



IDEAS Z2 Design Facility, San Jose (Credit: David Wakely)

San José Building Electrification Code

Green Town, Climate Crisis
September 30, 2020



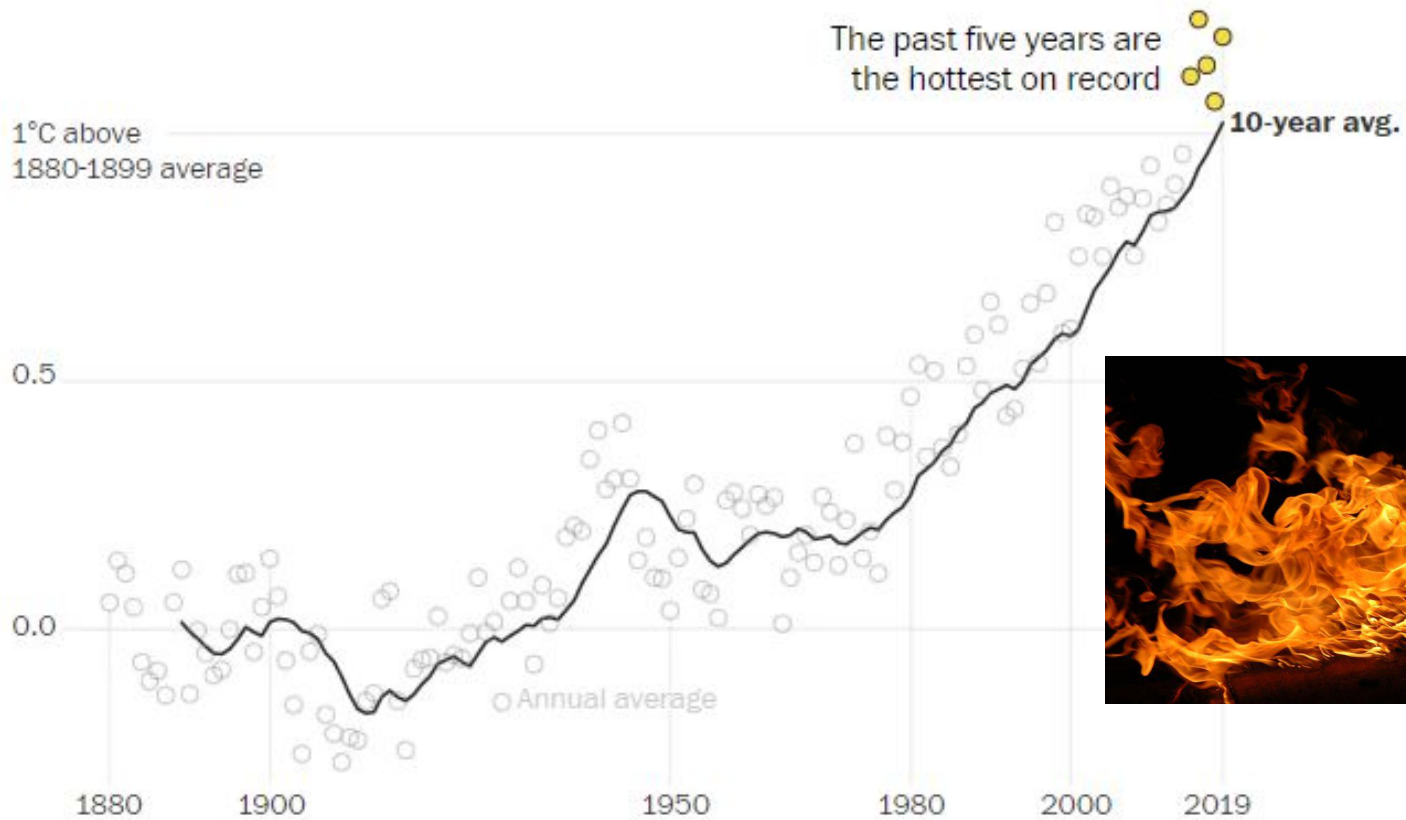
Why This Reach Code? Why Now?

- Adopted reach code:
 - Responded to stakeholder support and concerns
 - Pursues a significant reduction in GHG emissions
 - Improves Air Quality & Human Health
- Timing ensures:
 - Alignment with 2019 California Code effective date of January 1, 2020
 - Maximum impact due to implementation date
 - Progress on Climate Smart and American Cities Climate

“There is a growing consensus that building electrification is the most viable and predictable path to zero-emission buildings.”
California Energy Commission

2018 Integrated Energy Policy Report Update (Jan. 2019)

2010s = Hottest Decade EVER!



Source: NASA's Goddard's Global Surface Temperature Analysis (GISTEMP)

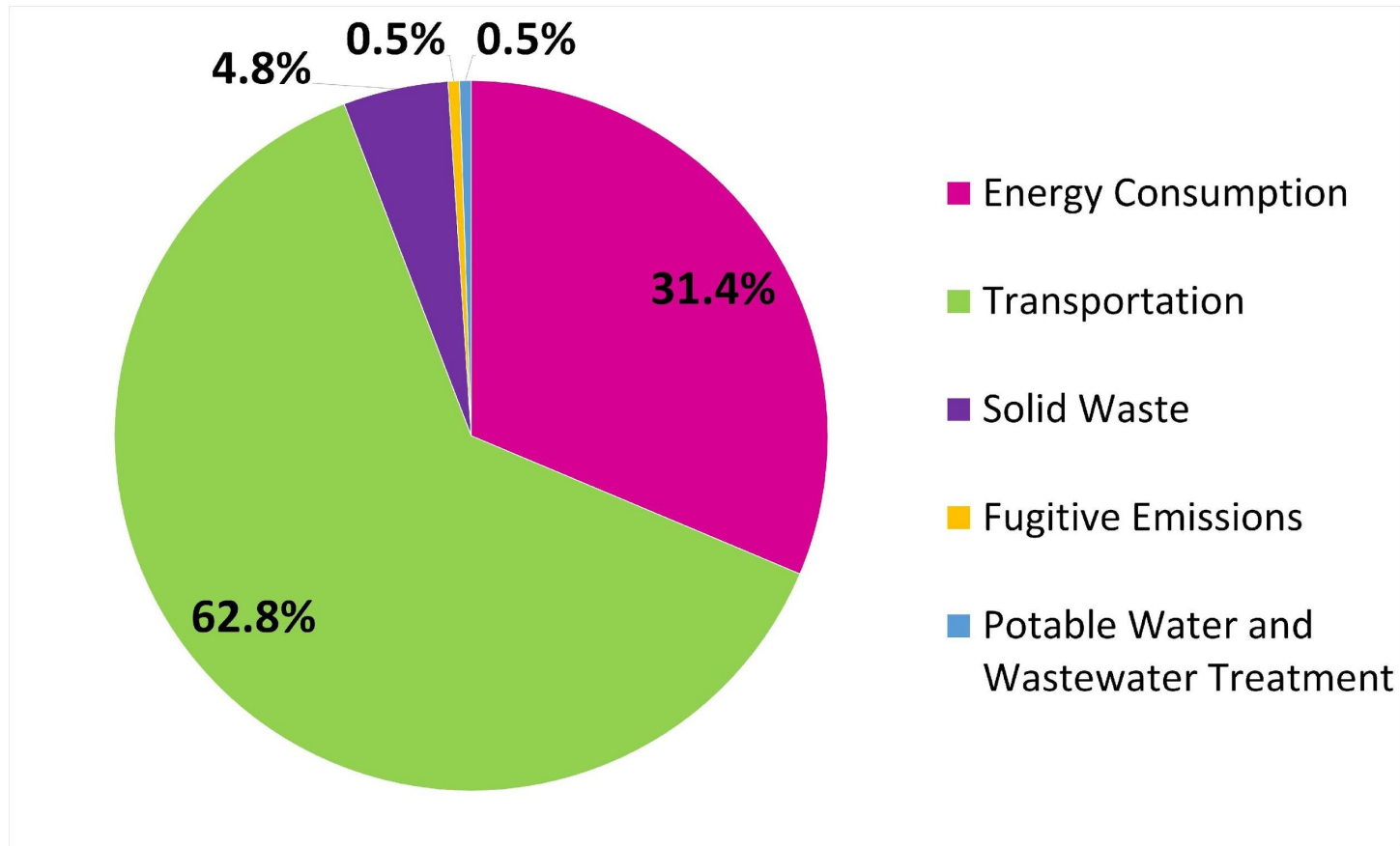
California & the Western US are On Fire



Greenland's Ice Sheet – Point of No Return!



San José 2017 GHG Emissions Profile



CLIMATE SMART SAN JOSE

A People-Centered Plan for a
Low-Carbon City



How reach code and natural gas ordinance will help us reach our Climate Smart goals?

- All-electric homes: 47%
- Zero net carbon (ZNC) homes: 37,975
- ZNC commercial buildings: 70M sq. ft.
- EVs: 61%
- Solar: 668 MW
- Results in cost-effective, safer, and healthier buildings
- Preempts future retrofitting costs

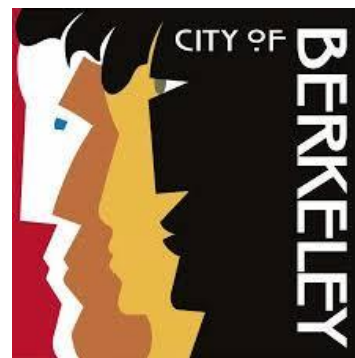
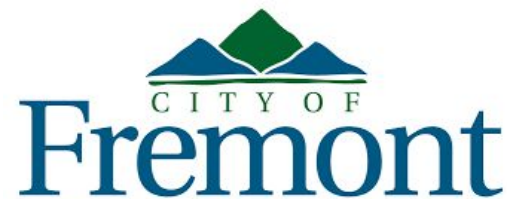
Health & Safety Benefits



Indoor Air Quality







Regional Reach Code Efforts



San José Reach Code & Natural Gas Ban

- Adopted September 17, 2019
- Natural Gas Prohibition
 - Adopted October 29, 2019
 - Applies to Single-Family, Detached ADUs, and Low-rise Residential buildings up to 3 stories
- Council Direction
 - Return to Council in 2020 with analysis on expanding the Gas Ban to all buildings
 - Currently scheduled for November 17th



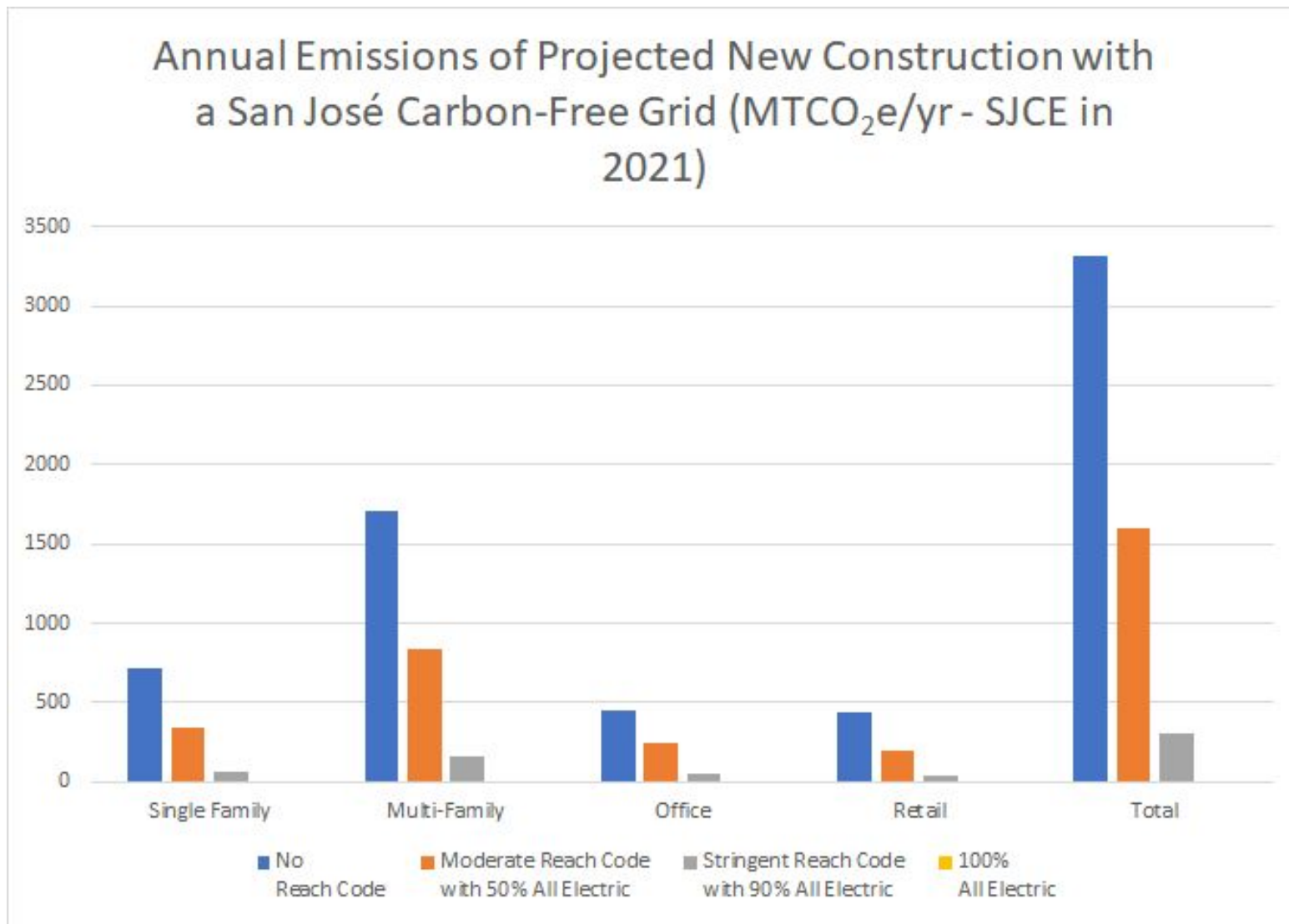
	Natural Gas Infrastructure Prohibition Requirements	Reach Code Requirements ¹	
Occupancy Type	Requirements Supplementing Reach Code ²	All-Electric Building Requirements ²	Mixed Fuel Building Requirements ²
Single-family, Detached Accessory Dwelling Unit (ADU), and Low-rise Multi-family 	Requires all-electric building.	Efficiency: To Code Electric Vehicle Charging Infrastructure (EVCI): Single-family: 1 EV Ready; Detached ADU: 1 EV Ready (if space is required by Code); Low-rise Multi-family: 10% EVSE, 20% EV Ready, 70% EV Capable	<i>Not applicable per Natural Gas Infrastructure Prohibition.</i>
Low-Rise Hotel/Motel 	<i>Not applicable.</i>	Efficiency: To Code EVCI: 10% EVSE, 20% EV Ready, 70% EV Capable	Efficiency: EDR = min. 10 point reduction; electrification-ready EVCI: Same as All-Electric Building Requirements
High-rise Multi-family and Hotel/Motel 	<i>Not applicable.</i>	Efficiency: To Code EVCI: High-rise Multi-family: 10% EVSE, 20% EV Ready, 70% EV Capable; Hotel/Motel: 10% EVSE, 0% EV Ready, 50% EV Capable	Efficiency³: 6%; electrification-ready EVCI: Same as All-Electric Building Requirements
Other Non-residential 	<i>Not applicable.</i>	Efficiency: To Code EVCI: 10% EVSE, 0% EV Ready, 40% EV Capable	Efficiency³: Office & Retail: 14%; Industrial/Manufacturing: 0%; All other non-residential occupancies: 6%; all electrification-ready EVCI: Same as All-Electric

Adopted Reach Code: Solar-readiness/Electrical Readiness

- “Solar-readiness” includes:
 - Identification of solar ready zone
 - Documentation of structural load including solar
 - Interconnection pathway
- 2019 Code includes solar-readiness for most building types
- Adopted reach code extends solar-readiness requirement to excluded non-residential buildings
- Solar-ready saves about 10% of the total installed cost of a system versus non-solar-ready
- Electrical “readiness” a game changer



Emissions Benefits



Financial Benefits

- All-electric buildings are low-cost construction option
Many are already being built in California...



Quetzal Gardens, San Jose



Plaza Point, Arcata



The Grove, Scotts Valley



Valley Glen, Dixon

Santana Row, San Jose



Sol Lux Alpha, San Francisco



Linda Vista, Mountain View



Stakeholder Engagement Summary

- City reach code webpage
- Over 65 stakeholders and 200 Neighborhood Associations included in outreach efforts
- Four stakeholder engagement workshops (May-July 2019)
- Four additional public presentations
- Several individual meetings, as requested



Building Expert's Roundtable 12/19

- Discuss the technical feasibility of building all electric new construction
- Share best practice examples for low-mid rise all electric new construction
- Collect input from building industry professionals to inform a technical study
- Identify specific challenges, unpacking the barriers and developing solutions



Post-adoption Implementation

Next Steps

- Provide trainings and resources for City staff and the public
- Work closely with projects permitted since January 1, 2020 (code interpretation and tech support)
- Work on expanding CEC compliance options for centralized HPWH systems
- Pursue funding opportunities to incentivize all-electric buildings, EVs, and EVCI in San José
- Collect and report data on the reach code impact



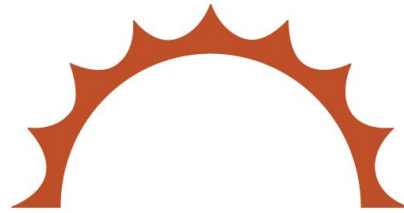
Award-winning Recognition!

2020 SPUR Impact Awards: Building Reach Code Team Helps San José Go Carbon Neutral

March 20, 2020



Left to Right: Julie Benabente, Ken Davies, Ron Davis, James Son



CLIMATE SMART

— **SAN JOSE** —

LIVING BETTER TODAY FOR TOMORROW

www.ClimateSmartSJ.org

CITY OF MINNEAPOLIS

GreenTown 2020 Innovative Policy Solutions: Minneapolis Green Zones

Kelly Muellman, she/her

Minneapolis Sustainability Division

minneapolismn.gov/sustainability/

Sustainability & Racial Justice

- Climate change and racism share the same root causes ... must be holistic solution.
- Recognizing the history of exclusiveness and oppression in environmental movement, and City policies generally
- We need EVERYONE to reach our goals
 - 100% Renewable Electricity
 - 80% greenhouse gas emission reduction by 2050
- Opportunities accessible to those with the most barriers and challenges are accessible to all

What is a Green Zone?

- **Place-based** policy initiative aimed at improving **health** and supporting **economic development** using **environmentally conscious** efforts in communities that face the **cumulative effects** of environmental pollution, as well as social, political and economic vulnerability.

What's different about Green Zones?

- Centers BIPOC, low-income and EJ community members' voices
- Relationship of City with community:
 - Community develops the content
 - City participates to share information/transparency
- Importance of City staff to hear concerns and ideas from community
- Transactional -> institutionalized change

2017: Green Zone Designation Criteria

Environmental Evaluation

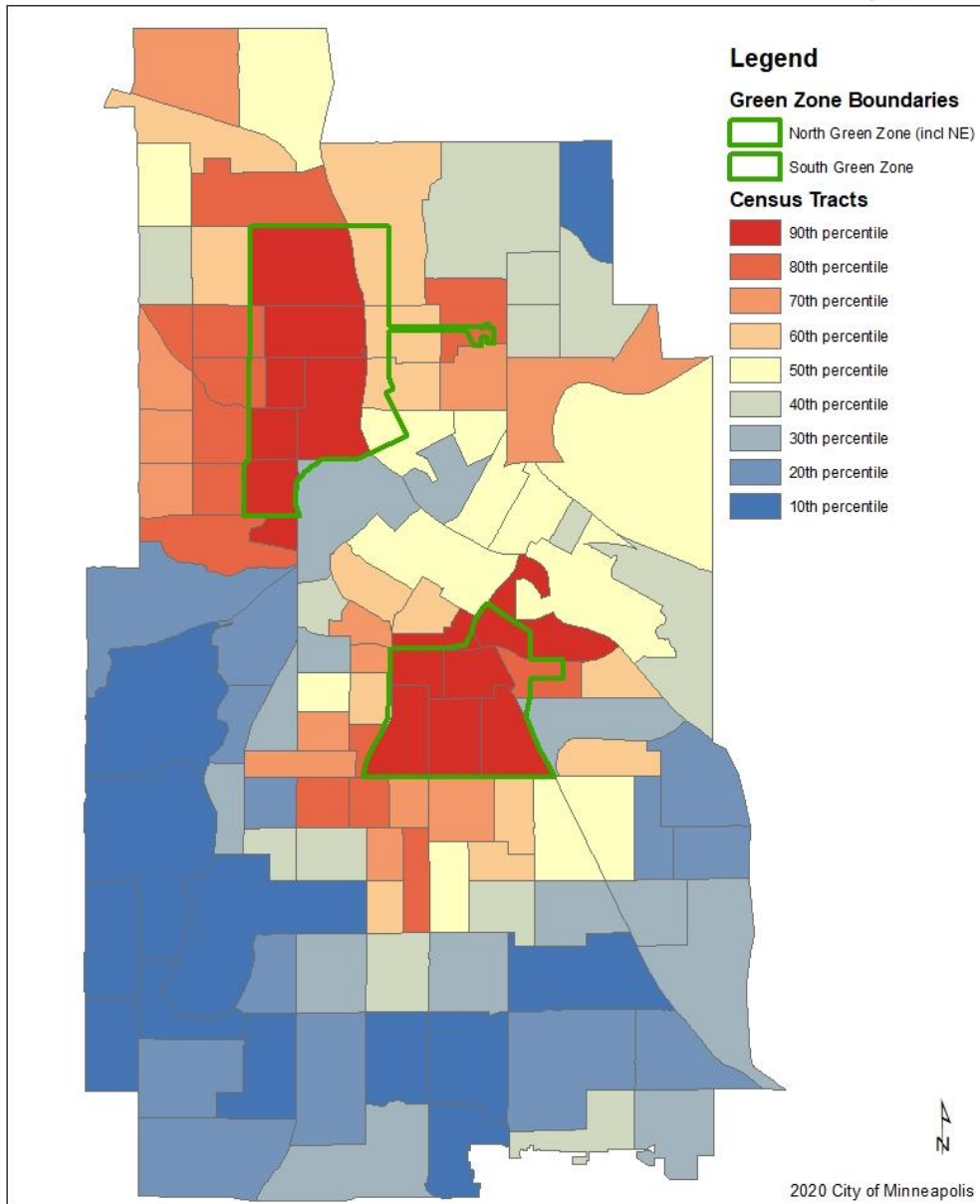
- + Air quality (MPCA modeled data)
- + Brownfields (brownfields & permitted sources)
- + Housing (rental tiers, affordability gap, cost burden)
- + Jobs (unemployment, proximity of jobs)
- + Greening (vegetation)
- + Food access (farmers' markets, grocery stores, food shelves, corners stores)

[Water Quality & Access]

Equity Evaluation

- + Health Outcomes (asthma, heart attack hospitalizations)
- + Lead risk
- + English proficiency
- + Disability status
- + Older adults (age 65+, nursing homes)
- + Youth (children <5, child care centers, schools)
- + Concentrated Poverty with majority People of Color and Indigenous People
- + Educational Attainment

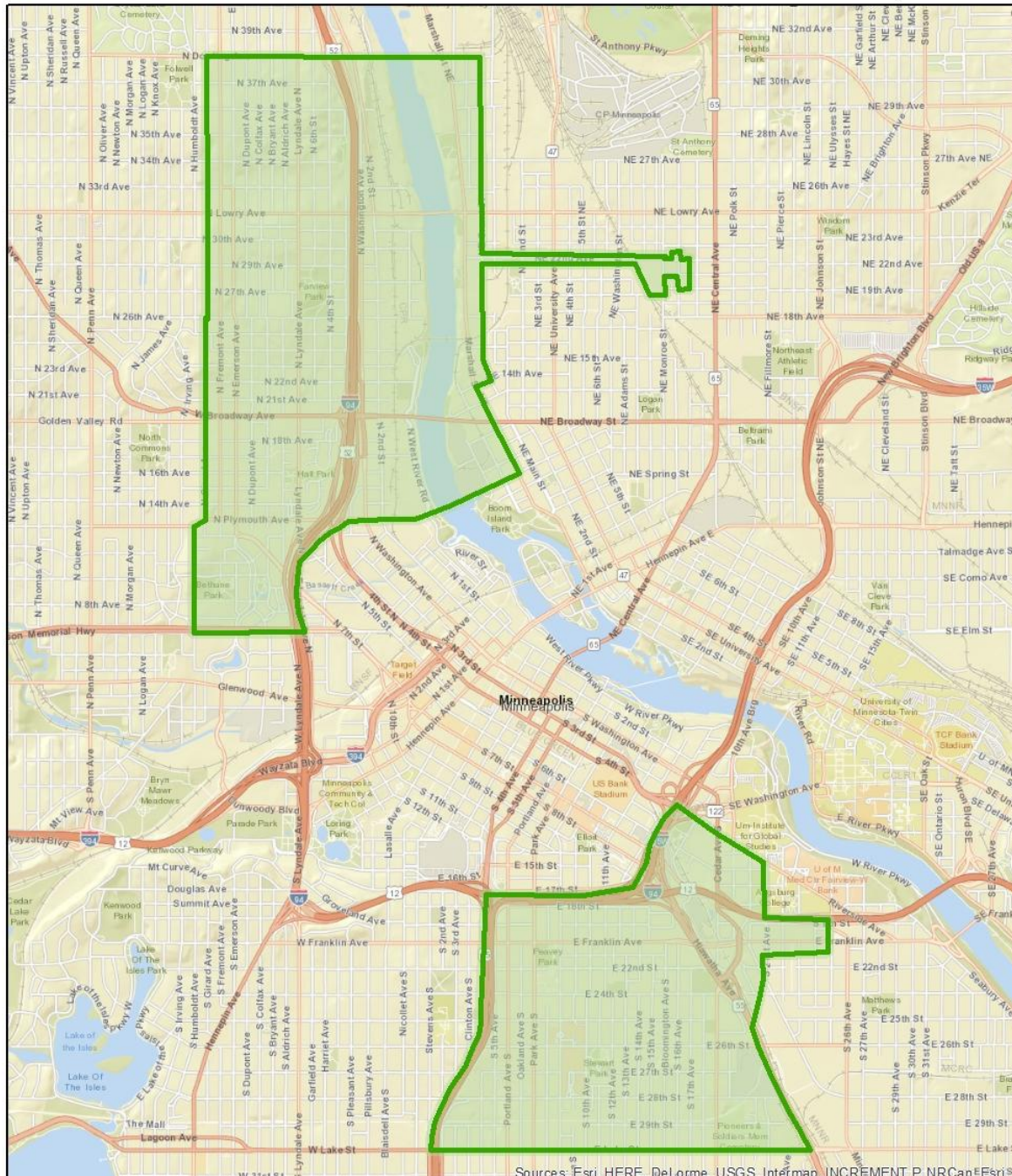
Minneapolis Green Zone Designations



Equity + Environment

- Equity category has equal weight as all the environmental variables combined

Minneapolis Green Zone Boundaries



Accomplishments

1. Both Green Zones have developed Work Plans with dozens of action items
2. Presentation on air pollution & COVID-19 to City Council in Sept 2020
3. Structural conversations about elevating racial justice work in Sustainability -> more focus on Green Zone priorities and actions [staff time, budget, etc.]
4. Northside Green Zone VISTA in Oct 2020



Questions?

Kelly Muellman
(she/her)

kelly.muellman@minneapolismn.gov



ENVIRONMENTAL LAW & POLICY CENTER
Protecting the Midwest's Environment and Natural Heritage

Illinois Renewables Landscape

Legislative Action Needed to Unlock Potential

September 21, 2020

MeLena Hessel – Senior Policy Advocate

Environmental Law and Policy Center (ELPC)



ELPC is the Midwest's leading public interest environmental organization, working to advance environmental progress hand-in-hand with economic development.

Places



Transportation



Clean Water



Energy



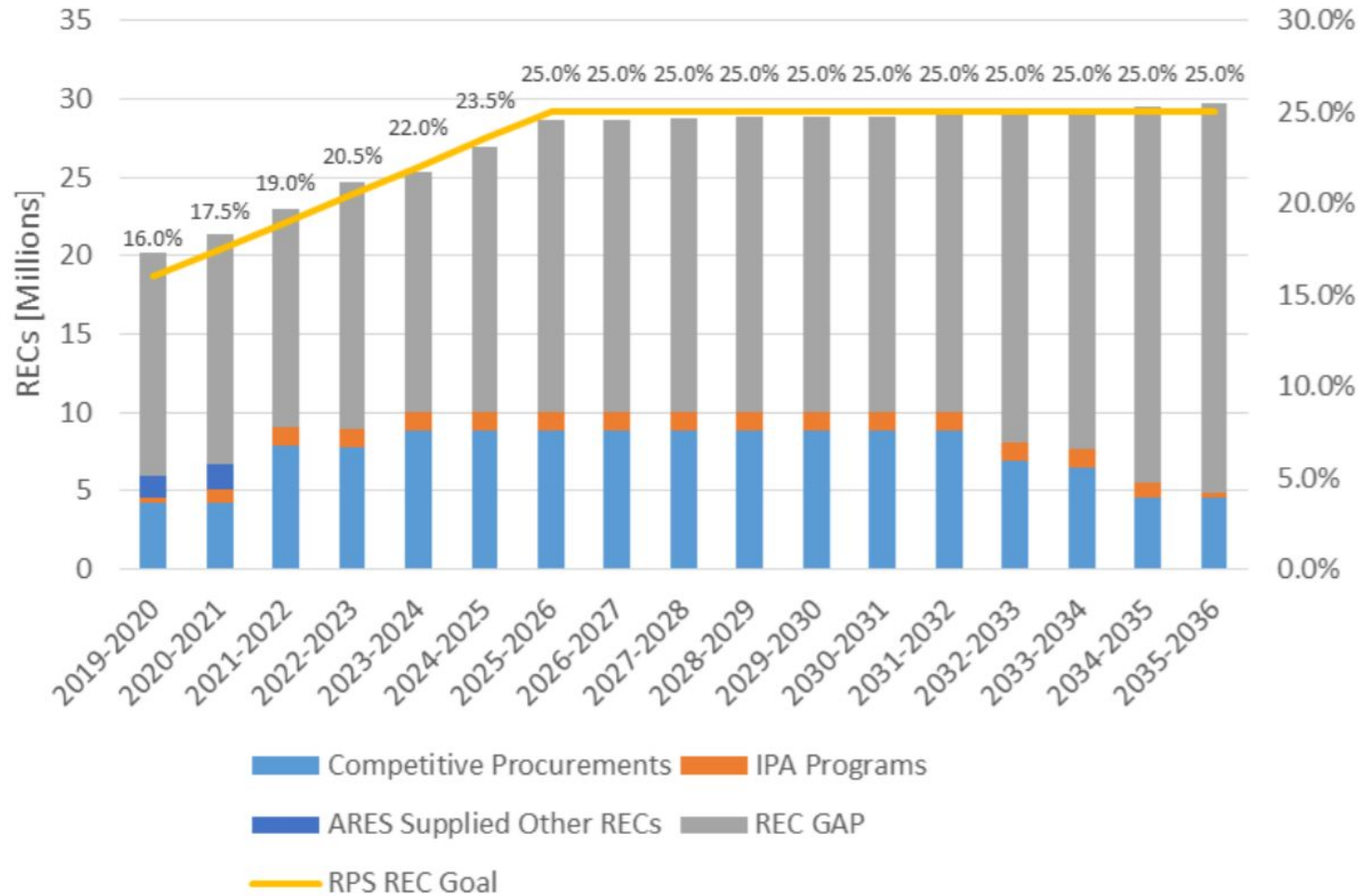
Clean Air





Illinois Renewable Policy

Figure 3-1: Statewide Annual RPS Goal, REC Portfolio and REC Gap

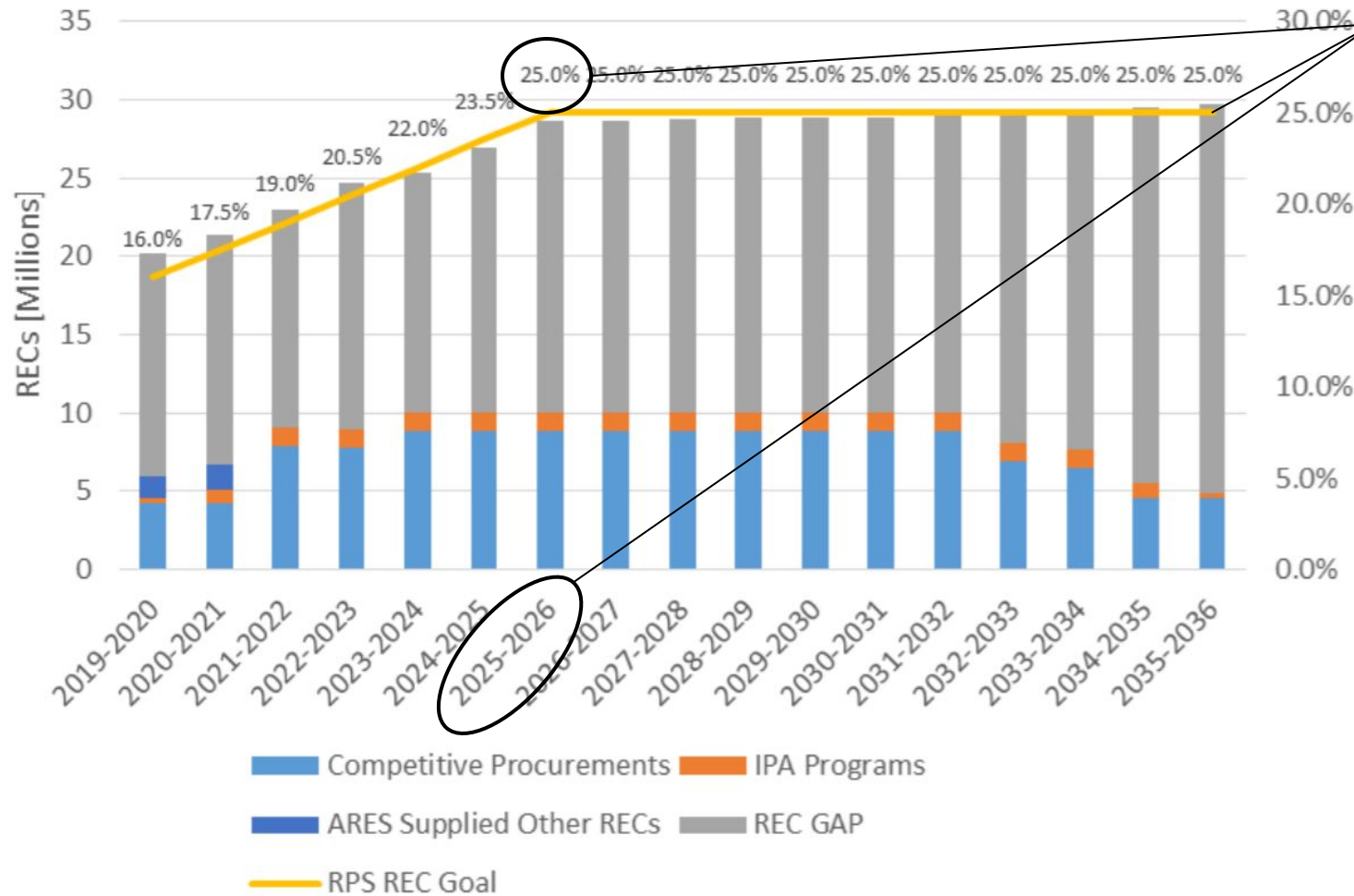


Illinois Renewable Policy



ENVIRONMENTAL LAW & POLICY CENTER

Figure 3-1: Statewide Annual RPS Goal, REC Portfolio and REC Gap



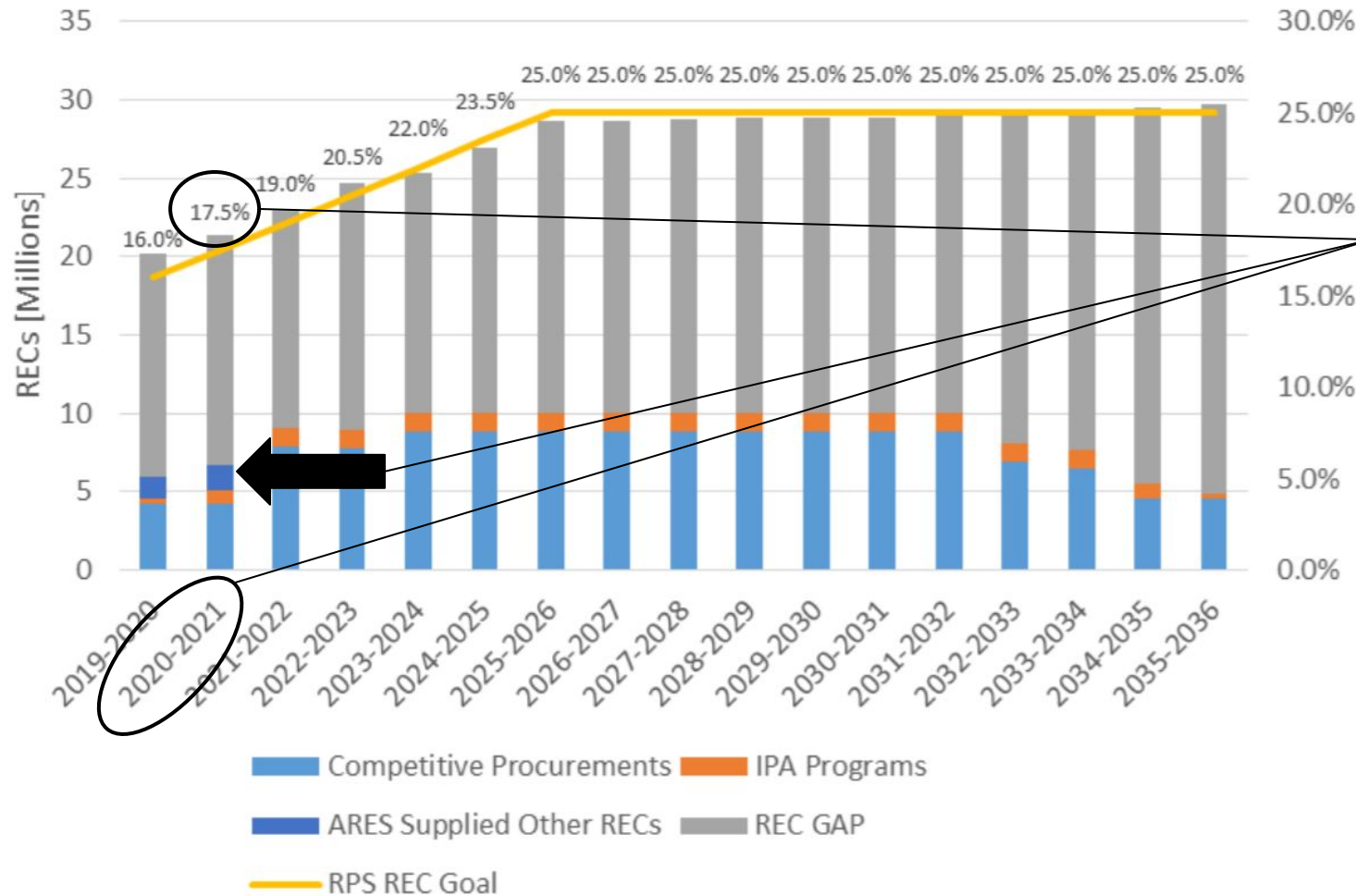
• “RPS” Policy: 25% by 2025

Illinois Renewable Policy



ENVIRONMENTAL LAW & POLICY CENTER

Figure 3-1: Statewide Annual RPS Goal, REC Portfolio and REC Gap



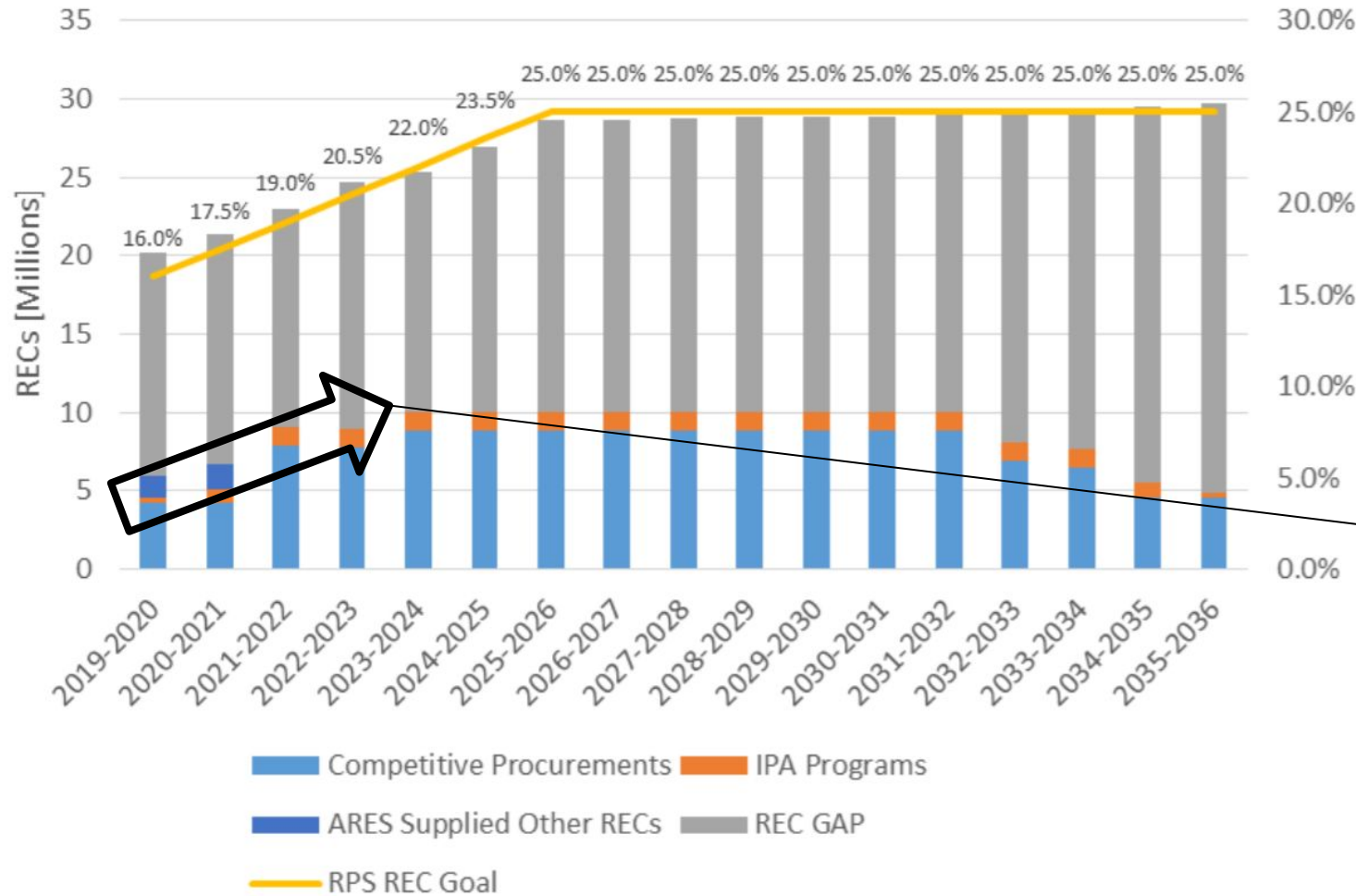
- “RPS” Policy: 25% by 2025
- September 2020
 - Goal: 17.5%
 - Actual: 5.4%

Illinois Renewable Policy



ENVIRONMENTAL LAW & POLICY CENTER

Figure 3-1: Statewide Annual RPS Goal, REC Portfolio and REC Gap

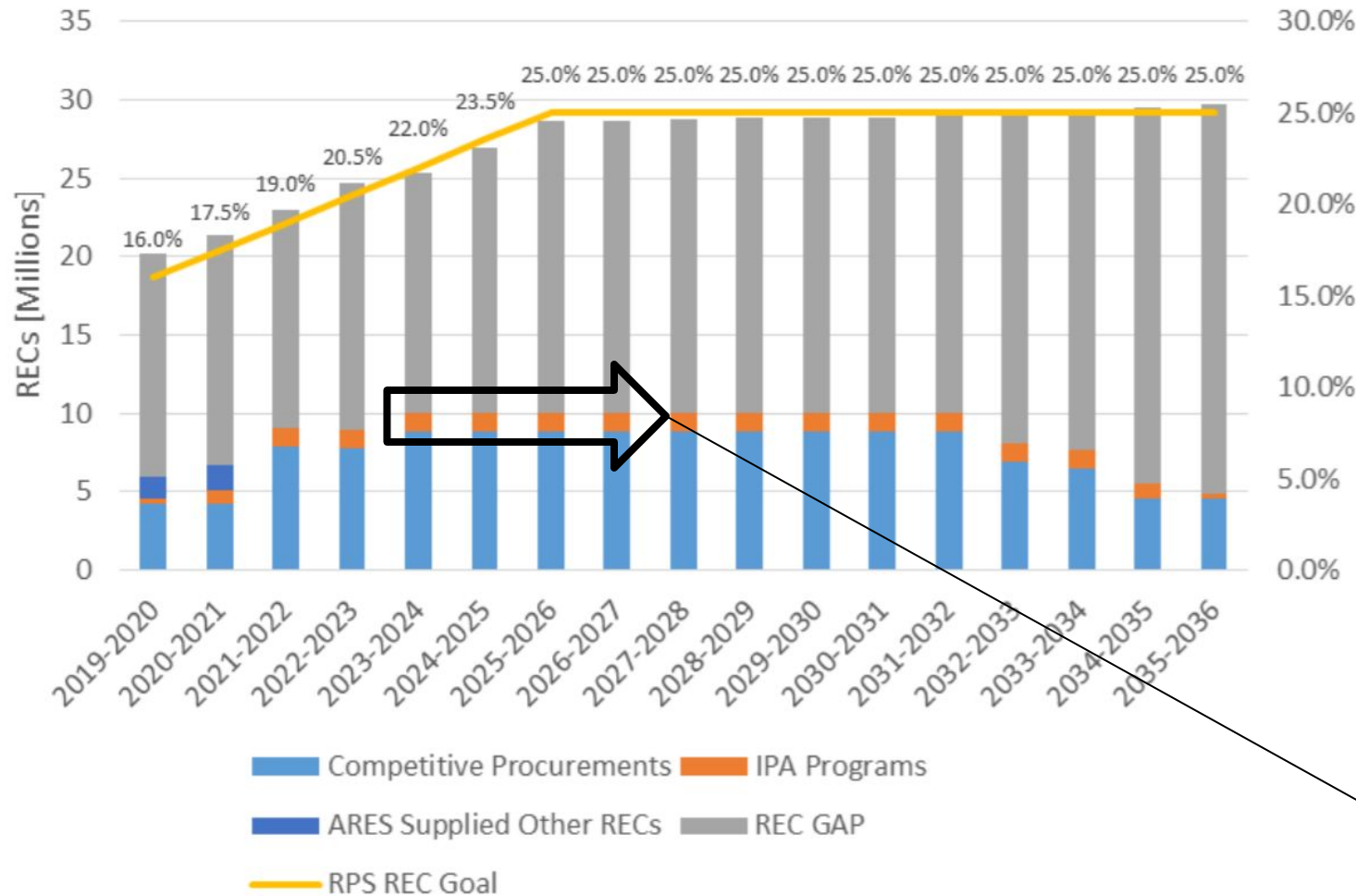


- “RPS” Policy: 25% by 2025
- September 2020
 - Goal: 17.5%
 - Actual: 4.2%
- Huge progress! 1.9M RECs in 2018 to 10M by 2023



Illinois Renewable Policy: Plateaued Off a Cliff

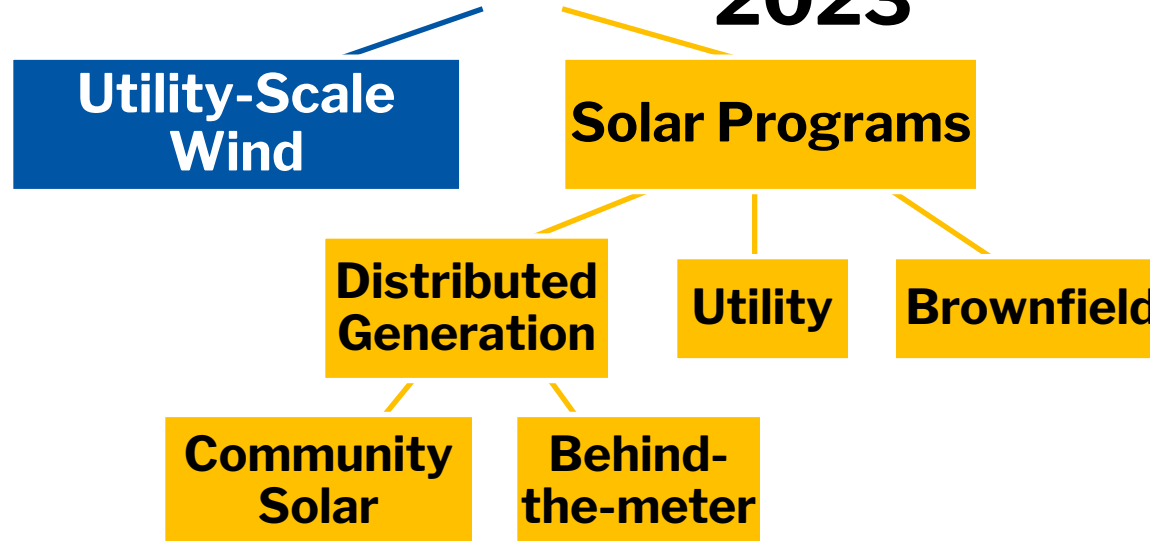
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- “RPS” Policy: 25% by 2025
- September 2020
 - Goal: 17.5%
 - Actual: 4.2%
- Huge progress! 1.9M RECs in 2018 to 10M by 2023
- Plateaued progress = renewables cliff

FEJA Accomplishments: 5x Renewables

From 1.9M RECs in 2018 to nearly 10M in 2023



**+Low Income Solar:
Illinois Solar for All**



Challenges

- Budget and cashflow
- Increasing the goal.....→
- Community solar – lottery, siting, billing
- Interconnection
- Solar+ compensation
 - Net metering
 - Distributed generation rebate

<u>Higher RE Goal</u>	<u>100% Goal</u>
	ME
ME	NY
NH	VA
VT	WI
MA	CO
RI	NM
CT	NV
NJ	WA
MD	CA
NY	
VA	
MN	
CO	
NM	
NV	
OR	
CA	



What's Next?

Legislative proposals

- [Clean Energy Jobs Act](#)
- [Path to 100%](#)

[Governor's Principles](#) and various Working Groups

Put the State of Illinois on a path toward 100% clean energy by 2050. The State must set a goal to reach 100% clean energy by 2050. Climate change is threatening Illinois residents and communities, and the science is clear that rapid buildout of renewable energy is a necessary near-term strategy for combatting climate change, and it's necessary for powering our long-term future. Illinois can create jobs, battle climate change, and improve the environment by leading the Midwest in clean energy deployment.

Questions



ENVIRONMENTAL LAW & POLICY CENTER

MeLena Hessel

Senior Policy Advocate

Environmental Law & Policy Center

(312) 795-3738

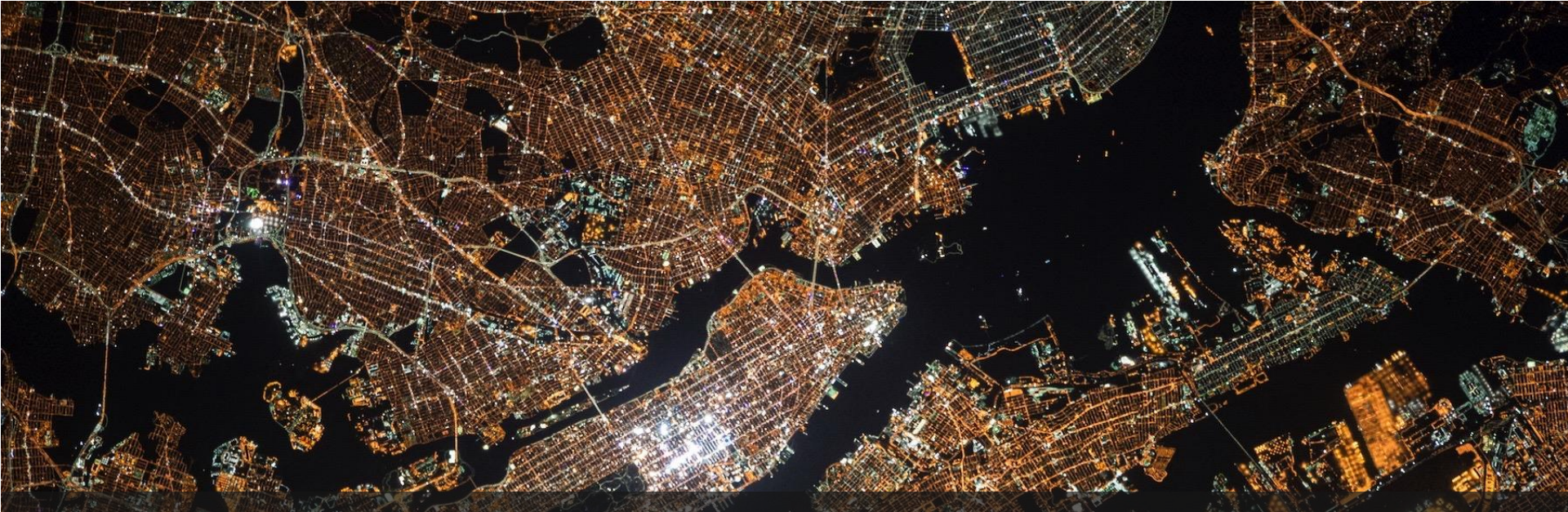
mhessel@elpc.org

St. Louis Tackles Carbon from Existing Buildings



**The Midwest's First Building
Performance Standard**

The Future of Building Performance Standards



Why We Led on BEPS & Why It's Right for St. Louis

- Right thing to do
- Public Health Benefits
- Job Creation Opportunities
- Most impactful way to address GHG emissions through policy





Why We Led on BEPS & Why It's Right for St. Louis

- Building codes + BEPS
 - Codes continue to move towards progressive measures, aligning with cities' sustainability goals
 - Supports improved IAQ, enhanced operations + maintenance
 - Business / tenant / employee retention
 - Reinforces broad community goals as a City wanting to lead on building energy efficiency

BEPS Design Decisions

Performance
Metric

Covered
Buildings

Exemptions

Compliance
Cycles

Improvement
Requirements

Equity



BEPS Design Decisions: Performance Metric

SITE Energy Use Intensity (EUI)

Simplicity

Owner-Control

Drive Electrification

BEPS Design Decisions

- **Covered buildings:** 50,000 ft²
- **Exemptions:** Same @ Benchmarking Policy
- **Compliance Cycle:** Comply first in May 2021 and every four years after
- **Improvement Requirements:** Not included, but can be used as alternative compliance path if presented to Building Energy Improvement Board

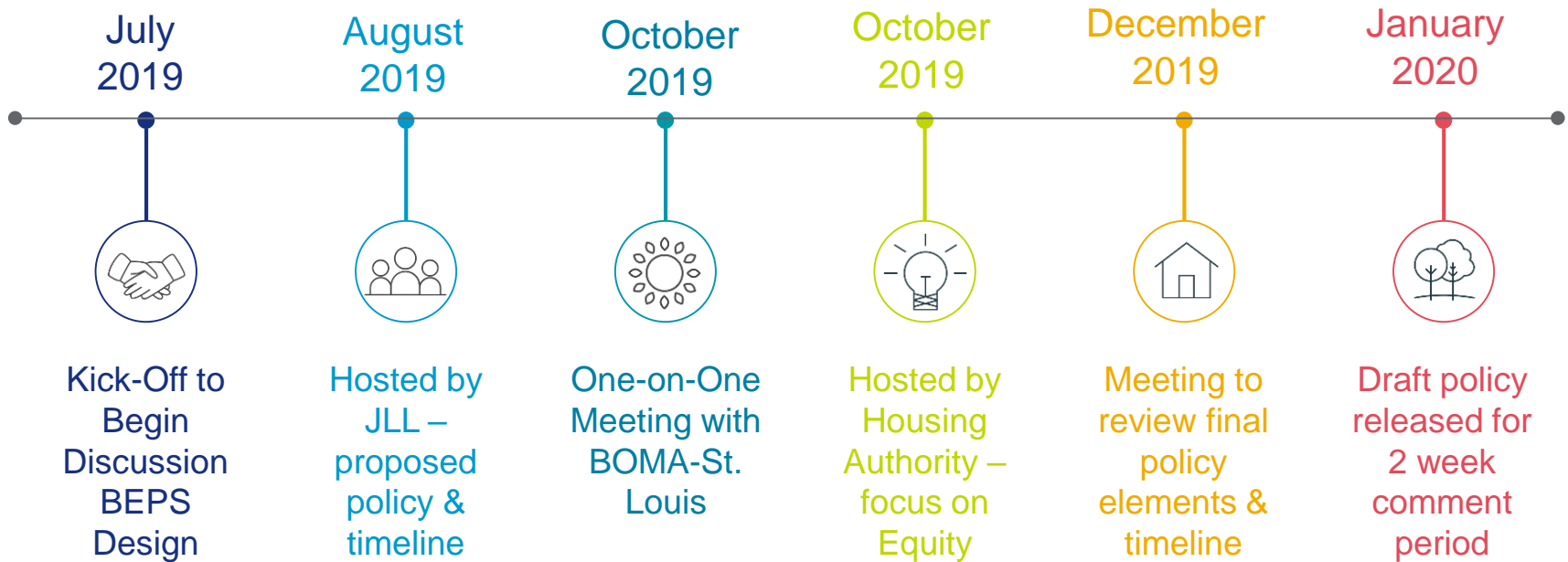




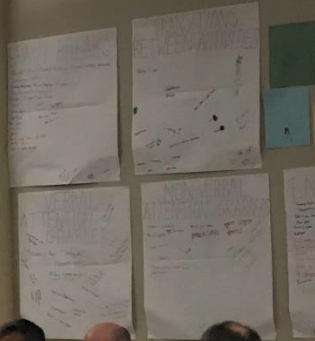
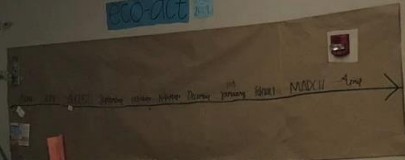
BEPS Design Decisions: Equity

- Extended compliance cycle for affordable housing and houses of workshop
- Building Energy Improvement Board and coming Energy Resource Hub available to assist under-resourced buildings
- Gas and Electric utilities co-deliver generous incentives for affordable housing

Community & Stakeholder Engagement Timeline



St. Louis Benchmarking
Implementation Advisory
Group
July 18th, 2019



Building Energy Performance Standard

SUPPORTERS INCLUDE:



Good for the Economy.
Good for the Environment.



EMBASSY
SUITES
by Hilton
St. Louis Downtown



EnerGuidance



Energy
Resources
Group, Inc.



www.intfs.com



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Missouri
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Power & Light



MISSOURI COALITION FOR THE ENVIRONMENT
EFFECTIVE CITIZEN ACTION SINCE 1969



NATIONAL ASSOCIATION OF
ENERGY SERVICE COMPANIES



NRDC
NATURAL RESOURCES
DEFENSE COUNCIL



Life Is On



For more information contact Emily Andrews at emily.andrews@mobot.org or 314-577-0854

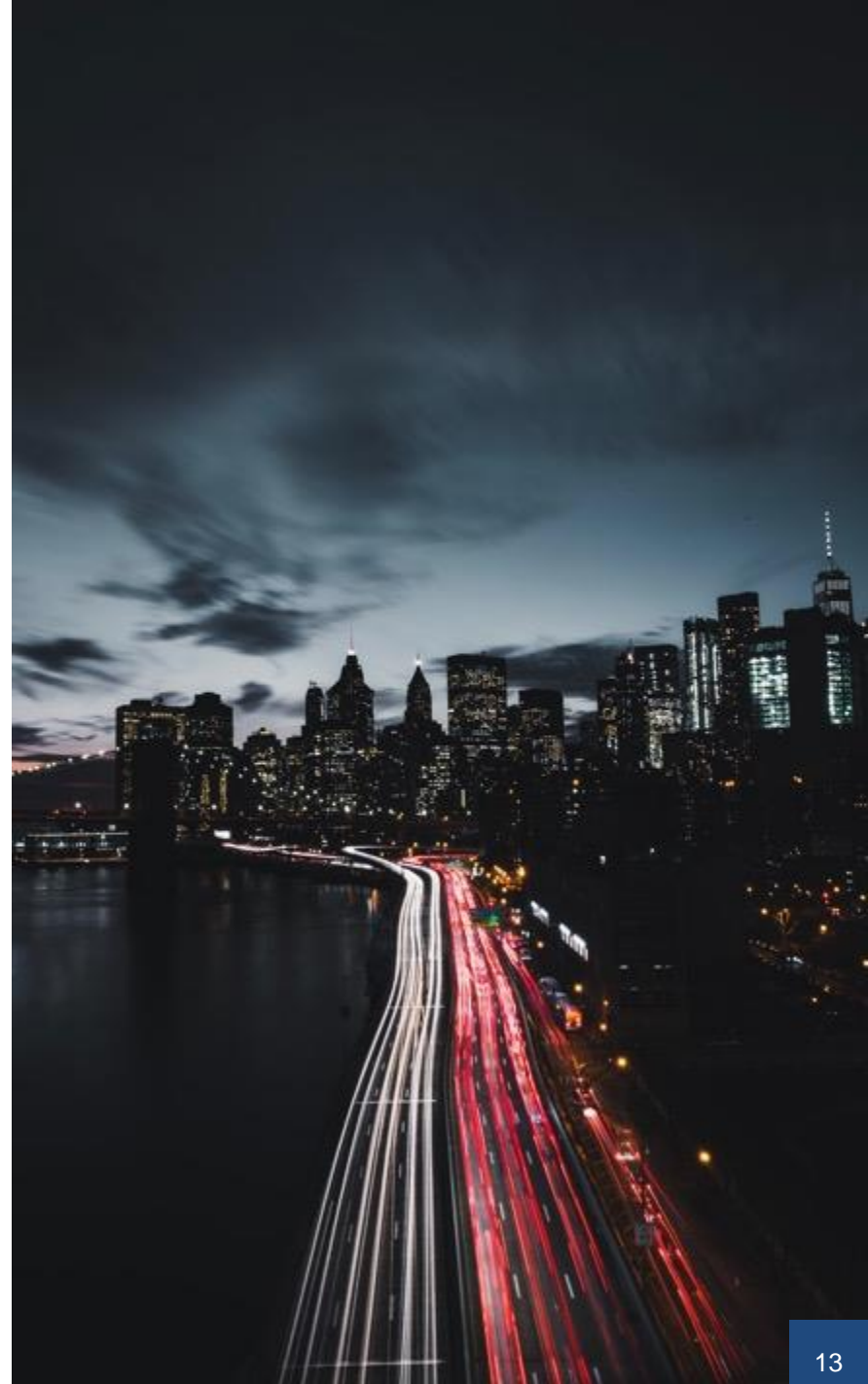
Building Energy Improvement Board (BEIB)

- Defining element of policy
- Harness local private sector expertise
- Democratically approve equitable accommodations
- 9 member board appointed by the Mayor
- Equity win that was supported by local stakeholders



Role of Building Energy Improvement Board

- Establish & approve standards each compliance cycle
- Review and recommend amendments to proposed regulations
- Review alternative compliance plans - recommendation approval or denial
- Recommend complementary programs and technical expertise
 - Plan to create technical sub-committee to support board



Keys to Success & Lessons Learned



- Staff who can build a coalition & manage the process
- Success of benchmarking ordinance
- Outside partners



- Engaged local elected officials
- Benchmarking Advisory Group engagement



- Operating department to oversee
- Technical support from IMT & ACCC

St. Louis got lucky, in some respects



- An ACCC-funded city – luck to have technical support and resources
- When COVID-19 stay at home orders began, ordinance and budget already drafted and submitted

Photo courtesy of Hope Gribble



- Main sponsor persistent despite COVID-19 disrupting normal processes
- ZERO testimony opposing BEPS
- **BEPS passed unanimously!**

•Photo courtesy of Richard Reilly

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