



**SF Environment**

**Our home. Our city. Our planet.**

A Department of the City and County of San Francisco

# All-Electric New Construction Ordinance

San Francisco Commission on the Environment - July 28, 2020



# Today's Objectives



1. Health, Safety, Resilience, and Climate Context
2. Stakeholder Process and Outreach
3. Review the Ordinance
4. Impacts (Cost and Housing Pipeline)
5. Implementation
6. Equity Scan



# Health, Safety, Resilience, and Climate

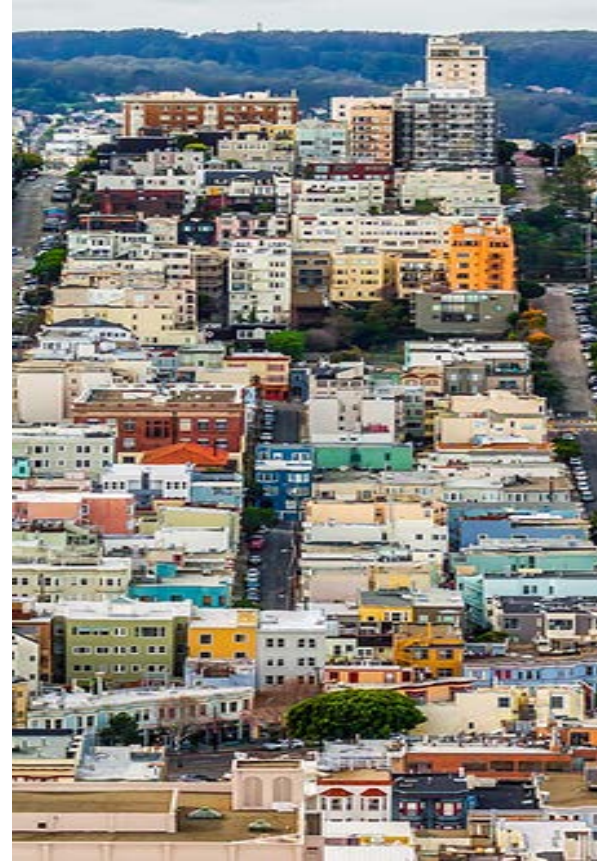
# Natural gas impacts . . .



Health



Safety

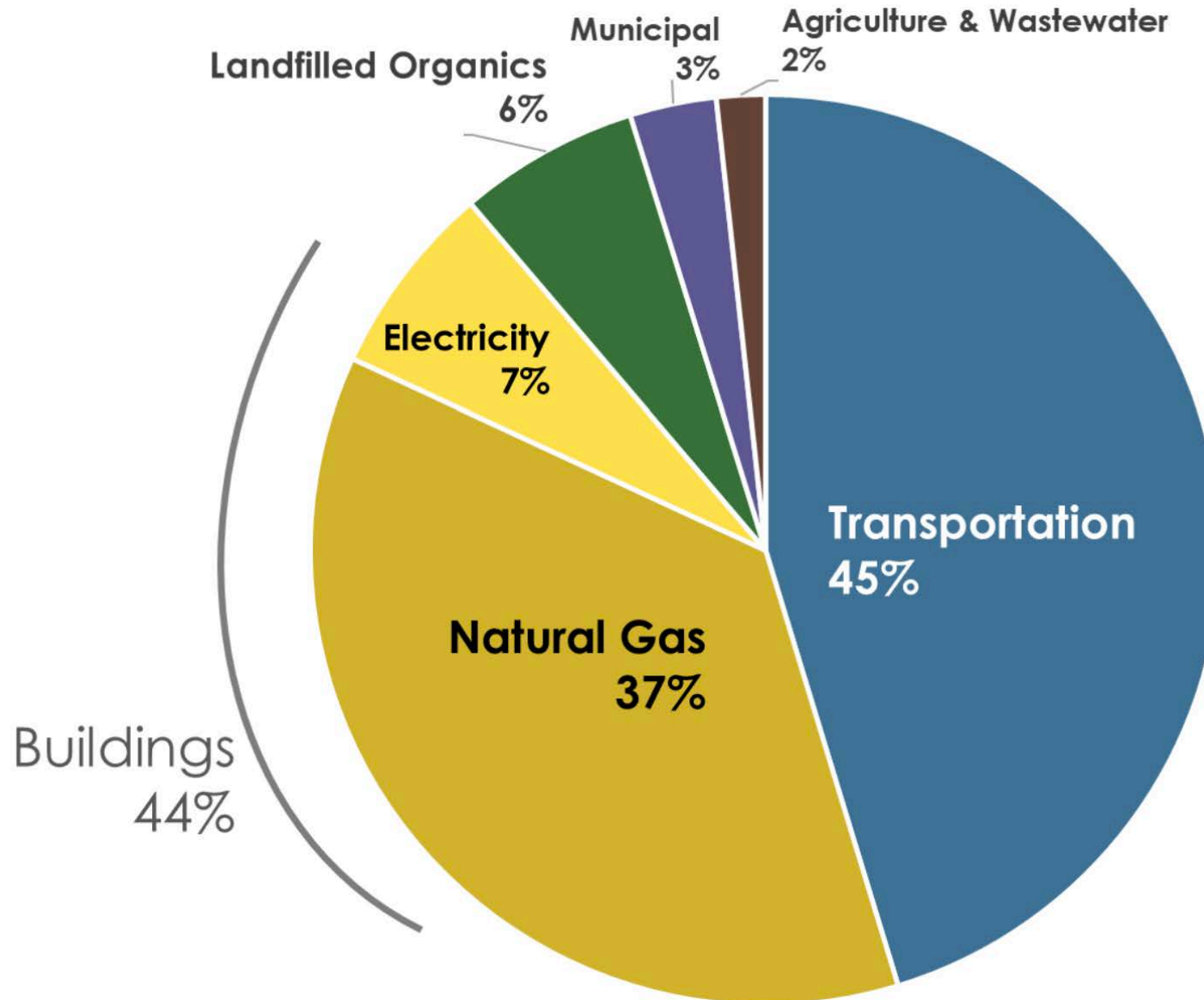


Resilience



Equity

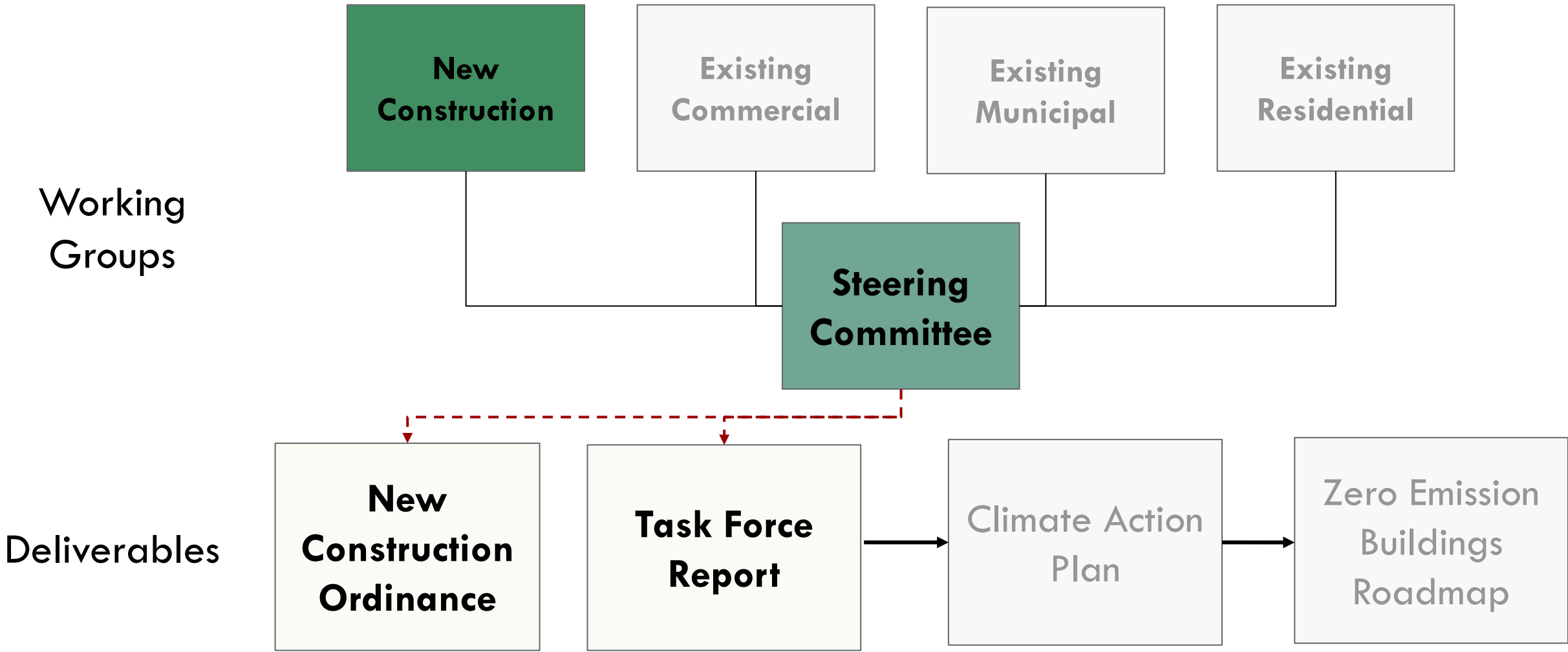
# Sources of San Francisco GHG Emissions (2018)





# Stakeholder Process and Outreach

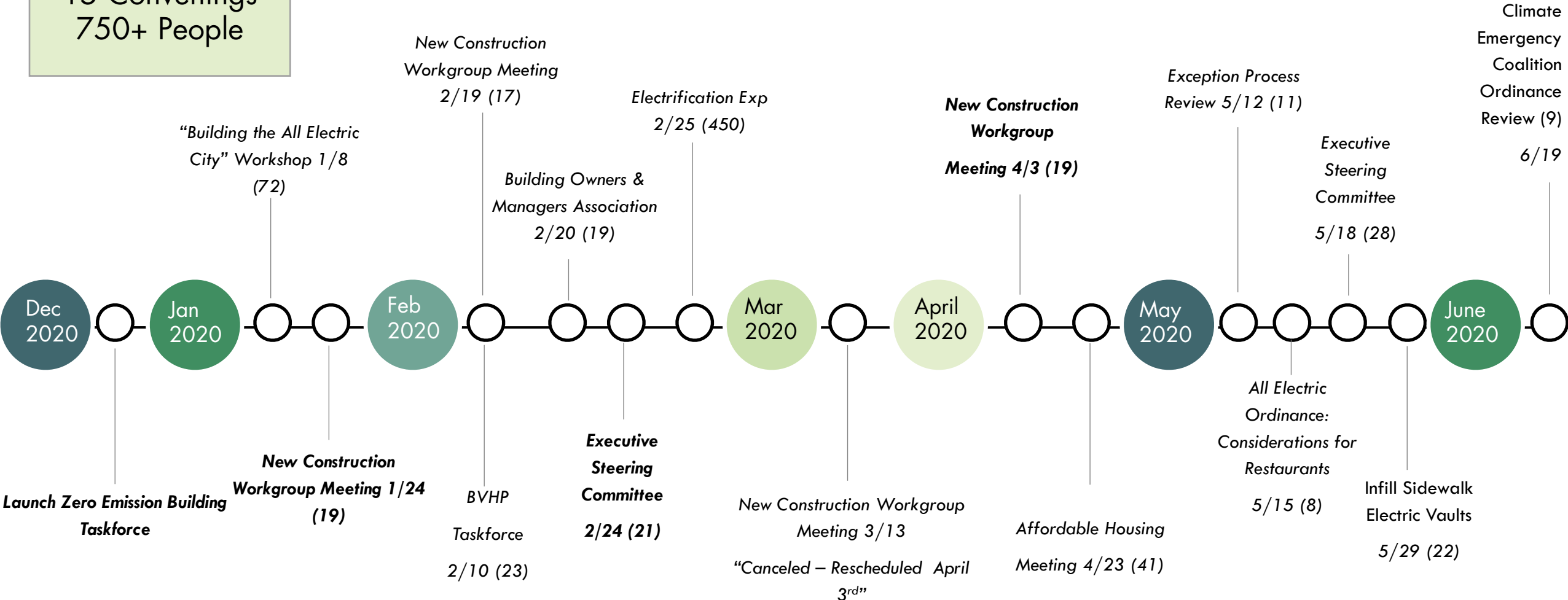
# Zero Emission Building Taskforce



# Overview of Outreach Efforts



15 Convenings  
750+ People



# New Construction Work Group Feedback



<b>Task Force Input</b>	<b>Interpretation</b>
<b>Act now - delay will not make transition easier.</b>	Zero emission technologies are available and fossil fuel systems in new construction will become liabilities for owners.
<b>Health and resilience are paramount to equity.</b>	Health and resilience concerns support eliminating fossil fuels, especially in impacted communities
<b>Facilitate smart decisions.</b>	Projects in development will benefit from early warning; a clear, unambiguous message from the City will help projects in development.
<b>Workforce development and stakeholder education are essential.</b>	Zero emissions is a significant shift in design and construction practice.



# Utilities, State & Cities Around CA Support All-Electric

## Utilities

PG&E supports all electric new construction

## Cities

27+ cities around California have passed local ordinances

## State

CPUC and CEC planning for a fossil fuel free future

**BRIEF**

## 'A critical milestone': PG&E first gas-electric IOU to publicly support California's all-electric construction





# All Electric New Construction Ordinance

# Key Components of the Ordinance



01

For projects that apply for building permits after January 1, 2021 – heating, cooling, water heating, cooking and clothes drying must be all electric.

02

No permits will be issued to convert all-electric buildings into mixed-fuel buildings



# Key Components of the Ordinance



03

For projects that include a commercial food service establishment, mixed-fuel building permits may continue to be accepted until January 1, 2022 provided gas piping is exclusively for cooking equipment.

04

Mixed-fuel permits may be issued only upon finding that All-Electric construction is physically or technically infeasible for a specific area or system

05

Mixed-fuel permits must be as “Electric Ready” as feasibly possible while complying with all provisions of building and electrical codes.



# Impacts

# Cost and Benefits – Studies



	<b>Change in Construction Cost (\$/Sq Ft)</b>	<b>Lifetime Net Present Value (\$/Sq Ft)</b>
Single Family	-\$5.01	\$3.62
Multifamily 3 floors or less	-\$1.18	\$4.64
Multifamily 4-8 floors	-\$0.13	\$0.68
Retail	-\$0.98	\$6.37
Office	-\$1.54	\$1.09

**Sources:**

*Low-Rise Residential:* Frontier Energy (2019)

*Mid-Rise Residential:* Frontier Energy (2020)

*Non-Residential:* TRC (2019)

Supplemental Analysis by Dept of Environment to account for San Francisco Better Roofs requirements

# Costs and Benefits – Multi-Family Housing Example



## MACEO MAY APARTMENTS

### KEY DRIVERS:

#### Reductions

Elimination of Solar Hot Water - \$215,000 Saved

Elimination of Natural Gas - \$168,000 Saved

#### Additions

Adding Electric Domestic Hot Water - \$105,000 increase

#### NET IMPACT

**\$242,000 LOWER COST**



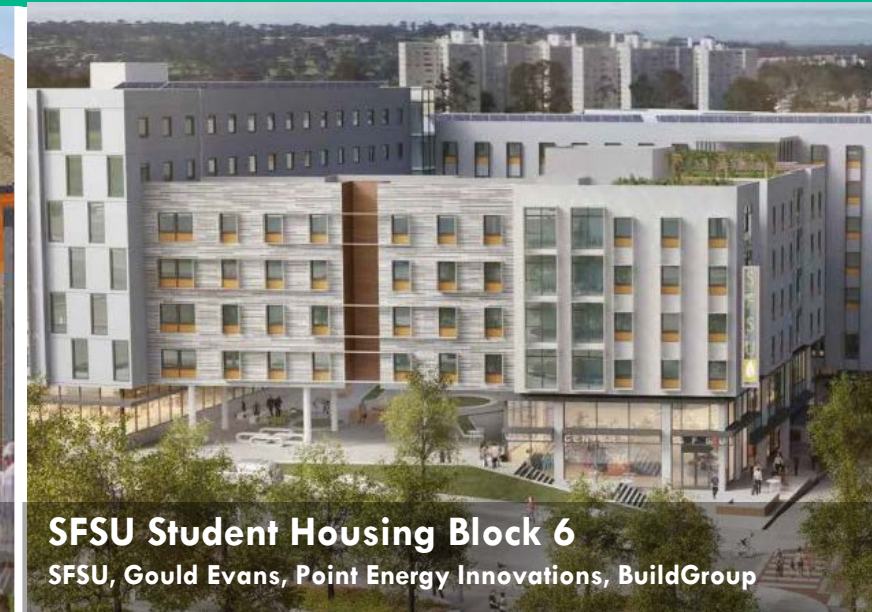
# The future is already here – SF all electric buildings



**2060 Folsom - Casa Adelante – Affordable**  
CCDC, MEDA, Mithun



**Southeast Community Center - Municipal**  
SFPUC, SFPW



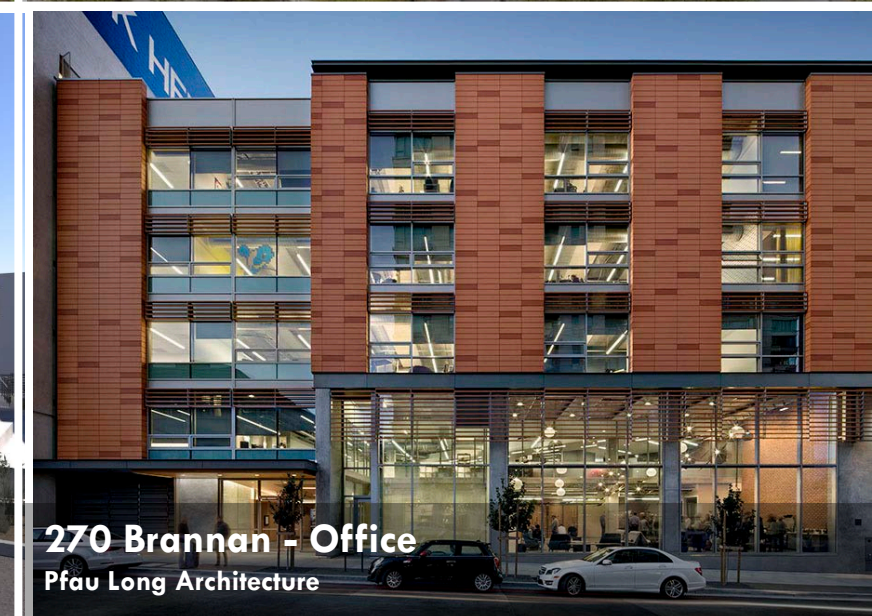
**SFSU Student Housing Block 6**  
SFSU, Gould Evans, Point Energy Innovations, BuildGroup



**685 Florida St – Infill**  
Off The Grid Design, RG Architecture



**Claire Lilienthal Elementary School - SFUSD**  
SFUSD, Lionakis

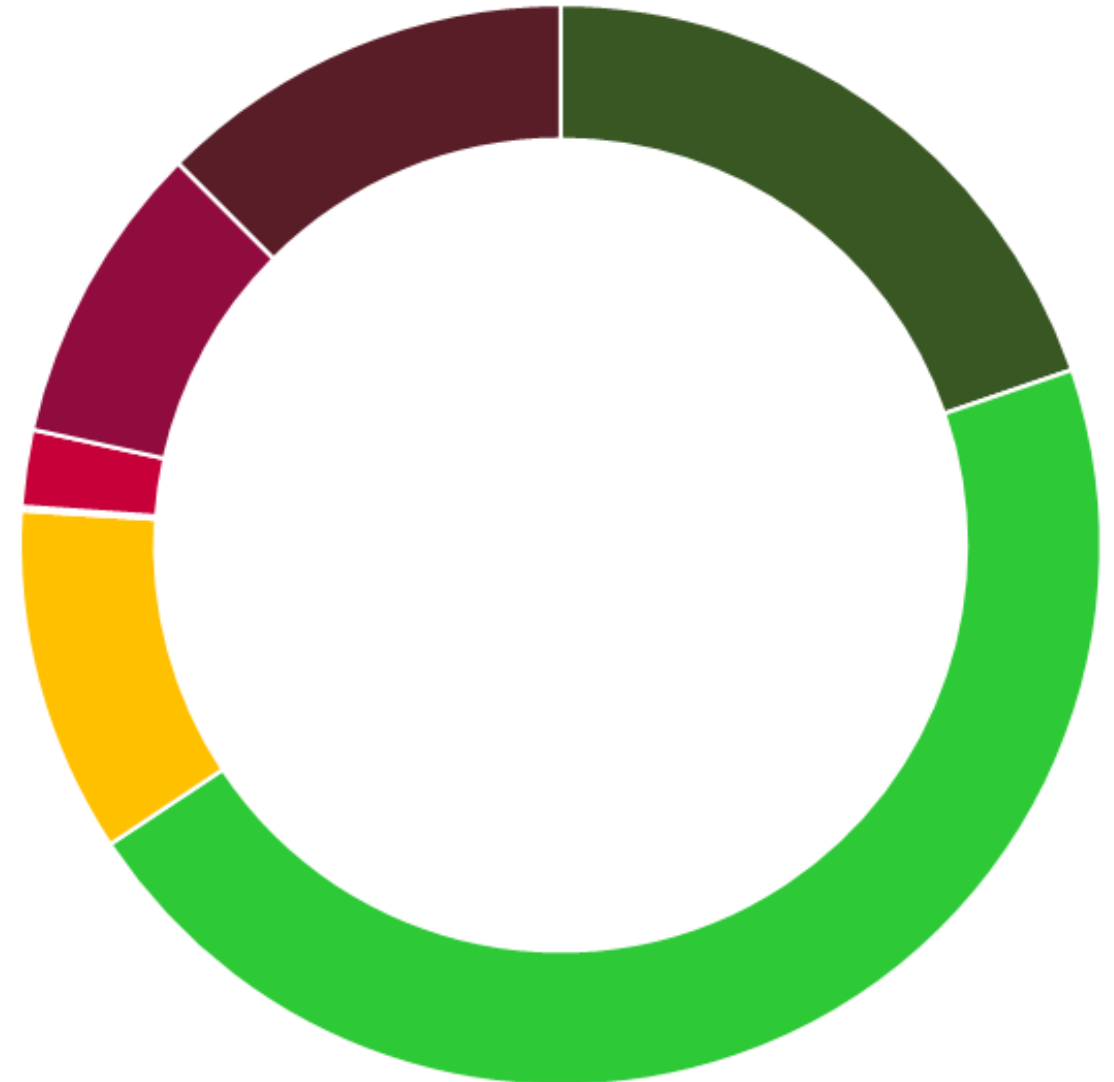


**270 Brannan - Office**  
Pfau Long Architecture

# Anticipated Applicability to Housing Pipeline



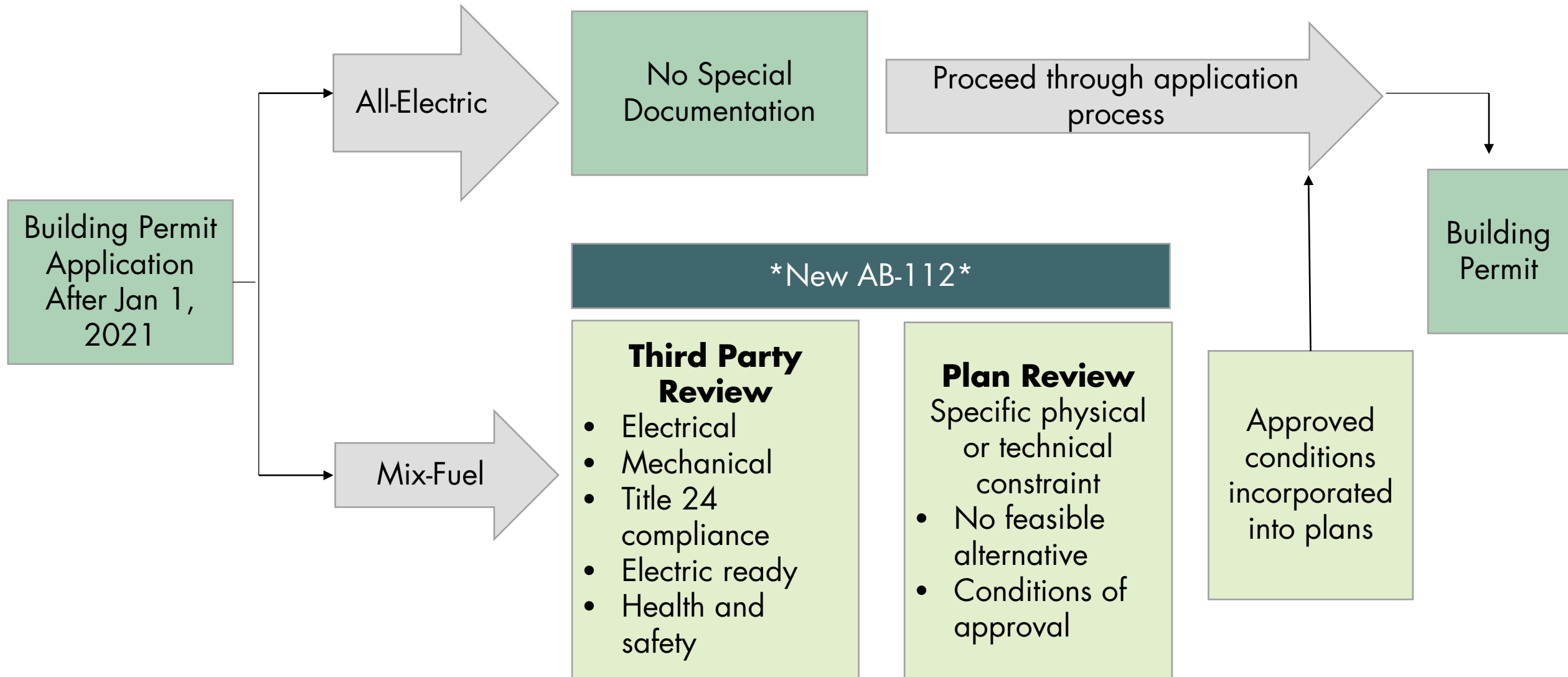
Ordinance would apply	<ul style="list-style-type: none"> <li>■ Application Filed with Planning Department</li> <li>■ Application Approved by Planning Department</li> </ul>	66%
	<ul style="list-style-type: none"> <li>■ Building Permit Application Filed with Department of Building Inspection</li> <li>■ Lapsed Building Permit Application is "re-instated" by Department of Building Inspection</li> <li>■ Building Permit Application Approved by Department of Building Inspection</li> <li>■ Approved Building Permit Application Issued by Department of Building Inspection</li> <li>■ Project is Under Construction</li> </ul>	34%
Ordinance would not apply		





# Implementation

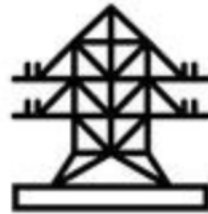
# Overview of the Process



# AB 112 - Guidance for Infeasibility



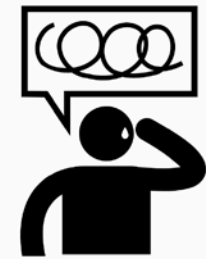
Code Conflict



Utility  
Infrastructure



Energy Code



Exceptional or  
Extraordinary  
Circumstance



# Equity Scan

# Equity Scan Assessment and Recommendations



## Equity Concern

1. Energy burdens  
For tenants

2. Impacts to  
affordable housing

3. Lack of workforce  
considerations

4. Impacts to  
Restaurants

5. Resources needed to  
advance racial equity

01

02

03

04

05

## Equity Recommendations

Work with utility regulators on equitable rate structures. Develop materials for tenants to reduce energy costs. Types of assistance expanded for lower income tenants

Outreach & technical assistance to affordable housing developers who are inexperienced with electrification. Feedback mechanism needed to understand impacts of the all-electric ordinance

Assistance to Black, Indigenous, and People of Color (BIPOC)-owned businesses & professional organizations. Workforce training targeting BIPOC is needed. Incentives to hire & to direct work to BIPOC-owned businesses.

The longer implementation period the ordinance proposes is an opportunity to better understand burdens and provide outreach and education.

Create a funding stream using the climate justice principle where the largest polluter pays for the transition, such as a fee for large existing commercial buildings.

# Discussion



# Thank you



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