

CITY OF
LONG BEACH

CAAP

City Council Environmental Committee
June 25, 2020

CLIMATE ACTION
+ ADAPTATION PLAN

What is the Climate Action & Adaptation Plan (CAAP)?

An aerial photograph of Long Beach, California, showing the harbor, coastline, and city buildings. The image is overlaid with two semi-transparent white boxes containing text. The top part of the image shows the harbor with several ships and a small island in the center. The bottom part shows a residential area with a large swimming pool and a parking lot.

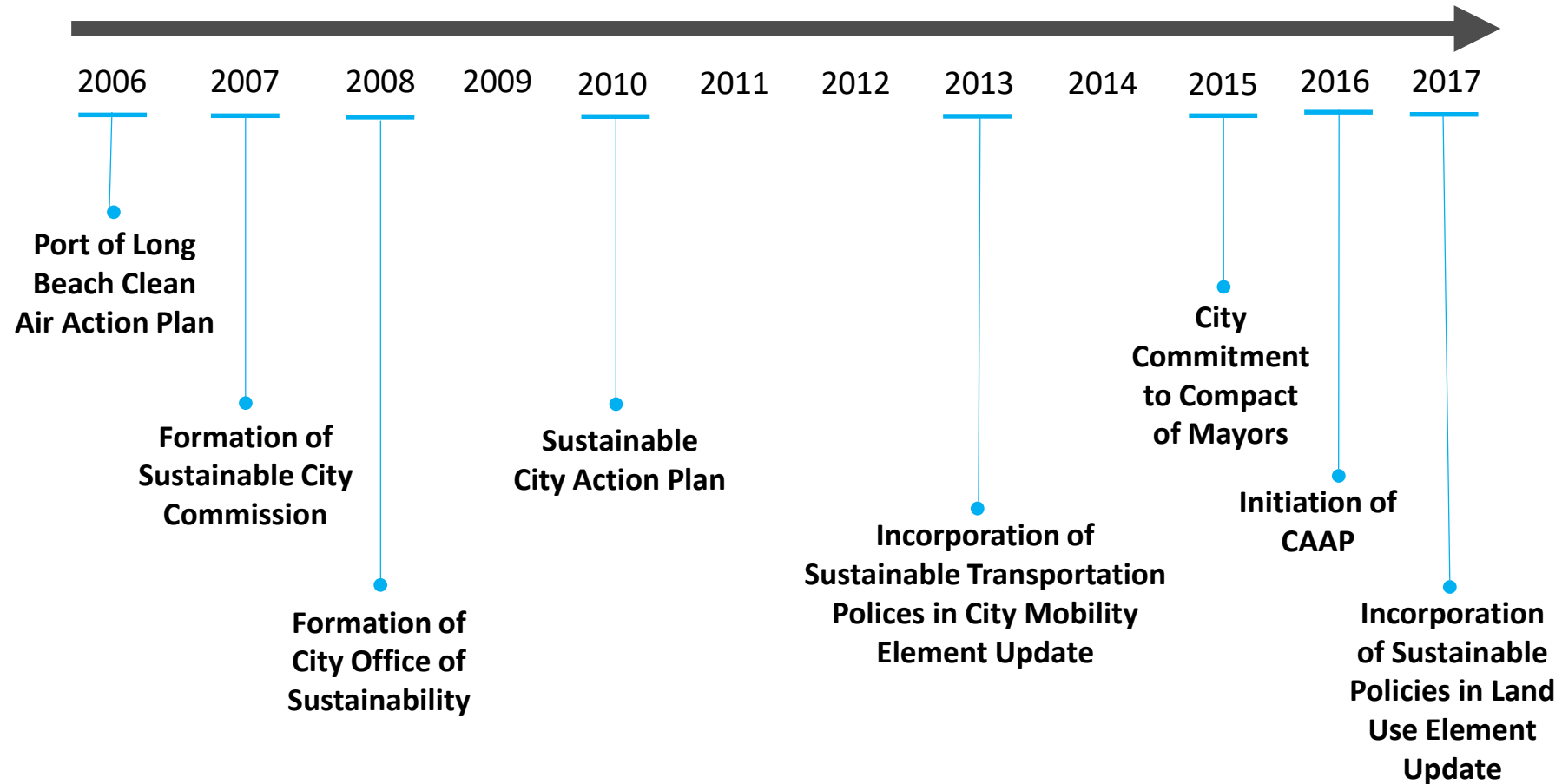
A plan to:

- Reduce communitywide greenhouse gas emissions (GHG), while preparing for the impacts of climate change
- Improve public health, foster economic opportunity, & advance social equity
- Meet policy commitments & state GHG reduction mandates

How?

- Establish a framework for creating or updating policies, programs, practices, and incentives for Long Beach to reduce the City's GHG footprint
- Ensure the community and physical assets are better protected from the impacts of climate change.

Long Beach Sustainability and Resilience Timeline

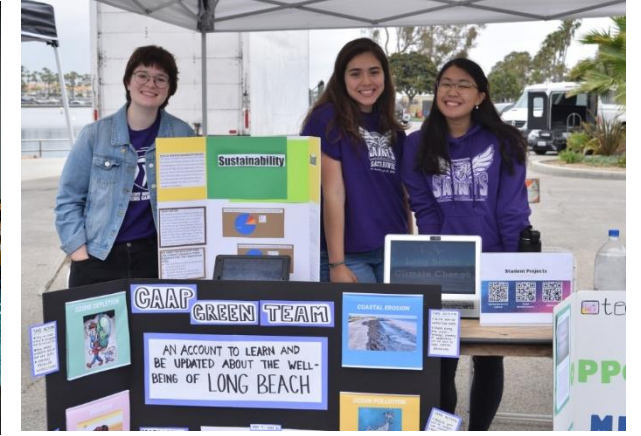


Why Develop a CAAP?

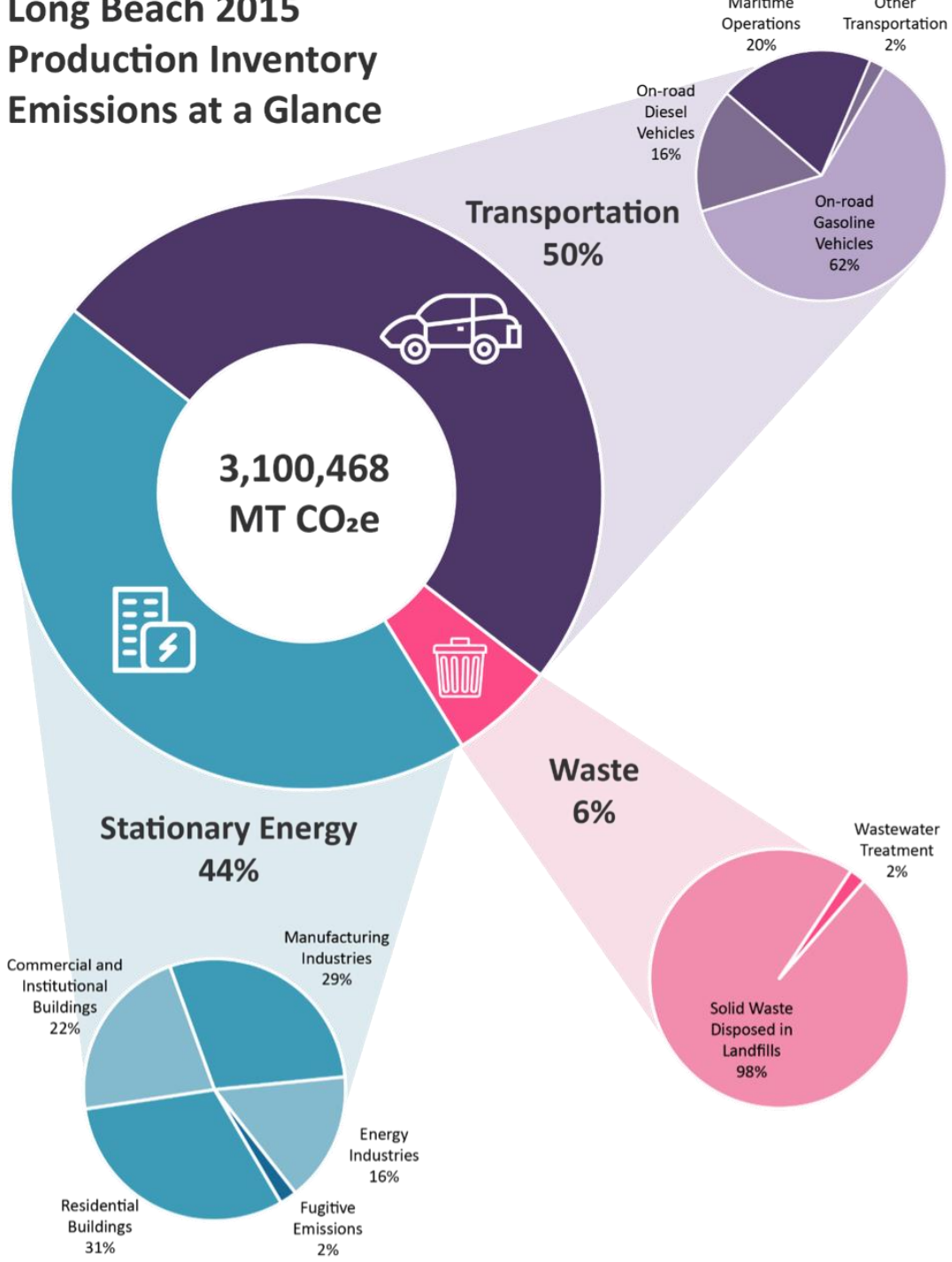
- Global Covenant of Mayors
- Meet applicable local, state, and other requirements including:
 - AB 32 / SB 32 (must reduce carbon emissions to 1990 levels by 2020)
 - SB 375 (Sustainable Communities and Climate Protection Act of 2008)
 - AB 691 (State Lands Requires plan to address sea level rise in the Tidelands)
 - SB 1000 (General Plans must inculcate adaptation and address impacts to disadvantaged communities)
 - California Environmental Quality Act (CEQA)
 - General Plan mitigation (CAAP is a mitigation measure of the Land Use Element, 2019)

CAAP Community Outreach (June 2018 – present)

# of Estimated Attendees	10,000+
# of Sign-ins	1,398
# of General Tabling Events	30
# of Presentations	27
# Hosted Events	10

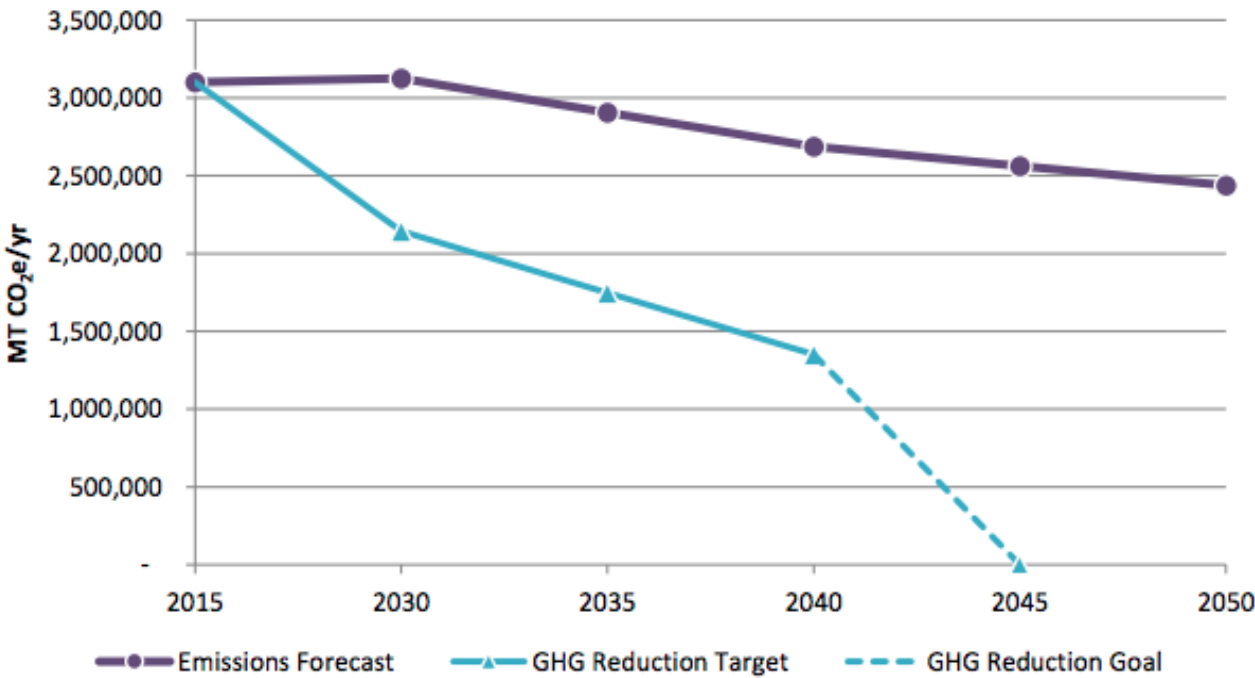


Long Beach 2015 Production Inventory Emissions at a Glance



Greenhouse Gas (GHG) Emissions & Targets

Emissions Targets vs. Forecasts 2015-2050



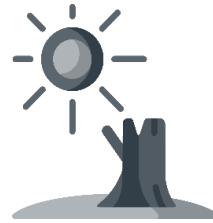
Long Beach Climate Impacts



Sea Level Rise



Flooding



Drought



Extreme Heat



Poor Air Quality



+7 to +33 more extreme heat days per year

MORE FREQUENT AND INTENSE HEAT WAVES

- 275,000 residents in heat vulnerability zone
- Low income areas and communities of color are more likely to live in areas most vulnerable to urban heat island effect



AIR QUALITY IS EXPECTED TO WORSEN

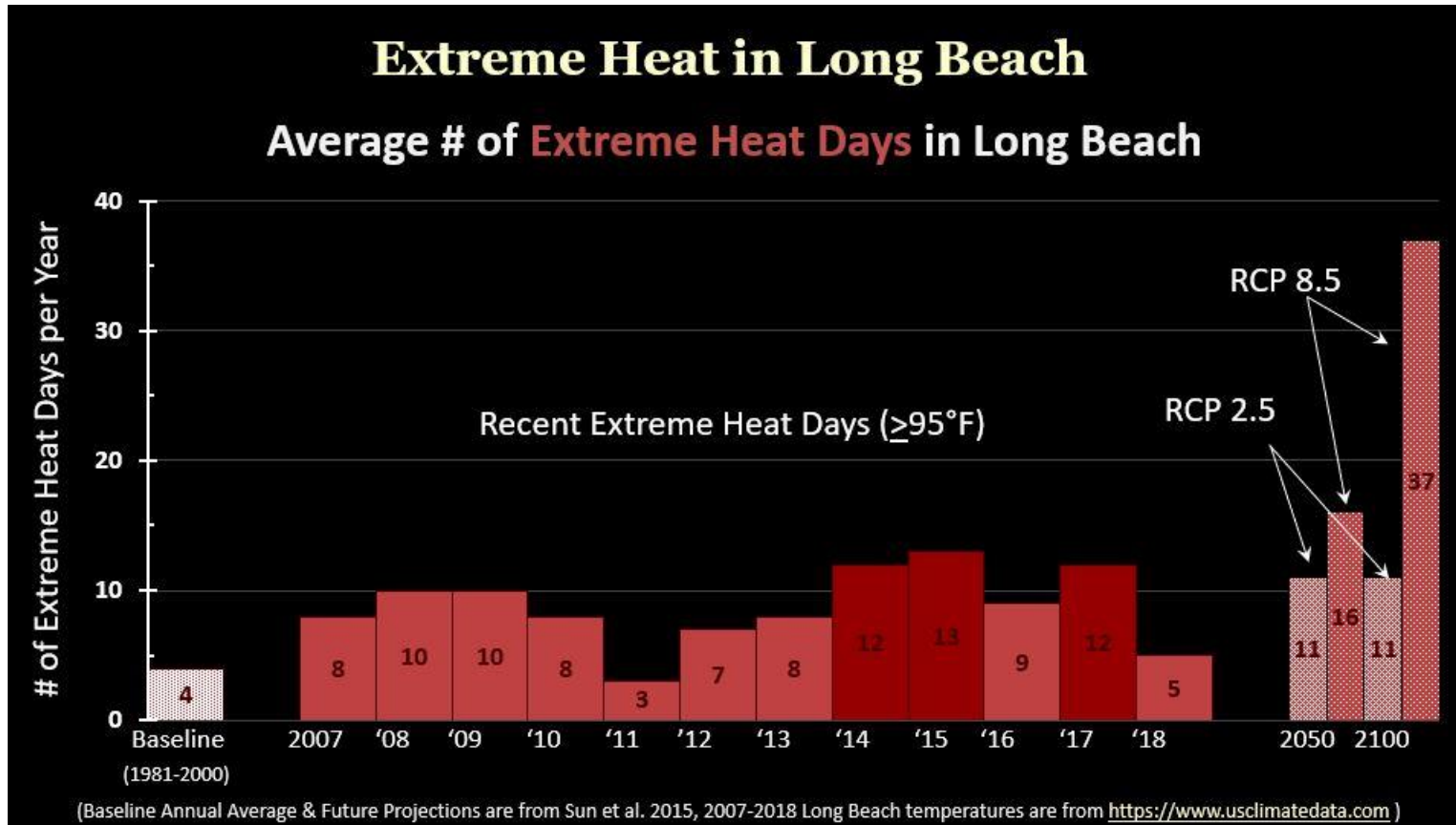
High temperatures will increase air pollution formation, leading to an increase in regional wildfires, higher CO2 concentrations, and increase in pollen and some airborne allergens.



FLOODING & SEA LEVEL RISE

- Riverine, urban, SLR & coastal storms
- Over 22,000 residents to be at risk of exposure to flooding from sea level rise and coastal storms by 2050 (Aquarium of the Pacific)

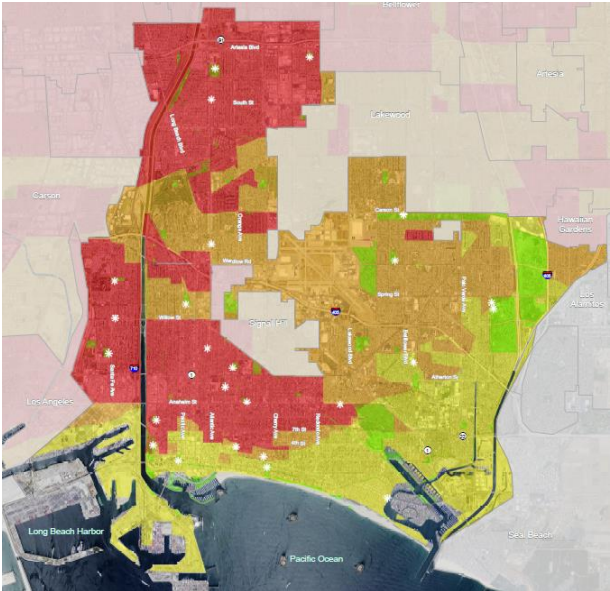
Extreme Heat



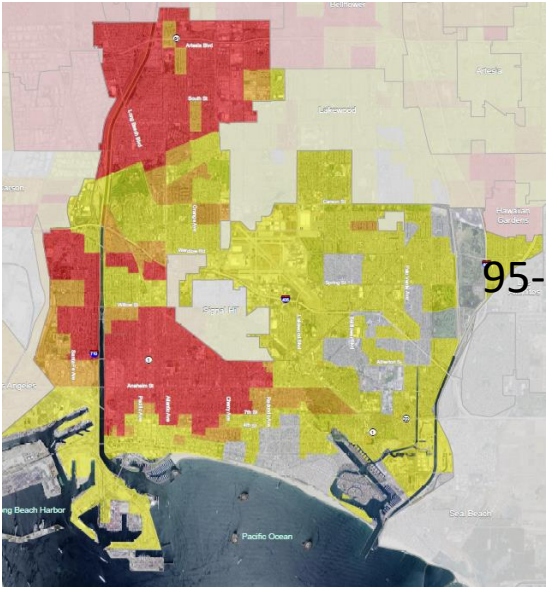
Source: J. Lentz, Aquarium of the Pacific. Presentation on 3/30/19.

- Approximately **275,000 residents** in the high extreme heat vulnerability zone
- Increased risk of heat-related illnesses and death, vector borne diseases, tropical pathogens and parasites
- Low income & communities of color are more likely to live in areas with high urban heat island effect
- More vulnerable populations include: children, older adults, people with respiratory diseases, those who work outdoors
- Example: Power outages associated with extreme heat

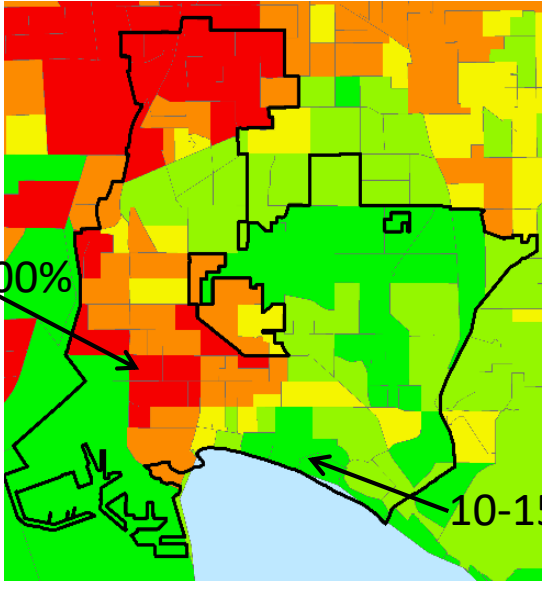
Social Vulnerability



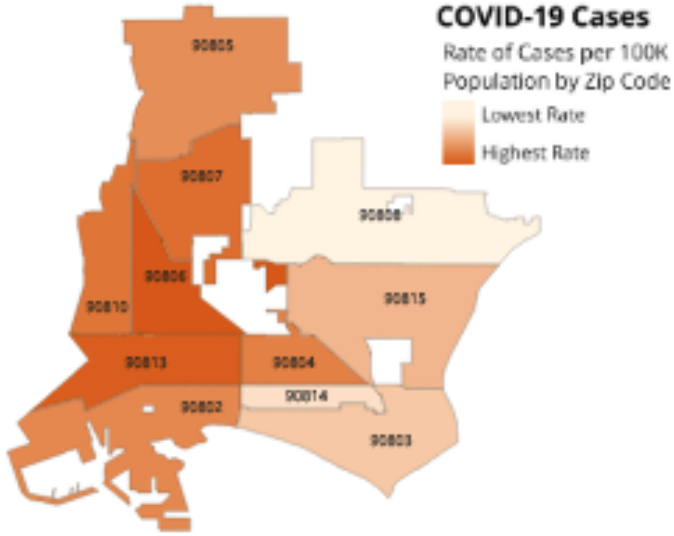
Extreme Heat Vulnerability



CalEnviroScreen 3.0



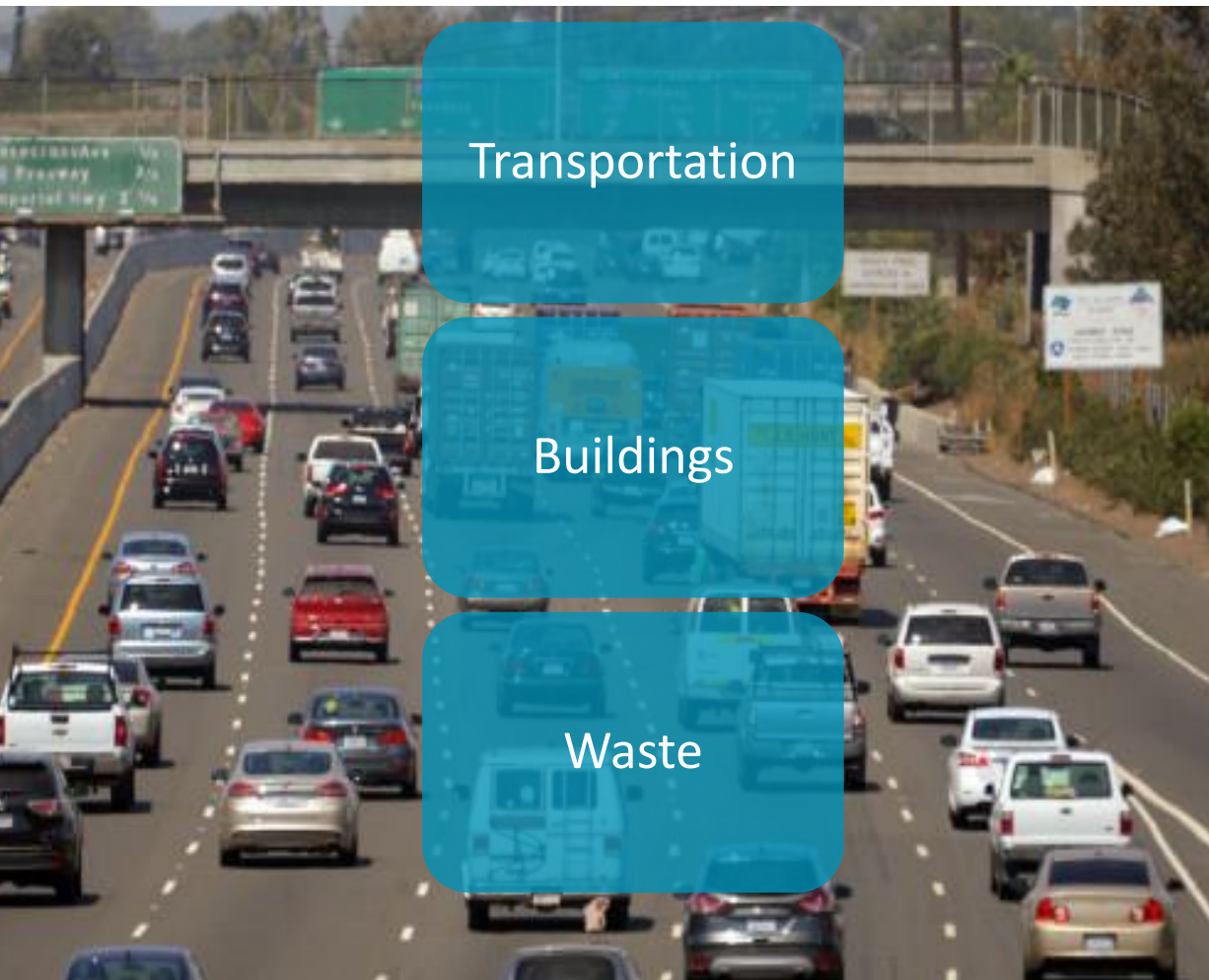
COVID-19 Cases



Source: Long Beach Climate Change Vulnerability Assessment, 2018.

Source: Long Beach COVID-19 Digital Dashboard, 6/23/20

MITIGATION



Transportation

Buildings

Waste

ADAPTATION



Extreme Heat

Air Quality

Drought

Flooding

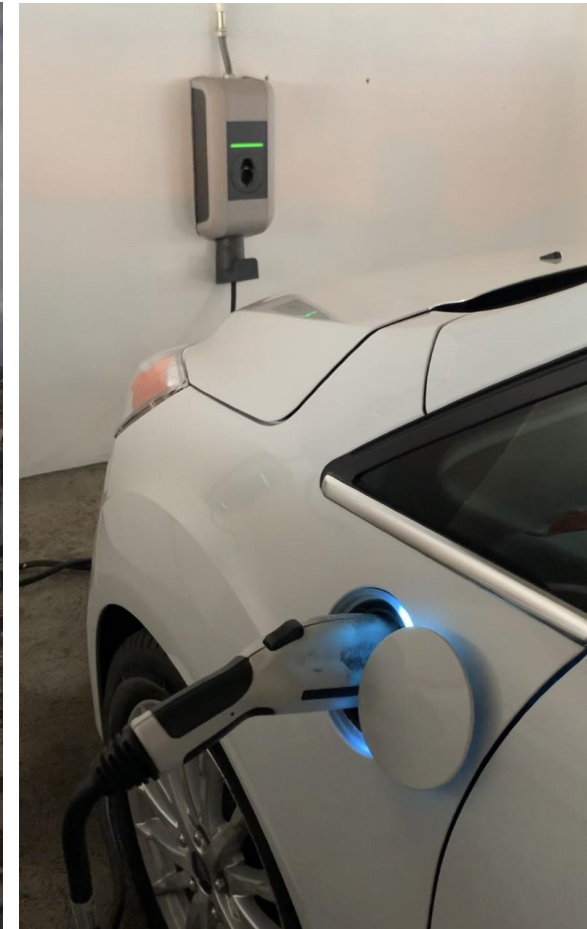
Sea Level Rise

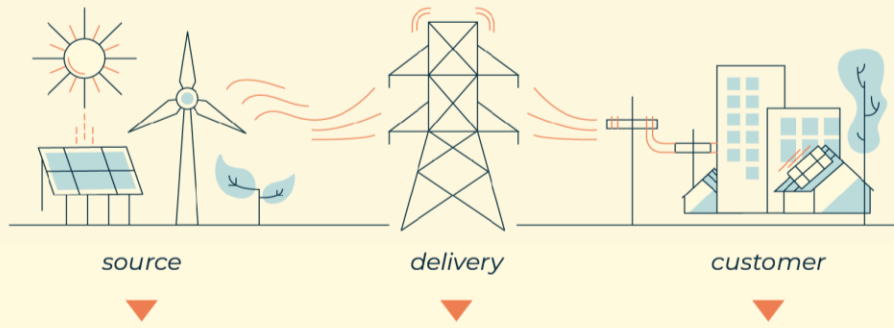
EQUITY STRATEGY: Prioritize the enhancement & expansion of urban forest cover in neighborhoods most vulnerable to extreme heat, poor air quality, and are lacking in green space.

Draft Mitigation Action – Building Energy

Objective	Action	#
Transition to a carbon-free, more resilient electricity system	Provide access to renewably generated electricity	BE-1
	Promote community solar and microgrids	BE-5
	Increase use of solar power	BE-4
Increase the energy efficiency of existing buildings/facilities	Develop a residential and commercial energy assessment and benchmarking program	BE-2
	Provide access to energy efficiency financing, rebates, and incentives for building owners	BE-3
	Perform municipal energy and water audits	BE-6
Ensure new buildings are low-carbon or carbon-neutral	Update building codes to reduce emissions in new residential and commercial buildings	BE-7
Reduce emissions from local oil and gas	Identify and implement short-term measures to reduce emissions related to oil and gas extraction	BE-8

City Leadership





Pathways & Trade-offs to Achieve GHG Emissions Reduction Targets

Total reduction needed: 160,000 MT CO₂e/year

Action	2030 MT CO ₂ e/year
Community Choice Aggregation (CCA)	220,230
SCE Green Rate, Local Solar, Municipal Renewable Electricity	53,310
Port Clean Trucks Program	25,250
Enhanced VMT Reduction	5,230
Recycling and organics diversion	85,070
Retro-commissioning ordinance, Reach code	12,040

Summary

- Scope of plan is large and has been a significant undertaking
- CAAP was developed based on analysis of climate change and social equity and provides a framework for equitable implementation
- CAAP aims to reduce carbon emissions while promoting a prosperous economy
- Must identify a pathway to reach GHG emissions reduction target in order to meet regulatory requirement

Next Steps

- Continue to identify pathways to reach GHG emissions reduction target

LONG BEACH PLANS TO
BEAT THE HEAT!



*SUPPORT THE
LONG BEACH
CLIMATE
ACTION &
ADAPTATION
PLAN!*

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By ArtCenter College of Design/DesignMatters
Image + Idea, Spring 2020

Long-term Transition from Oil & Gas Activity

Oil & gas extraction emissions are 2.7 times greater than the city's 2015 production-based inventory

Decrease local oil & gas consumption	1. Increase renewable natural gas supply with an organic waste-to-anaerobic digestion program
	2. Electrify public and passenger vehicle transportation
	3. Reduce building energy use through energy efficiency upgrades and electrification of end-use appliances
	4. Advocate for regional, state, and national oil and gas consumption reductions
Decrease local oil and gas extraction	5. Phase-out local oil and gas extraction
Support carbon capture technology	6. Invest in direct air capture technology or other leading-edge technologies to reduce the global emissions impact from continued fossil fuel combustion
Increase access to information	7. Require oil field operators to report oil assays to CARB
	Consider including oil and gas lifecycle emissions in future Long Beach GHG target-setting and analysis

BE-1: Provide access to renewably generated electricity

Explore and pursue various options to increase the community's access to renewable electricity that exceeds the State's Renewables Portfolio Standard in the near-term.

Implementation Lead City Manager, Office of Sustainability, Energy Resources, Development Services

Timeline Short (1-2 years)

Co-benefits Improved air quality, grid resilience

- Implementing Actions
- Continue to assess the risks and benefits associated with joining a CCA such as through updated feasibility studies
 - Develop a comprehensive economic impact analysis to understand the full benefits and costs of joining or developing a CCA and investing CCA revenues in local community climate projects
 - Establish a process with SCE to collect Green Rate participation information.
 - Develop program to promote SCE Green Rate enrollment.
 - Purchase 100% renewable electricity for all municipal accounts.

T-6: Develop an Electric Vehicle Infrastructure Master Plan

Develop an EV infrastructure plan that aligns with county-wide efforts to guide investment and policy decisions that will result in a distributed network of EV chargers

Implementation Lead Public Works, Development Services

Timeline Short (1-2 years)

Co-benefits Improved air quality, urban heat reduction via decreased vehicle waste heat

- Implementing Actions
- Develop an EV Infrastructure Master Plan in coordination with residents and other key stakeholders
 - Develop pilot projects as necessary to install charging stations
 - Pursue EV infrastructure projects that maximize EV on City fleet
 - Coordinate with County on EV Infrastructure Plan

Equity Strategy Provide equitable access to EV infrastructure, such as by installing charging stations and providing carshare in low-income areas and neighborhoods impacted by poor air quality.

Draft Mitigation Actions – Transportation

Objective	Action	No.
Decrease reliance on personal motor vehicles and increase transit, biking & walking trips	Increase frequency, speed, connectivity, and safety of transit options	T-1
	Increase bikeway infrastructure citywide	T-4
	Expand/improve pedestrian infrastructure citywide	T-5
Shift to zero- and low-emissions vehicles to move people & freight	Develop an Electric Vehicle Infrastructure Master Plan	T-6
	Implement the Port of Long Beach Clean Air Action Plan	T-3
Prioritize the development of transit-oriented neighborhoods with a mix of jobs, services & housing	Update the Transportation Demand Management Ordinance	T-7
	Increase density and mixing of land uses	T-8
	Increase employment and residential development along primary transit corridors	T-2
	Integrate SB 743 planning with CAAP process	T-9

Draft Climate Action & Adaptation Plan. longbeach.gov/lbds/planning/caap/

MITIGATION

Transportation

- Decrease reliance on personal motor vehicles
- Shift to low- and zero emissions vehicles
- Develop transit-oriented neighborhoods

Buildings

- Transition to carbon-free electricity
- Increase the energy efficiency of existing buildings
- Ensure new buildings are no/low-carbon
- Reduce emissions from local oil & gas extraction

Waste

- Maximize recycling
- Collect organic waste for composting or energy

Source: Press Telegram

ADAPTATION

Extreme Heat

- Incorporate cool surfaces & green infrastructure
- Increase access to services during extreme heat events
- Improve public transit as a mobility option

Air Quality

- Facilities reduce air pollution
- Shift to cleaner equipment & vehicles
- Air quality impacts from oil & gas operations minimized

Drought

- Maximize water efficiency & conservation
- Maximize water that is captured & reused locally

Flooding

- Plans & projects are prepared for flooding & SLR impacts
- Clear & sufficient information for adaptation needs

Sea Level Rise

- Adaptation strategies for vulnerable shoreline areas
- Vulnerable infrastructure elevated or relocated
- Physical adaptation strategies prioritize natural solutions

For Community Members



Consumption based emissions inventory, Draft Climate Action & Adaptation Plan.
longbeach.gov/lbds/planning/caap/