

# Community Stakeholder Briefing & Workshop

## July 30, 2019



City of Irvine: Strategic Energy Plan



# City of Irvine Strategic Energy Plan | AGENDA

- 1:00 Background and context
- 1:10 Energy and emissions in Irvine: Current state and forecast
- 1:15 Q&A
- 1:25 Plan outline and workshop exercise instructions
- 1:35 Workshop exercise
- 2:15 Review exercise results and Q&A
- 2:25 Next steps



# City of Irvine Strategic Energy Plan | BACKGROUND & CONTEXT

# Irvine Strategic Energy Plan | PROJECT OVERVIEW

Task 1  
Current & Future  
Profiles



Determine the current state of energy consumption in municipal operations and community-wide

Task 2  
Vision, Goals, Strategies



Evaluate best available technologies to explore/implement to reduce energy usage with favorable ROI

Task 3  
Funding Sources



Identify funding sources to implement proposed strategies

Task 4  
Stakeholder Outreach



Engage stakeholders to identify voluntary strategies that encourage energy reduction in residential and business sectors and promote economic vitality

		2018	2019				2020	
TASK	DESCRIPTIONS	Q4	Q1	Q2	Q3	Q4	Q1	Q2
1	Assess Current & Future Energy Profile							
2	Develop Energy Vision, Goals & Strategies							
3	Identify Funding Sources							
4	Stakeholder Input & Education Opportunities							

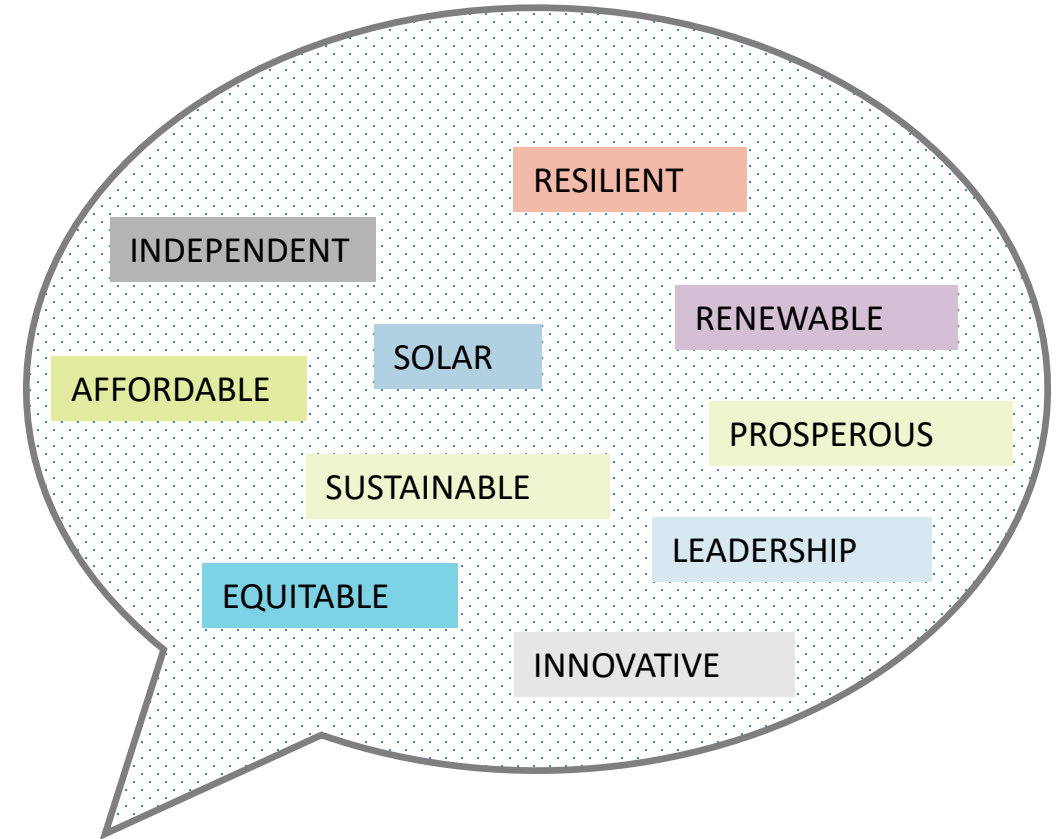
# Irvine Strategic Energy Plan | ENERGY VISION STATEMENT

## Energy Vision

The City of Irvine will demonstrate its commitment to leadership and innovation, supporting businesses and residents in adopting affordable, efficient, and resilient energy solutions.

## Guiding Principles

- **Innovation:** Focused on leading-edge technologies and strategies
- **Resilience:** Supporting livability, sustainability, and self-reliance
- **Practicality:** Emphasizing affordability and efficiency for a prosperous future



# Irvine Strategic Energy Plan | MEETING OBJECTIVES

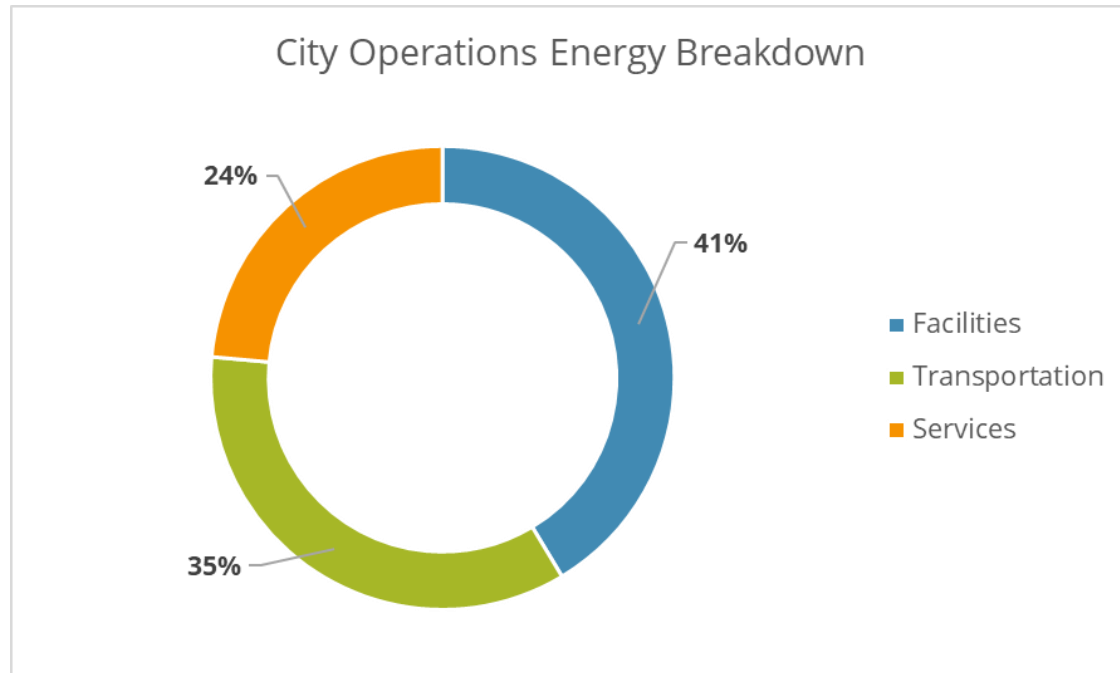
1. Understand Strategic Energy Plan vision and objectives
2. Understand current state of energy use & future scenarios
3. **Feedback and new ideas for potential energy strategies:**
  - Energy Supply
  - Transportation
  - Buildings



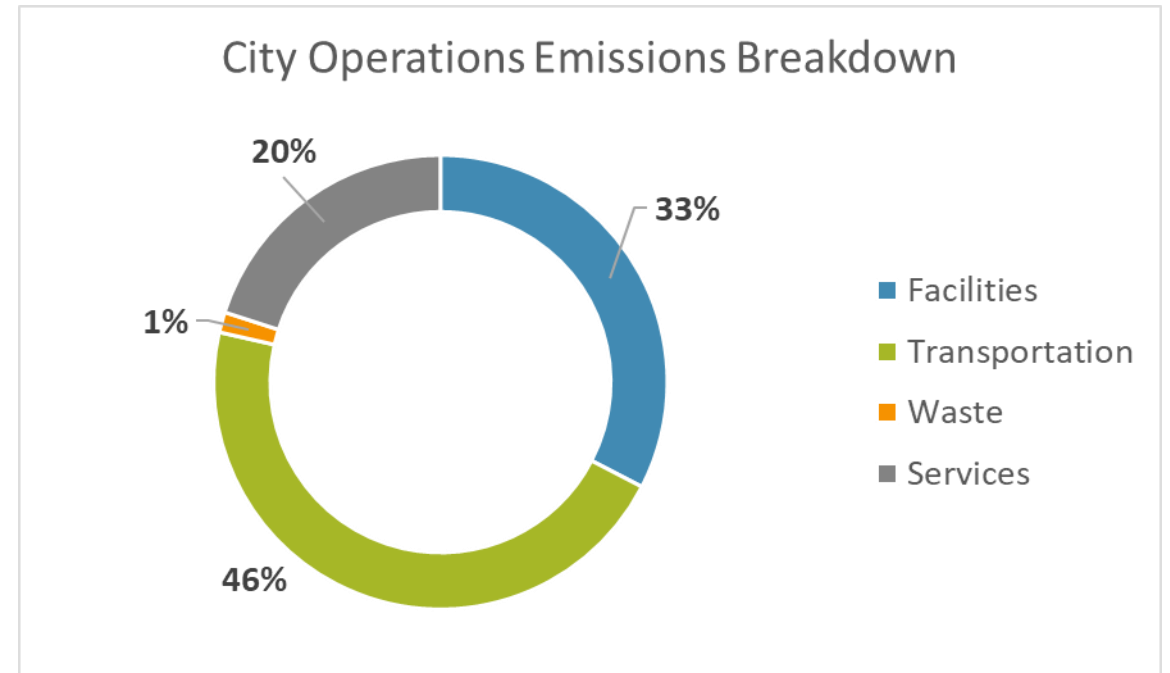
# Irvine's Energy Use and GHG Emissions | CURRENT STATE

# Irvine Strategic Energy Plan | CITY OPERATIONS ENERGY & EMISSIONS

## City Operations: Energy 2018



## City Operations: Emissions 2018

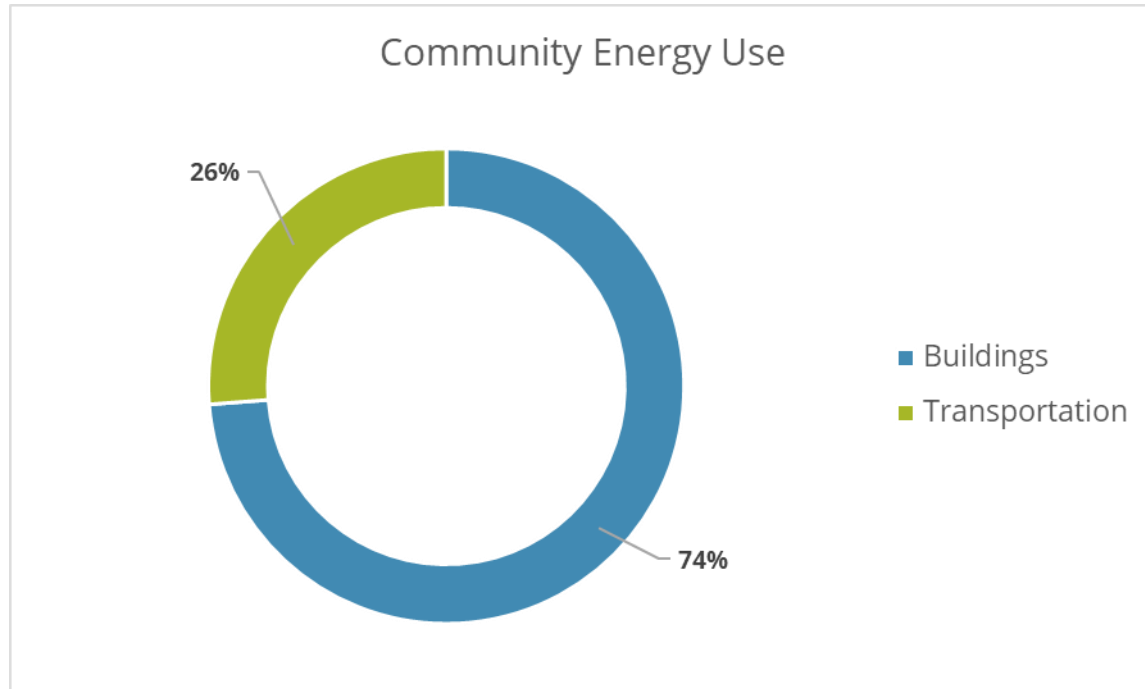


\*Services include Street Lights & Traffic Control

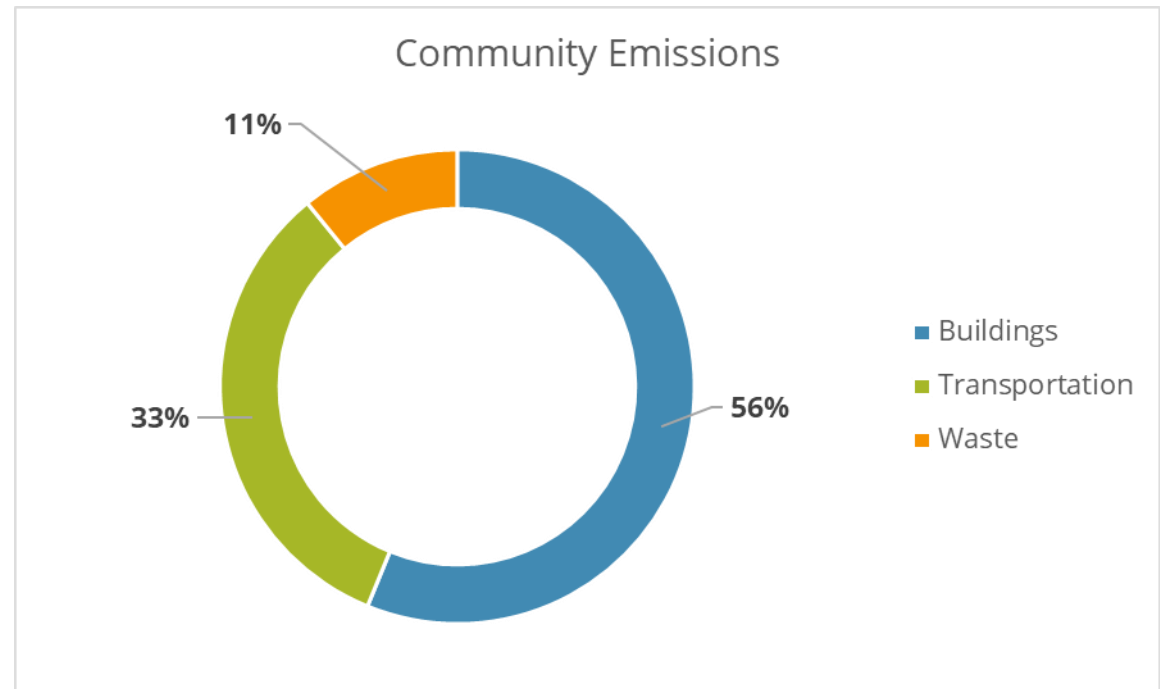


# Irvine Strategic Energy Plan | COMMUNITY ENERGY & EMISSIONS

Community-wide energy use 2018



Community-wide emissions 2018



# Irvine's Energy Use and GHG Emissions | FORECAST

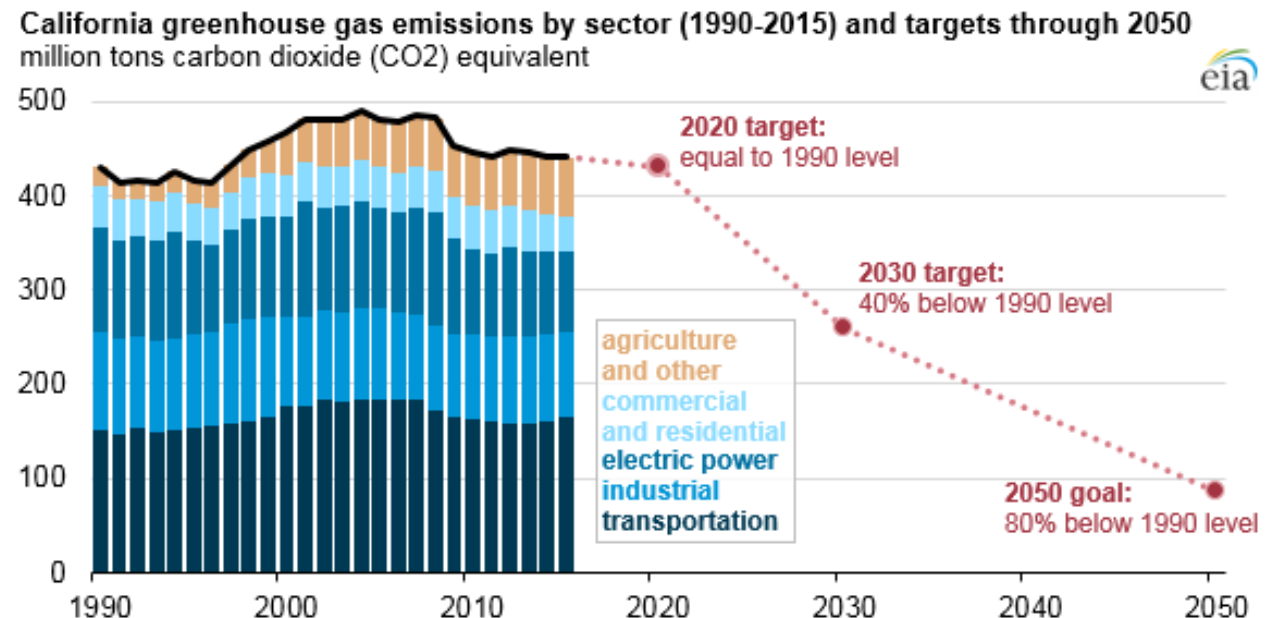
# Irvine Strategic Energy Plan | STATE EMISSION REDUCTION TARGETS

By 2030: 40% below 1990 levels

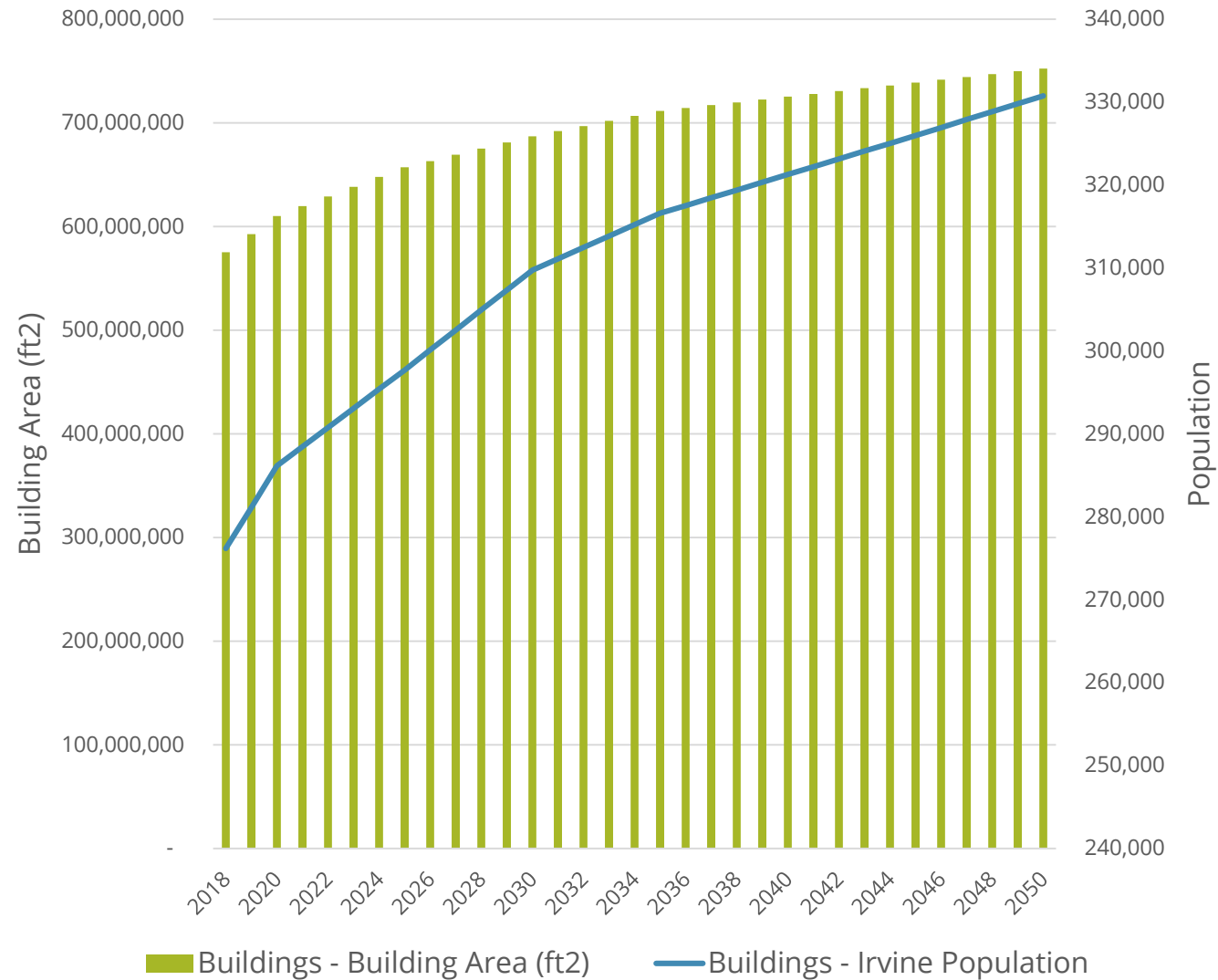
By 2050: 80% below 1990 levels  
(Executive Orders B-30-15 and S-3-05)

By 2045: 100% zero-carbon electricity (SB 100)  
and  
carbon neutrality (Executive Order B-55-18)

## California plans to reduce greenhouse gas emissions 40% by 2030



# Irvine Strategic Energy Plan | GROWTH PROJECTIONS



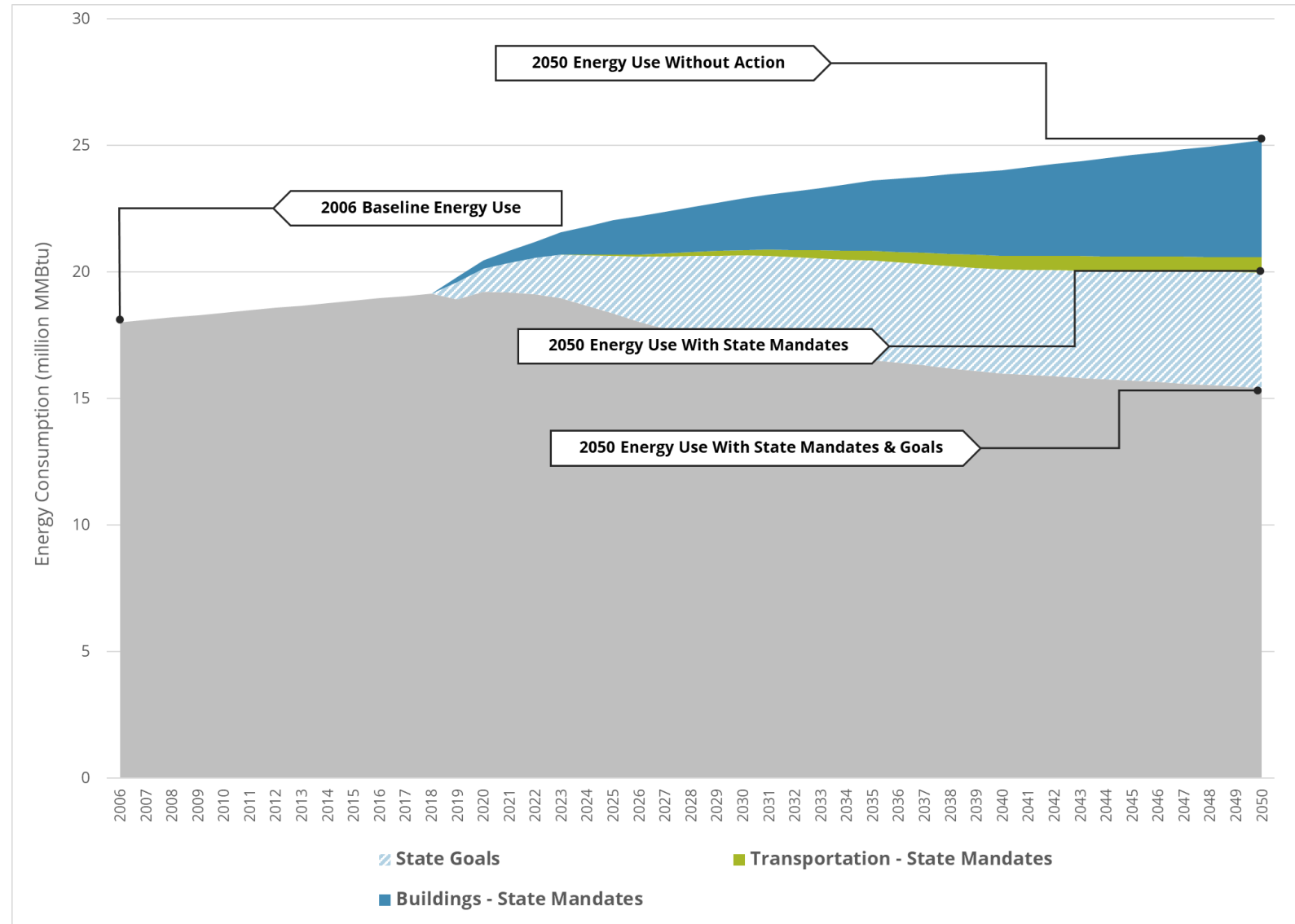
# Irvine Strategic Energy Plan | ENERGY FORECAST: STATE MANDATES & GOALS

Statewide Mandates will limit energy use increases to **11%** by 2050 vs 2006

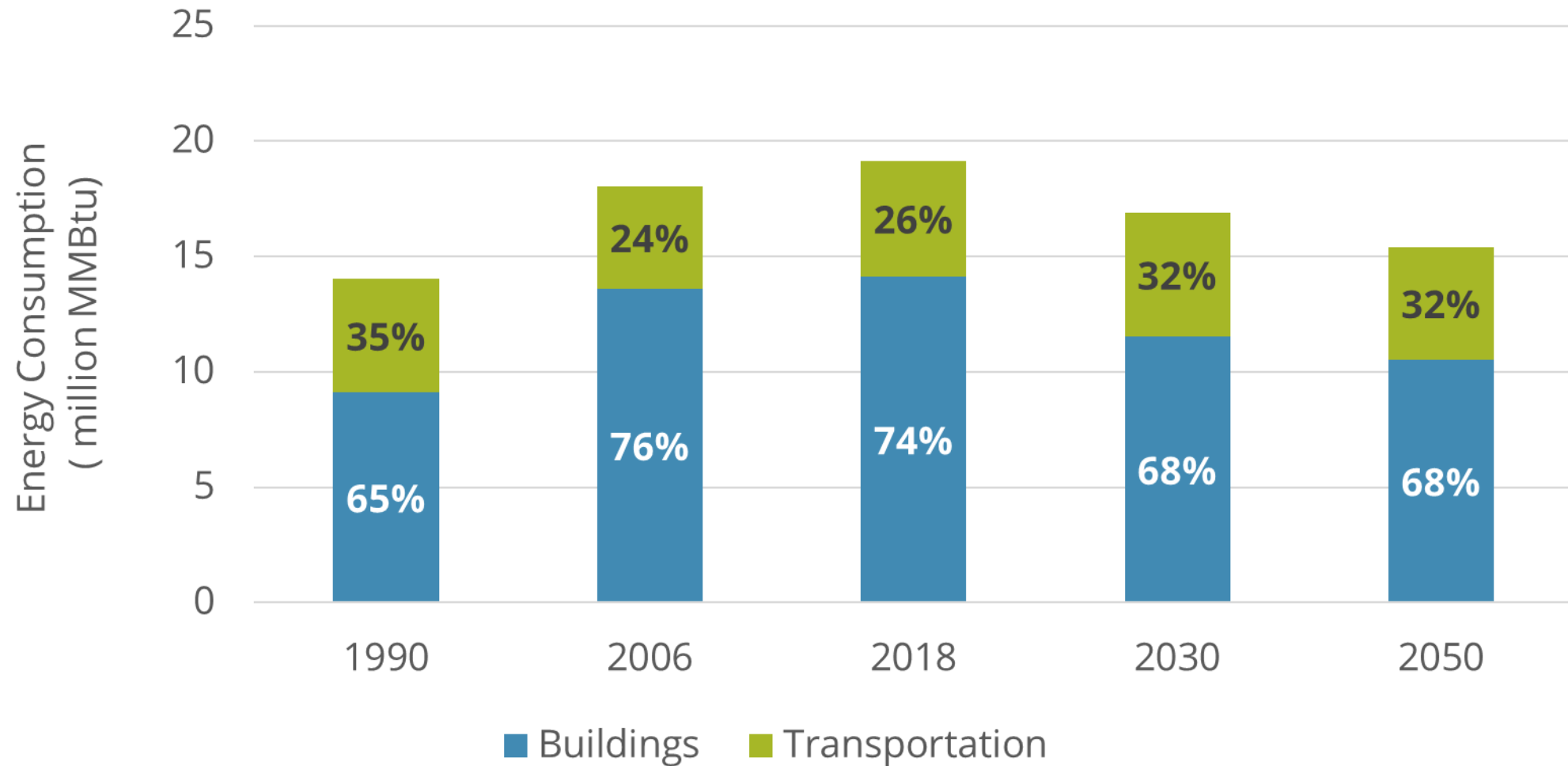
Statewide Goals + Mandates may reduce energy use **14%** by 2050 vs 2006

State focus is on emissions reductions.

Local action is needed to reduce energy use.



# Irvine Strategic Energy Plan | ENERGY FORECAST: STATE MANDATES & GOALS



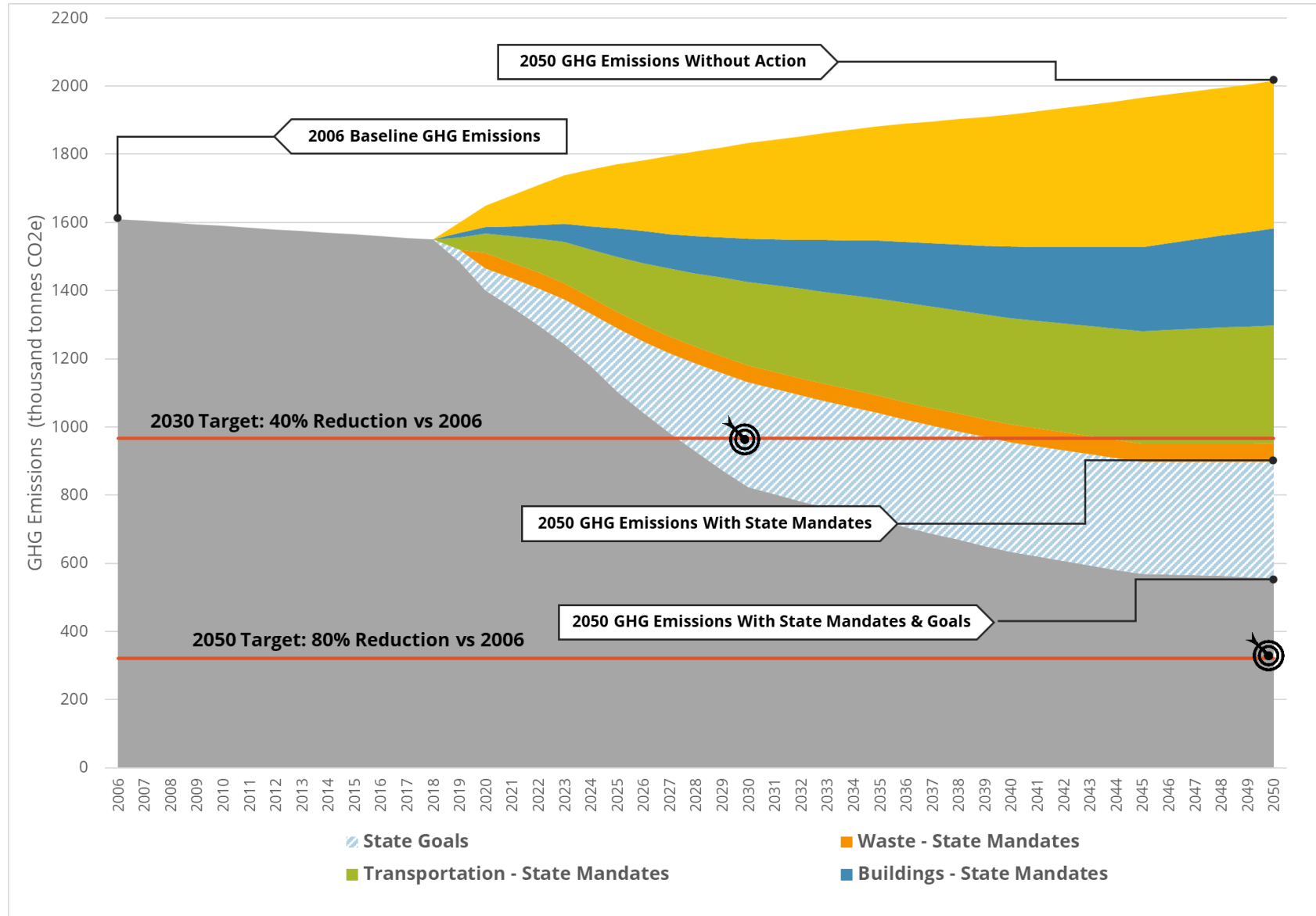
# Irvine Strategic Energy Plan | EMISSIONS FORECAST: STATE MANDATES & GOALS

Statewide Mandates will reduce emissions **44%** by 2050 vs 2006

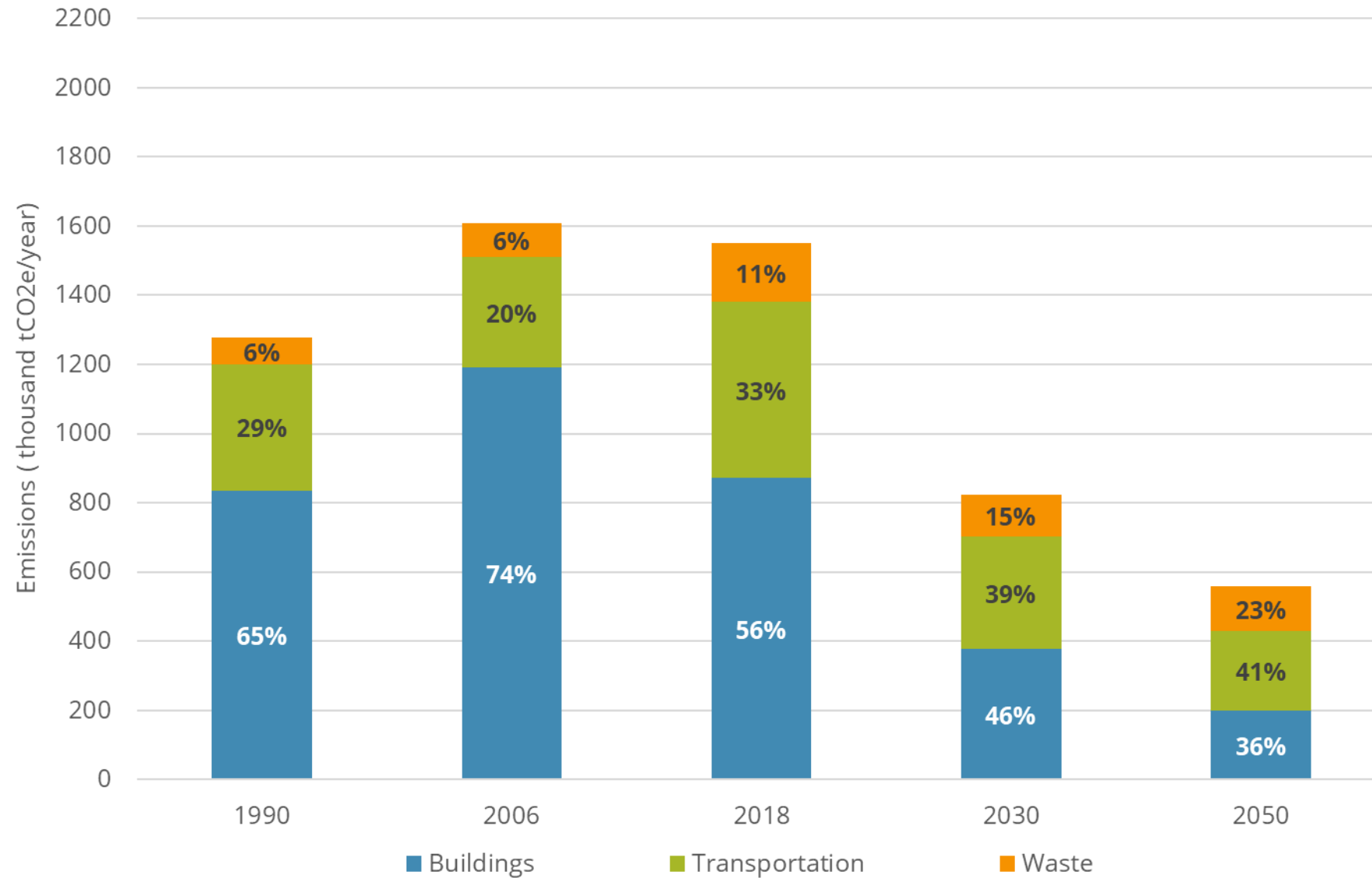
Statewide Goals may reduce emissions an additional 21% by 2050 vs 2006 (65% total)

State Mandates alone will not achieve 2030 or 2050 targets.

Local action is needed to address the 15% gap and meet the 80% by 2050 reduction target



# Irvine Strategic Energy Plan | EMISSIONS FORECAST: STATE MANDATES & GOALS





# Irvine Strategic Energy Plan | ENERGY FORECAST: STATE MANDATES & GOALS

Sector	Mandate or Goal?	Sub-Sector	Description	2050 Energy Reduction vs 2006	2050 Emissions Reduction vs 2006
Energy Supply	Mandate	Electricity	SB100 – California Renewables Portfolio Standard Program Update State Renewable Portfolio Standard: <ul style="list-style-type: none"> <li>• 50% renewables by 2026,</li> <li>• 60% renewables by 2030,</li> <li>• 100% carbon free by 2045</li> </ul>	N/A	19%
Energy Supply	Goal	Natural Gas	SoCal Renewable Natural Gas Targets: <ul style="list-style-type: none"> <li>• 5% Renewable Natural Gas by 2022</li> <li>• 20% Renewable Natural Gas by 2030</li> </ul>	N/A	2%
Buildings	Mandate	New Construction	Title 24 - Building Energy Efficiency Standards <ul style="list-style-type: none"> <li>• 100% ZNE new residential construction by 2020 + solar</li> <li>• 100% ZNE new commercial construction by 2030</li> </ul>	6%	11%
Buildings	Mandate	Existing Buildings	AB 802 – Building Energy Benchmarking Program <ul style="list-style-type: none"> <li>• Benchmarking and reporting for buildings &gt;50,000 ft<sup>2</sup></li> </ul>	5%	1%
Buildings	Goal	Existing Buildings	California Energy Efficiency Strategic Plan 50% of commercial buildings retrofit to ZNE by 2030	1%	10%

# Irvine Strategic Energy Plan | ENERGY FORECAST: STATE MANDATES & GOALS

Sector	State Mandate or Goal	Sub-Sector	Description	2050 Energy Reduction vs 2006	2050 Emissions Reduction vs 2006
Transportation	Mandate	Fuels	<p>AB-32 – California Global Warming Solutions Act Low Carbon Fuel Standard</p> <ul style="list-style-type: none"> <li>Reduce carbon intensity of transportation fuels by minimum 20% by 2030</li> </ul>	N/A	13%
Transportation	Mandate	Transit	<p>Clean Transit Regulation Public transit to have 100% zero-emission bus fleets by 2040.</p> <ul style="list-style-type: none"> <li>Phase in ZE bus purchases starting in 2023</li> <li>100% of new purchases must be zero-emission by 2029</li> </ul>	2%	2%
Transportation	Goal	Passenger Vehicles	<p>Executive Order B-48-18 California has set targets for the number of electric vehicles on the road:</p> <ul style="list-style-type: none"> <li>1.5 million EVs by 2025 (per Executive Order B-16-12)</li> <li>5 million by 2030</li> </ul>	1%	2%

# Irvine Strategic Energy Plan | ENERGY FORECAST: STATE MANDATES & GOALS

Sector	State Mandate or Goal	Sub-Sector	Description	2050 Energy Reduction vs 2006	2050 Emissions Reduction vs 2006
Waste	Mandate	Recycling	<p>AB-341 – Solid Waste: Diversion Mandatory Commercial Recycling</p> <ul style="list-style-type: none"> <li>Requires commercial properties and multi-family residential (above 5 units) to implement a recycling program</li> </ul> <p>Mandatory program intended to help support recycling mandate, which will increase to 75% reduction by 2020</p>	N/A	2%
Waste	Goal	Organics	<p>AB-1826 – Solid Waste: Organic Waste Mandatory Commercial Organics Recycling</p> <ul style="list-style-type: none"> <li>Requires commercial properties and multi-family residential (above 5 units) to implement organics recycling</li> </ul> <p>Mandatory program intended to help support organics disposal reduction goals (SB 1383):</p> <ul style="list-style-type: none"> <li>50% reduction by 2020</li> <li>75% reduction by 2025</li> <li>20% of edible food recovered by 2025 (commercial only)</li> </ul>	N/A	1%

# Irvine Strategic Energy Plan | PROPOSED STRATEGIES

# Irvine Strategic Energy Plan | PROPOSED TOOLS & STRATEGIES

## **Energy Supply**

- Grid-scale
- Renewables

## **Buildings**

- New / existing
- City / community

## **Transportation**

- Single occupancy vehicles
- Public transportation and ride sharing

## **“Other”**

- City operations
- Land use

# Irvine Strategic Energy Plan | WORKSHOP

# Irvine Strategic Energy Plan | **NEXT STEPS**

Task	Timeline
<b>*External stakeholder engagement workshop to solicit ideas and feedback on strategies to explore.</b>	July
<b>Consultants to prioritize actions to align with City objectives, deliver 'short list.'</b>	June-August
<b>Consultants to measure impacts of strategies using energy and emissions modeling tool.</b>	June-August

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# Key Stakeholder Briefings



City of Irvine: Strategic Energy Plan

