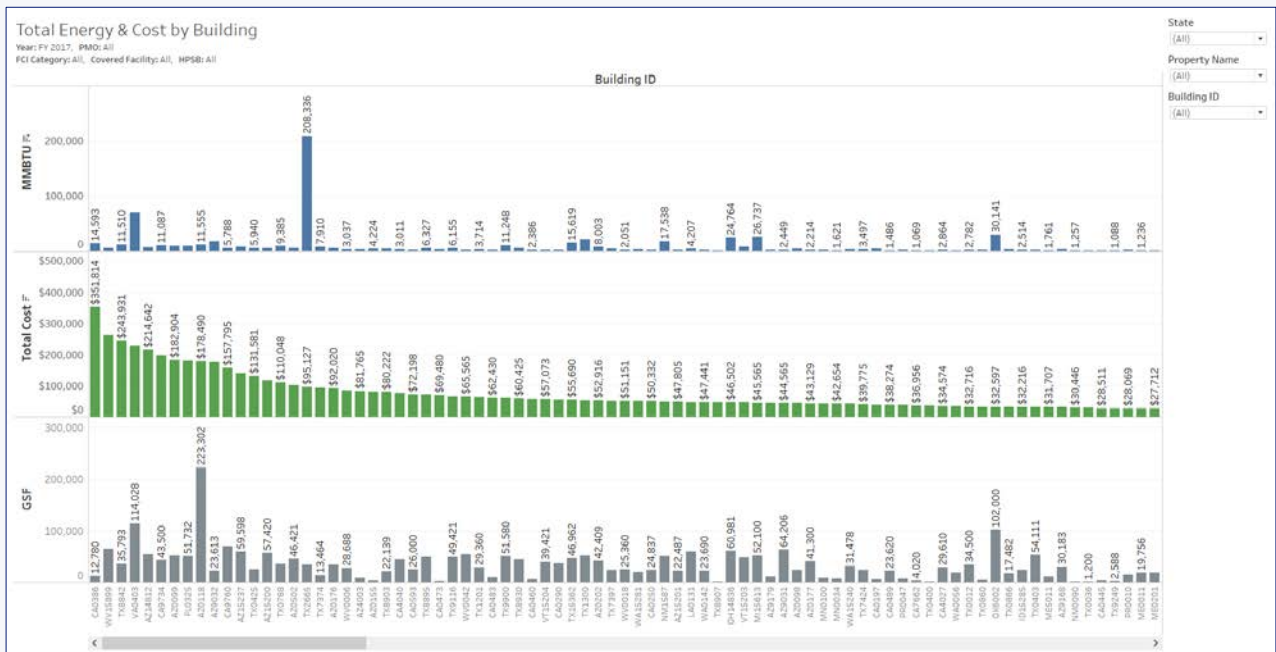
- Be honest about your organizational success and challenges
 - Avoid “greenwashing”
- Share:
 - Reports with data collected from stakeholders
 - Dashboards used to track key metrics
 - Agency Scorecards
 - Current priority initiatives

Department of Homeland Security FY 2017 OMB SCORECARD FOR EFFICIENT FEDERAL OPERATIONS/MANAGEMENT				
GOAL ASSESSMENT	METRICS	PERFORMANCE RATING	OTHER PROGRESS INDICATORS	
FACILITY ENERGY EFFICIENCY	Change in energy intensity (Btu/GSF) compared to FY 2003:	-32%	Average cost of energy per site-delivered MBtu:	\$23.11
	Change in energy intensity (Btu/GSF) compared to FY 2015:	-9%		
EFFICIENCY MEASURES/ INVESTMENT	EISA-covered facilities evaluated for efficiency opportunities:	93%	Total \$ Value of ECMs identified for potential investment (\$M):	\$98.1
	Utilized performance contracting in FY 2017 to achieve energy, water, building modernization, infrastructure goals?	Yes	Direct investment in FY 2017 (\$M):	\$4.9
			ESPC and UESC Investment in FY 2017 (\$M):	\$44.6
			Annual Btu saved per \$1 of investment in 2017:	2,499
RENEWABLE ENERGY USE	Renewable electricity used (as a percentage of total electricity use):	10.6%	Renewable electricity + non-electric renewable energy used (as a percentage of total electricity use):	10.8%
WATER EFFICIENCY	Change in potable water intensity compared to FY 2007:	-28%	Cost of potable water per thousand gallons:	\$9.96
	Change in potable water intensity from prior year:	-4%		
HIGH PERFORMANCE SUSTAINABLE BUILDINGS	Percent of owned buildings (less excess) meeting sustainability metrics:	7%	Change from prior year:	0.4%
			Total Eligible Buildings:	1,659
	Percent of owned GSF meeting the sustainability metrics:	11%	Change from prior year:	0.5%
			Total Eligible GSF (thou.):	32,792
TRANSPORTATION/ FLEET MANAGEMENT	Change in petroleum fuel use in covered fleet compared to FY 2005:	342.4%	Alternative fuel use as a percentage of total covered fleet fuel use:	2.9%
	Change in petroleum fuel use in covered fleet compared to prior year:	8.8%	Percentage of covered AFV acquisitions (w/bonus credits):	112%
SUSTAINABLE ACQUISITION	Percentage point difference of sustainable contract actions from prior year:	-1.2%	Number of applicable contract actions containing sustainable clauses:	7,037
	Percentage point difference of value of contracts with sustainable requirements from prior year:	0.3%	Value of applicable contract actions containing sustainable clauses:	\$1526.3M
			Biobased Product Purchase Targets (# of actions): FY18: 360; FY19: 365	

People are most willing to help when they understand drivers and impacts.

USE YOUR DATA

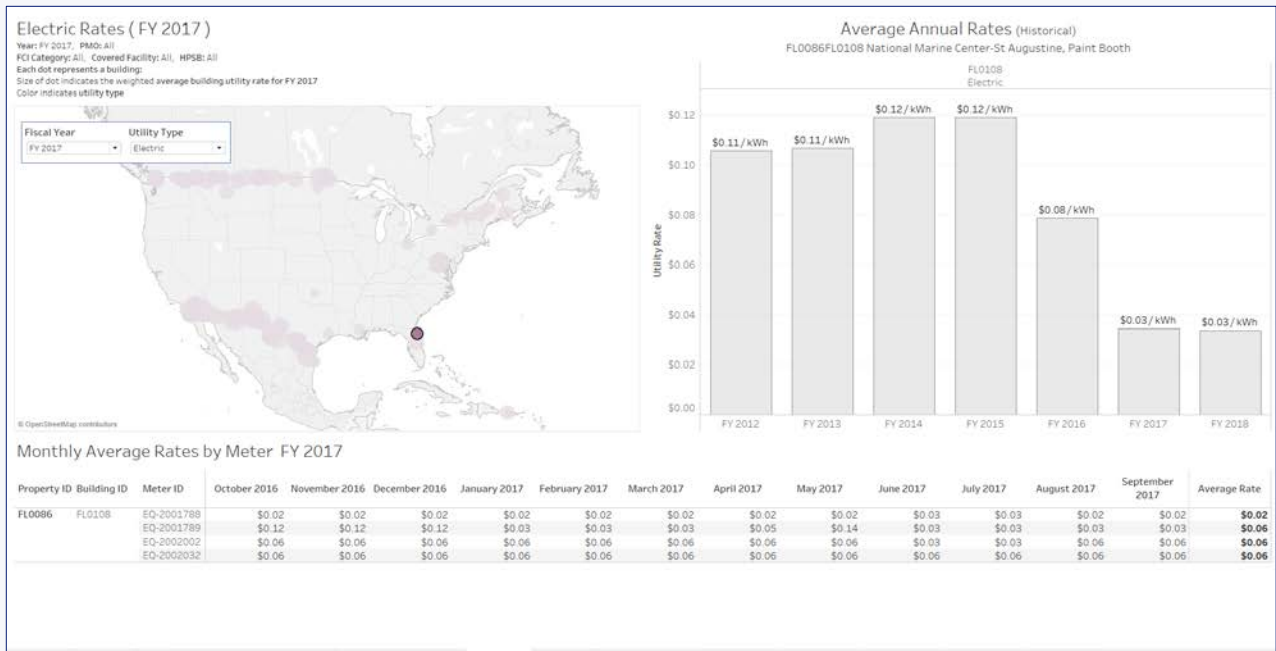
Consumption & Cost



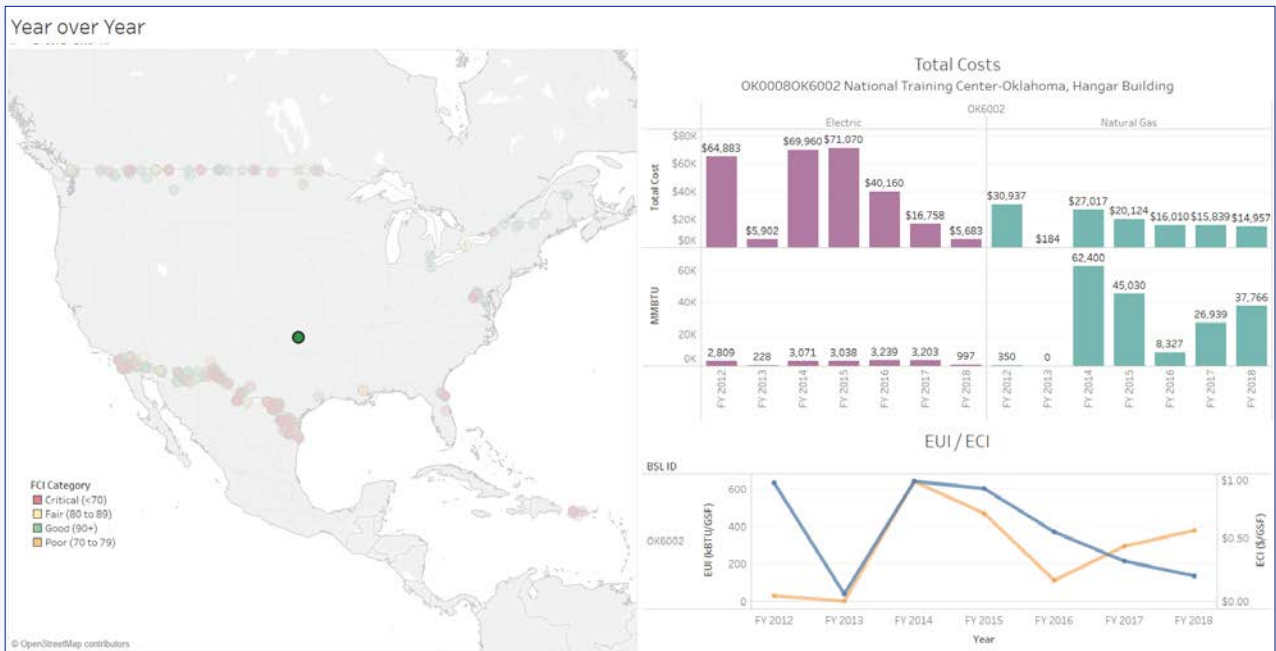
Energy Investment



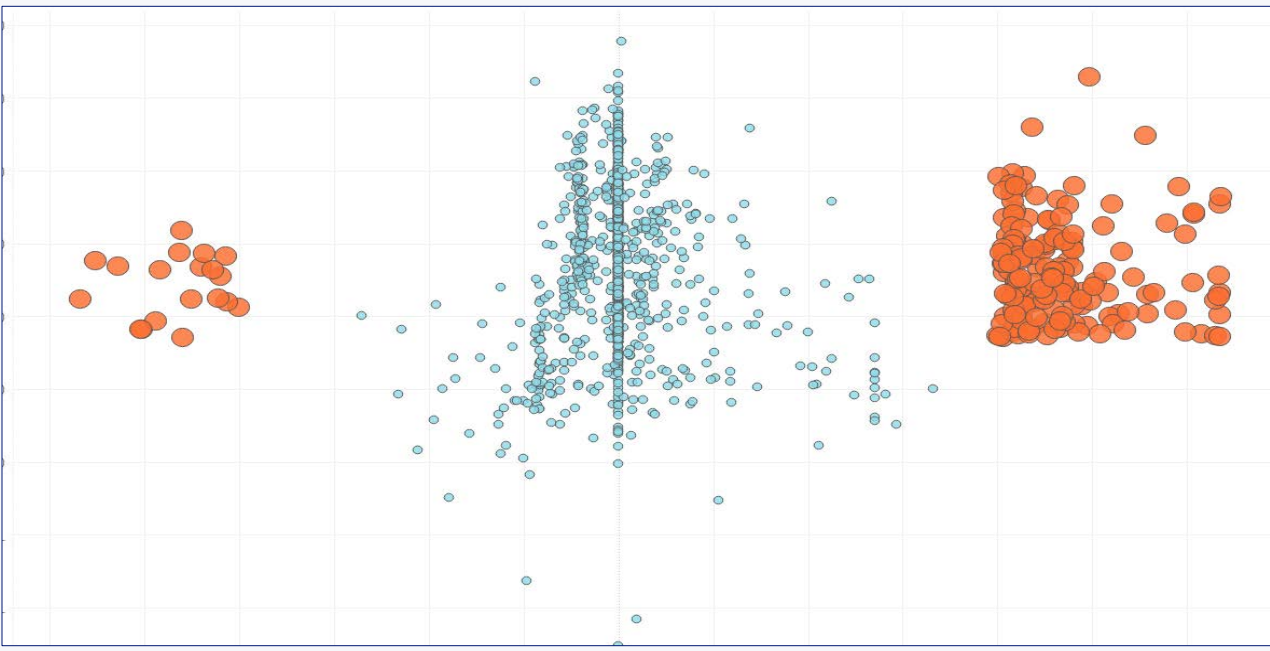
Utility Rates



Trend Analysis



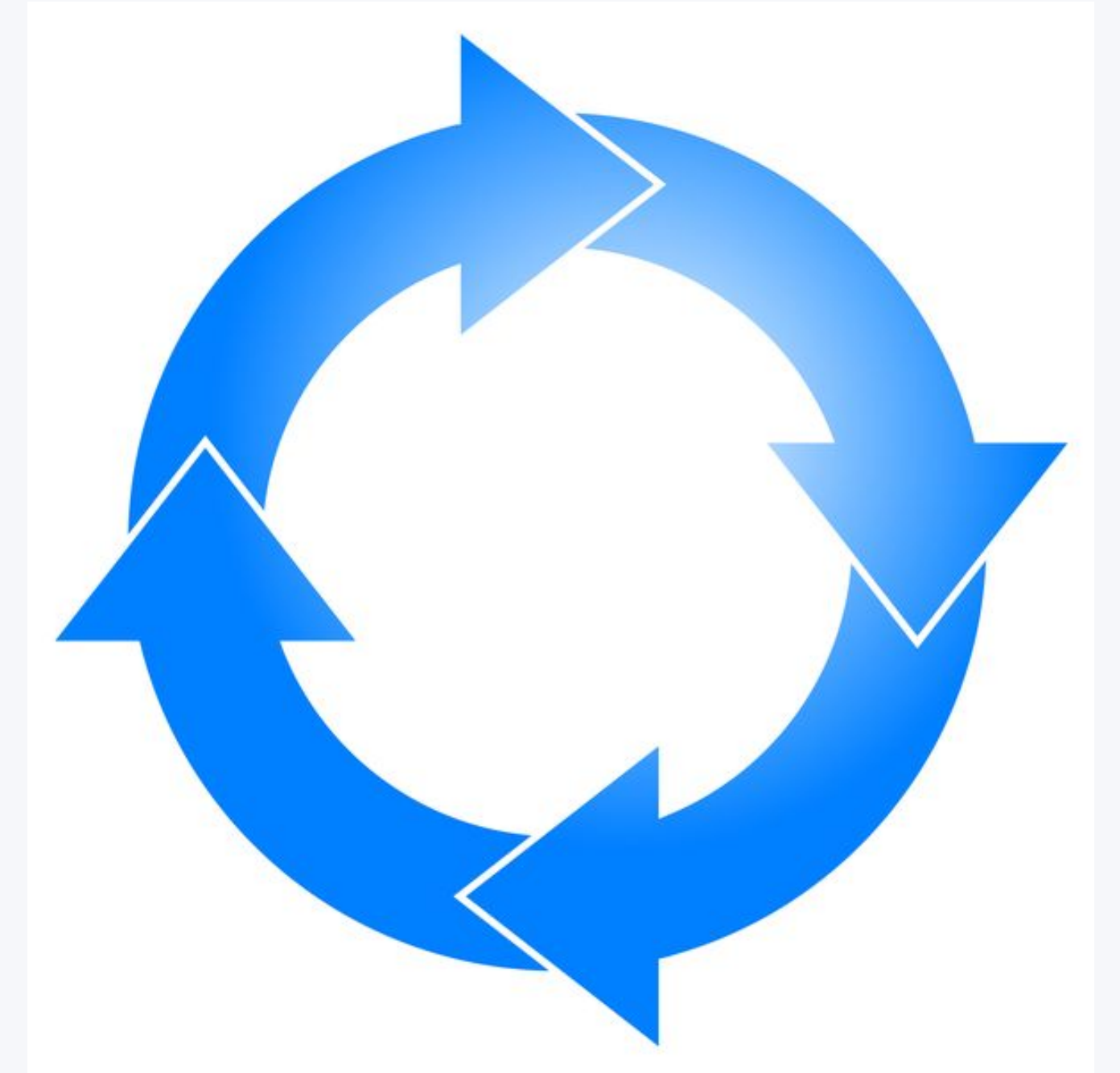
Identification of Outliers



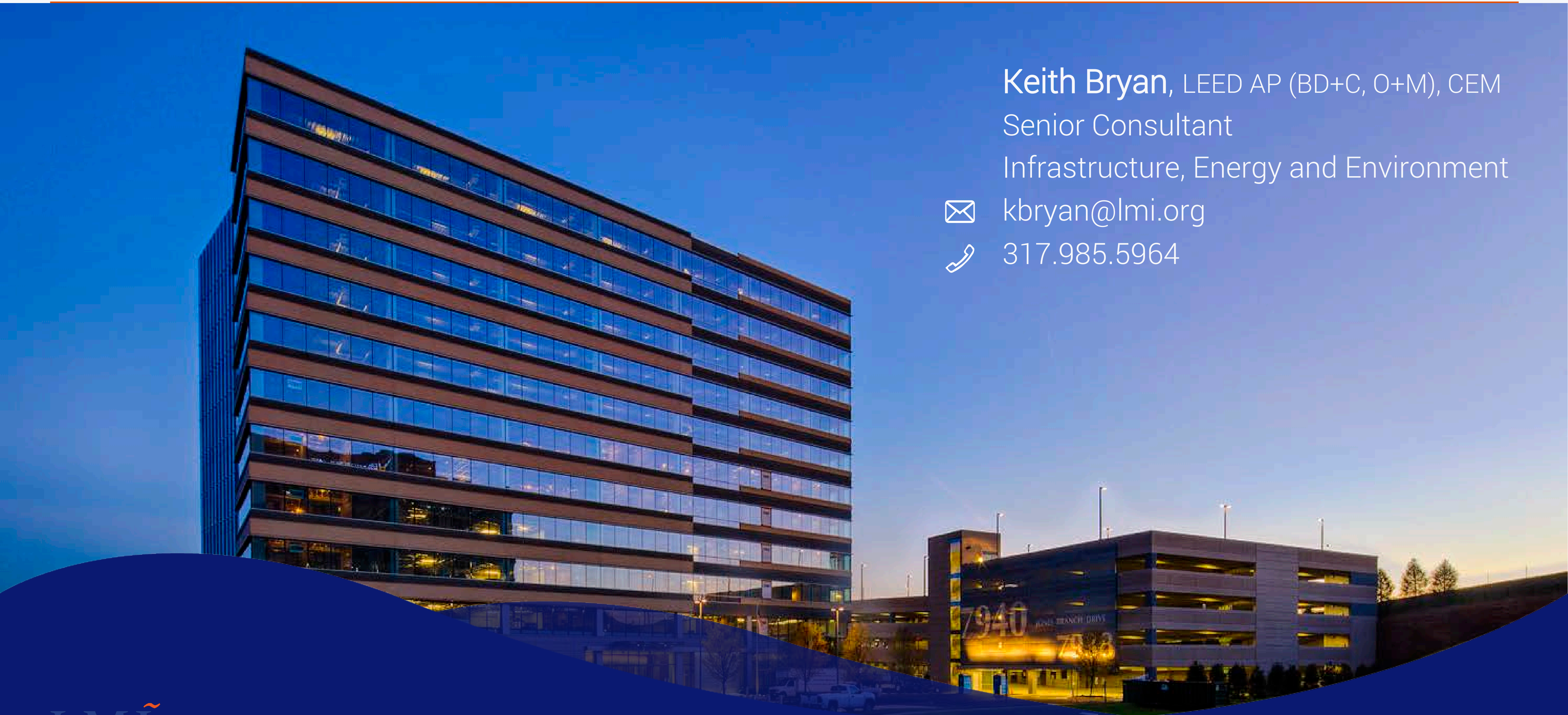
“Without data you’re just another person with an opinion.”

TRUST THE PROCESS

- Focus on the mid-term, while planning for the long term
- Continuously and strategically improve
- Understand that meaningful change takes time



CONTACT



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