

#### TRANSFORMING LOS ANGELES

#### ENVIRONMENT I ECONOMY I EQUITY





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### Letter from Mayor Eric Garcetti



Los Angeles grew into one of the world's great cities because its residents and leaders dreamed, planned and built the metropolis we enjoy today.

They knew our city could only thrive with ample water and power – and the pipes and

cables were laid. They imagined great parks and great universities – and they were created. They saw the potential of opening L.A. to the world with a booming harbor and international airport – and it was done.

As we continue into the 21st century, Los Angeles is once again a city on the move. Our creativity entertains and inspires the world. Our investments in transportation infrastructure represent the largest public works project in the nation. And once-declining neighborhoods across Los Angeles are now surging forward with jobs and new life along our main streets.

Our city is flourishing. We expect at least 500,000 more people to call Los Angeles home by 2035. So the question before us, like it was to those Angelenos of the past, is how can we improve our city today, and ensure future generations enjoy a place that is environmentally healthy, economically prosperous, and equitable in opportunity for all?

This is our moment to come together and transform Los Angeles. That's why I am excited to present to you this Sustainable City pLAn. This pLAn is a comprehensive and actionable directive that will produce meaningful results for today's Angelenos while setting us on the path to strengthen and transform our city in the decades to come.

It is important to emphasize that the pLAn is not just an environmental vision – by addressing the environment, economy, and equity together, we will move toward a truly sustainable future.





To that end, when I took office, I appointed the city's first-ever Chief Sustainability Officer (CSO), Matt Petersen, and created a Mayor's Office of Sustainability. And recognizing that sustainability is not a narrowcast endeavor, the efforts of the CSO and his team permeate everything we do as a city. There is no closed-off "environment department" in my administration. Instead, we are incorporating sustainability – and now, this pLAn – into each of our 35 departments and bureaus, from airports to police to water and power and everything in between. Accordingly, one of the initial action steps within the pLAn is the appointment of a Chief Sustainability Officer within 18 key departments.

Furthermore, I intend to use the pLAn as a tool to manage the city. Reviews of our department General Managers will incorporate whether they are meeting the goals of the pLAn. The outcomes in the pLAn that require additional funding will receive priority in my annual budget process. Departments will report regularly on their progress, and any challenges they face in implementing the initiatives that the pLAn prioritizes. And every year we will evaluate ourselves, issuing progress reports that will both celebrate success and point out where we need to improve.

This pLAn sets the course for a cleaner environment and a stronger economy, with a commitment to equity as its foundation. These are the keys to a city that Angelenos have said they want our children to inherit – one that can continue to thrive and provide good health and opportunity for its residents. This is the way I view sustainability.

Sincerely,

EG\_#

Eric Garcetti Mayor



### Introduction

We love LA. To ensure our bright future, we must protect what makes our city great: our incredible natural environment, our diverse economy, and the people that make our city thrive.

Los Angeles is facing a "new normal" of challenges to our environment, economy, and equity, and we have responded by:

- Developing strategies to address current and future climate change impacts on our neighborhoods, including persistent drought, extreme weather events, and increasing extreme heat days;
- Preparing our city to be more resilient in the face of the "Big One," doing all we can to protect our residents and our economic lifeblood; and
- Delivering back-to-basics results that improve the quality of life for all Angelenos by breaking through barriers, creating new tools, and connecting the dots.

Future challenges loom. We will either do our share and come together with other Mayors to avoid the catastrophic impacts of global climate change – or continue making the planet hotter. We will either ensure all our residents can find safe, attractive and affordable housing with many options for moving around our vast region – or we will forever be playing catch-up in our efforts to create a truly livable city for all.

The good news: Los Angeles is a leader in many sustainability areas. LA has the most solar power of any city in the nation. Our region has the most technology jobs in California, and LA is on track to add more green jobs than any other city in the US. We are working to clean up and green up our most polluted and underserved neighborhoods. Through our region's transportation investments, we have embarked on the largest public works program in US.

Immediately and over next 20 years, the pLAn sets a course to guide the policies and changes we must make to sustain the City we all love.

Now the real work of implementation of the pLAn begins. In the months and years ahead, we will continue to roll out policies, detail initiatives, and accomplish outcomes in the pLAn. Each year





we do an annual report, and make adjustments to the pLAn - along with a major update every four years - based on what we learn, what's working, and how our elected leaders shape our laws.

It is also important to note that Los Angeles will continue to lead on climate change by working regionally, nationally, and globally. This includes the work through C40, as well as the Mayors' National Climate Action Agenda Mayor Garcetti created with other Mayors. Whether it is mitigation, resilience, or adaptation, climate action must cut across everything we do.

### Why create the pLAn?

While environmental concerns are critical to our future, Mayor Garcetti has consistently stressed protecting the environment as part of a comprehensive framework of sustainability – one that fully embraces a healthy economy and a commitment to social equity. That's why, upon taking office, he appointed the City's first Chief Sustainability Officer and tasked him to lead the effort to create this pLAn to provide a comprehensive, actionable vision. It is both a roadmap to achieve back to basics short-term results while setting the path to strengthen and transform our City in the decades to come. By addressing the environment, economy, and equity together, we can move toward a truly sustainable future.

This Sustainable City pLAn is a different kind of plan, drawing on the lessons of what works – and what doesn't. Plans too often set unrealistic goals and fail to specify how goals will be implemented. Without specific milestones and ways to measure progress, they lack accountability – and end up gathering dust above the desks of the bureaucrats who commissioned them.

Some plans focus on long-term vision. Some plans focus on short-term results. The pLAn embraces both, and has clear milestones and metrics that measure our progress over the next 20 years.

It is often said, "To fail to plan is to plan to fail." The future of Los Angeles is in our hands, and this pLAn is designed to effectively guide us toward one that is sustainable.

### What Will the pLAn Do?

The Sustainable City pLAn is a roadmap for a Los Angeles that is environmentally healthy, economically prosperous, and equitable in opportunity for all – now and over the next 20 years. The pLAn focuses on both short-term results and long term goals that will transform our City.

LA's first-ever Sustainable City pLAn connects the dots for Los Angeles by building on the three legs of the stool needed for any thriving city: environment, economy, and equity.

#### The pLAn provides a:

1. Vision for LA's future: Presents a clear vision and details specific long-term outcomes to be achieved over the next two decades in 14 key aspects of our environment, our economy and our measures of social equity.

2. Pathway to short-term results that lay the foundation for long-term outcomes: Creates a set of near-term, back-to-basics outcomes by 2017 that create a foundation to achieve transformational change by 2025 and 2035.

3. Framework to build out policies: Lays out strategies and priority initiatives that will be developed and detailed to deliver the tangible outcomes in the pLAn.

4. **Platform for collaboration**: Creates a platform for collaboration to identify, create, and strengthen programs, policies, and partnerships that cut across bureaucratic boundaries to improve our city and neighborhoods.

5. Set of tools to help manage LA: Provides the Mayor with a set of tools (e.g., general manager performance reviews, creation of CSOs in key departments, etc.) to ensure implementation and empower the men and women who work for the City.

6. Dashboard of sustainability metrics to transparently measure progress: Identifies and tracks clear metrics to measure our progress and share how we – in city operations, and as Angelenos – are doing along with way.

7. **Pathway for engaging our residents**: Builds on leadership throughout Los Angeles, while providing Angelenos ways and opportunities to participate in creating tangible improvements to their lives, their neighborhoods, and the entire city.

Many of the initiatives and actions are focused on city hall: *how we operate, how we collaborate, how we innovate, and how we help our residents*. But this is not just a policy document for government – it is designed to engage all Angelenos to help propel LA toward a common future.

### The Plan Sets Forth Long-Term Aspirations for Transforming Los Angeles by 2035

The pLAn establishes a set of ambitious and achievable visions for 14 topic areas to transform Los Angeles over the next 20 years.

- Local Water: We lead the nation in water conservation and source the majority of our water locally.
- Local Solar Power: We increase LA's clean and resilient energy supplies by capturing the energy from our abundant sunshine.
- Energy-Efficient Buildings: We save money and energy by increasing the efficiency of our buildings.
- **Carbon & Climate Leadership**: As a proactive leader on climate issues, we strengthen LA's economy by dramatically reducing greenhouse gas (GHG) emissions and rallying other cities to follow our lead.
- Waste & Landfills: We become the first big city in the US to achieve zero waste, and recycle and reuse most of our waste locally.
- Housing & Development: We address LA's housing shortage, ensure that most new units are accessible to high-quality transit, and close the gap between incomes and rents.
- **Mobility & Transit:** We invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled.
- **Prosperity & Green Jobs:** We strengthen and grow our economy, including increasing green jobs and investments in clean technology sectors.
- Preparedness & Resiliency: We are prepared for natural disasters, and we decrease our vulnerability to climate change.
- · Air Quality: We all have healthy air to breathe.
- · Environmental Justice: We ensure the benefits of the pLAn extend to ALL Angelenos.
- **Urban Ecosystem:** We all have access to parks and open space, including a revitalized LA River Watershed.
- Livable Neighborhoods: We all live in safe, vibrant, well-connected, and healthy neighborhoods.
- Lead By Example: We have a municipal government that leads by example throughout every department in the City of Los Angeles.



### Where Can Los Angeles lead?

Mayor Garcetti's directive in creating the pLAn is clear: "We can't just be better – we have to lead." Los Angeles and the Garcetti Administration have already achieved leadership in Energy Star buildings, solar power, and water efficiency. Building on this success, we will establish leadership through outcomes on Environment, Economy, and Equity **2017**, **2025** and **2035**:

#### Today

- · LA has the most installed solar power of any city in the US
- · LA is the most water-efficient big city (population over one million) in the US
- · LA has the highest recycling rate of any big US city
- · LA has largest transit infrastructure program underway anywhere in the US
- Mayor Garcetti cocreated the Mayors' National Climate Action Agenda to lead cities in taking action on climate change. He also serves on the C40 Steering Committee and President Obama's Climate Task Force

#### By 2017

- $\cdot$  LA will add more green jobs than any other city in America
- · LA will have more installed electric vehicle (EV) infrastructure than any city in the US

#### By 2025

- LA will add more transit infrastructure than any city in the US, improving air quality and reducing vehicle-miles traveled
- $\cdot$  LA will be the first big city in the nation to achieve zero waste

#### By 2035

- · LA will have completed the largest expansion of urban river access of any city in the US
- · LA will reduce the urban heat island effect more than any other big city in the US

While the pLAN establishes our vision, ambition, and priorities, we must unleash innovation and draw on the creativity of the men and women working for the city. We must coordinate and collaborate across department boundaries like never before. And we must call upon organizations, institutions, neighborhoods, and individual Angelenos to join with us as we move forward.

### How Will the pLAn be Used by the Mayor?

As CEO of the City of Los Angeles, Mayor Garcetti – along with his Deputy Mayors and Chief Sustainability Officer – will utilize and ensure the success of the pLAn in the following ways:

- General Manager (GM) reviews: Ensure accountability and alignment with the pLAn by incorporating pLAn progress and outcomes into GM's annual performance reviews.
- Chief Sustainability Officers in key departments: Appoint chief sustainability officers in key departments

   including proprietary departments that report directly to GMs to help deliver results, while having a
   "dotted line" to the Mayor's CSO to work collaboratively across the City.
- **Regular written reports to the Mayor:** Direct GMs to provide updates and regular written reports on progress and challenges in implementing the pLAn.
- **Budget priority setting:** Use the pLAn to establish budget priorities for departments in the Mayor's annual proposed budget, including by directing GMs to submit budget proposals to advance near- and long-term pLAn outcomes.
- Metrics and open data: Demonstrate progress and transparency on a regular basis through reporting and open data.
- Annual Report: Create an annual report on progress across the City of LA, along with incorporating lessons learned and innovations to evolve the pLAn annually as well as a major pLAn update every four years.

### Special Acknowledgments

The creation of the pLAn drew upon a broad base of input, analysis, and guidance from hundreds of individuals and organizations. A full acknowledgment list can be found in the back of the document, but a few individuals and organizations deserve special recognition, including:

- The generous in-kind support and analysis to develop the pLAn from PwC and its team: Clinton Moloney, Christopher O'Brien, Britt Harter, Kristin Centanni, Ryan Mullen, and Erik Distler (as well as their partner, Global Green USA)
- The support and experience from Bloomberg Associates' sustainability team, led by Rit Aggarwala along with Adam Freed and Edie Constable (as well as their partner, the California Community Foundation);
- The review and analysis from UCLA's Institute of the Environment and Sustainability, led by interim director Mark Gold
- The design of the pLAn, overseen by volunteer Nick Barham, chief strategy officer of TBWA\Chiat\Day, with Josh Perlow and the tireless work and design of Terry Diamond (with support from the Mayor's Fund for Los Angeles)
- The time and sage advice from Mayor's offices around the US, including Roger Kim of San Francisco, Katherine Gajeweski of Philadelphia, Brian Swett of Boston, and Sadhu Johnson of Vancouver

### How to Read the pLAn

The pLAn is organized in three sections: Environment, Economy, and Equity. Within this framework, there are 14 topic chapters. Each topic chapter includes several elements:



#### $\diamond$ Introduction

The rationale for the importance of the topic area and summary/highlights of key outcomes included within it

#### **b** Did You Know?

Key facts that reinforce why this topic area is important, and informs the reader about the subject.



### Topic Chapter Detail: Outcomes, Strategies, and Initiatives

The actionable pieces of the pLAn follow a regular format to deliver long-term transformation and near-term results. The following provides a guide to the structure of the pLAn:



### How the pLAn Was Created

The pLAn was developed through consultation with hundreds of subject-matter experts, community activists, and sustainability advocates, along with extensive quantitative analysis. Additionally, working closely with City department general managers, city council staff, and others, the pLAn was crafted to deliver a set of comprehensive, actionable, achievable, and transformative outcomes, strategies, and initiatives.

# ENVIRONMENT



Local Water



Local Solar



Energy-Efficient Buildings



Carbon & Climate Leadership



Waste & Landfills

Protecting LA's Environment ensures that we harness our natural resources efficiently and effectively, while providing a clean, healthy, and safe City for present and future generations of Angelenos.







Los Angeles is facing a "new normal" of a persistent drought – California is now in its fourth straight year of severe drought. Capturing and cleaning storm water helps to significantly reduce our dependency on imported water, prepares us to bounce back from possible disasters, and keeps our rivers and beaches clean, usable, and thriving with wildlife. These provisions ensure a strong future for our growing economy. LA has long been – and continues to be – a leader in water conservation, with Mayor Garcetti's recent Executive Directive #5 setting a goal of a 20% reduction in water use per capita by 2017.





We lead the nation in water conservation and source the majority of our water locally.



We will fund and begin the San Fernando Groundwater Basin clean-up and reduce per capita potable water use by 20%



We will reduce the purchase of imported water by 50% 2035



We will source 50% of water locally

### **DID YOU KNOW?**

- California is facing one of the worst droughts on record, made worse by the effects of climate change reducing the Sierra snowpack, a vital stockpile of freshwater.
- In the event of significant earthquake damage, sources of distributed water can provide a critical supply for emergency needs while the city recovers.
- Poor storm water quality can harm our coastal waters, marine wildlife, and LA's beautiful beaches.







- LA has begun clean up of our largest local source of ground water the San Fernando Groundwater Basin aquifer — to remove large plumes of contamination that prevent the use of much of this resource.
- LA currently recycles more than 100 million gallons of water per day, using it for irrigation, industrial purposes, and groundwater recharge.
- LA has long been a leader in water conservation among large cities, with Mayor Garcetti's recent 20% water reduction goal, creation of the Mayor's Water Cabinet, and new conservation measures at municipal facilities helping push water use even lower.

### Targets

#### Long-Term Outcomes

#### Sourcing:

· Reduce Department of Water & Power (DWP) purchases of imported water by 50% by 2025, and source 50% of water locally by 2035, including 150,000 acre-feet per year (AFY) of storm water capture.



441,871 acre-feet purchased from the Metropolitan Water District between July 2013 and June 2014

Source: City of Los Angeles, Department of Water and Power

#### Stormwater Quality:

· Improve beach water quality grade-point average (GPA) to:



Beach Water Quality GPA for LA County in Dry Conditions: 3.62 out of 4.0 as of June 2014. Beach Water Quality GPA for LA County in Wet Conditions: 2.02 out of 4.0 as of June 2014

Source: Heal the Bay Annual Beach Report Card

### 2017

#### Near-Term Outcomes

- · Secure additional funding for San Fernando Groundwater Basin clean up
- · Reduce average per capita potable water use by 20%
- · Establish Water Cabinet to implement key aspects of local water policy
- · Expand recycled water production by at least 6 million gallons per day (MGD)
- · Replace 95 miles of water pipe infrastructure
- · Reduce number of annual sewer spills to less than 125
- · Identify funding mechanism(s) to implement the Enhanced Watershed Management Plans necessary for Municipal Separate Storm Sewer System (MS4) permit compliance

+ Locally sourced water, potable and non-potable, shall be ccomposed of all local groundwater production, historical and future hardware-based conservation savings, centralized and distributed stormwater capture and recharge, and all recycled water produced in the City. When determining the percentage of local water, the amount of recycled water provided to jurisdictions outside the City of Los Angeles shall be included in both the numerator and denominator of the calculation.

#### **Conservation**:

· Reduce average per capita water use by:



131 total gallons per capita per day as of June 2014 Source: City of Los Angeles, Department of Water and Power

#### Sewer Spills:

Reduce number of annual sewer spills to fewer than:



175 sewer spills between July 2013 and June 2014 Source: City of Los Angeles, Bureau of Sanitation



### Strategies & Priority Initiatives



#### We lead the nation in water conservation and source the majority of our water locally.

#### Create an integrated water strategy for Los Angeles

- · Create Water Cabinet
- Develop integrated, stakeholder-driven "One Water Plan," a comprehensive water strategy for Los Angeles

### Ensure safe, secure, and reliable drinking water supply and system

- · Clean the San Fernando Groundwater Basin
- Ensure LA gets its fair share of Water Bond funding
- Prioritize water system funding for local water supply development and infrastructure reliability
- · Improve pipe infrastructure quality
- Expand recycled water production, treatment, and distribution to incorporate Indirect or Direct Potable Reuse (IPR/DPR)
- Educate public on need/benefits of IPR and DPR

### Reduce per capita potable water use and increase recycled water

- Execute key conservation steps in Mayor's Executive Directive #5
- Expand scope and financing of DWP's turf replacement incentive program
- Implement and expand other DWP conservation incentives
- Educate and engage residents and businesses through on going awareness, social media, and action campaigns

- Benchmark customer use and recognize innovative water-reduction initiatives
- Develop more water and wastewater rate tiers to encourage conservation
- Ensure private buildings are retrofitted with high-efficiency, water-conserving fixtures
- · Revise building code to encourage water use reduction, on-site water reuse, and recycling
- Produce at least six MGD of advanced reuse recycled water at Terminal Island facility
- Expand customer use of recycled water and expand purple pipe infrastructure

#### Increase storm water capture and protect marine life

- Identify funding mechanism(s) to implement the Enhanced Watershed Management Plans necessary for MS4 permit compliance
- Expand use of permeable pavement in large infrastructure projects (e.g. LAX)
- Expand number of green infrastructure sites and green streets (e.g., bioswales, infiltration cut-outs, permeable pavement, and street trees)
- · Expand Rain Barrel Program
- Eliminate Once Through Cooling (OTC) to improve local water quality and protect marine life

### Lead by example through increased municipal water conservation

 Increase municipal conservation through actions in Mayor's Executive Directive #5. (See Lead by Example section)

#### This Page:

StrategiesPriority Initiatives





Production of electricity from fossil fuels creates pollution, including smog and green house gas emissions. Combining the abundance of sunshine our city enjoys with the advantage of owning our own municipal utility, Los Angeles's investment in solar is generating clean power, reducing pollution, and improving grid reliability. Solar energy installed in Los Angeles creates local green jobs for Angelenos, helps drive innovation, and – when combined with back-up battery storage – helps keep the city moving in the event of a disaster. LA has become a leader in solar through the feed in tariff and net metering programs, and will become an increasing national and global leader moving forward.







- LA is already a leader in energy storage thanks to the LADWP Castaic Pumped-Storage Plant that provides more than 1,500 MW of energy storage.
- $\cdot\,$  LA has the nation's largest solar feed in tariff program.



### Targets

#### Long-Term Outcomes

#### Solar Power:

 Increase cumulative total megawatts (MW) of local solar photovoltaic (PV) power to:



132 MW installed as of Dec. 2014. Source: LADWP. Ranges are stretch goals are based on current and future IRP analysis. See 2017 IRP outcome below.

#### Energy Storage:

 Increase cumulative total MW of energy storage capacity to at least:



Outcome projects 154 MW to 250 MW of storage beyond the capacity of DWP's Castaic Pumped-Storage Plant. Ranges are based on current IRP analysis and subject to change based on price adjustments, technology developments, future regulatory requirements, and implementation capacity.

### 2017

#### Near-Term Outcomes

- · Increase installed capacity of local solar PV to 400 MW, with authority for an additional 200 MW
- · Reduce residential solar PV interconnection wait time to less than two weeks
- · Install at least 1 MW of solar on LA Convention Center roof
- · Increase total cumulative MW of energy storage capacity to 24 MW (exclusive of Castaic Pump-Storage Plant)
- · Upgrade Castaic Pumped-Storage Plant to accommodate intermittent renewable energy sources
- Launch a revised Integrated Resource Plan (IRP) process that includes in the 2015 and/or 2016 IRP a local solar scenario that achieves the long-term stretch goal outcomes. This scenario will include a robust analysis of reliability, pricing, overall greenhouse gas reductions, future RPS regulatory targets and definitions, and the potential need to shift away from planned investments in fossil fuel power generation. Technical studies on increased renewable penetration, commensurate renewable integration technologies, energy storage, and transportation electrification will be included in this IRP scenario.



### Strategies & Priority Initiatives



### We increase LA's clean and resilient energy supplies by capturing the energy from our abundant sunshine.

#### Expand local PV development programs

- Continue funding of Solar Incentive Program (SIP) and expand incentives/capacity for net metering
- · Expand capacity of Feed-in-Tariff (FiT) program
- · Expand affordable housing solar program to additional low-income customers

#### Implement community solar & virtual net metering

- · Implement virtual net metering
- · Start community solar program

#### Accelerate permitting and adoption of rooftop PV

- Create standard plans and online submittal for residential solar PV systems (up to 10 KW)
- Integrate Department of Building and Safety and Department of Water and Power solar inspection procedures
- Expand solar-ready new construction requirements to retrofit projects
- Leverage partnerships with private and public sector property owners to advance solar in LA
- Facilitate development of California Solar Permitting Guidebook

#### Enhance energy storage

 Pilot multiple energy storage projects, including Castaic upgrade, thermal energy storage, and battery storage/microgrid projects

#### Enhance energy storage (cont.d)

- Pilot technology for dispatchable and customer-side storage
- Streamline permitting and interconnection processes for residential energy-storage projects

#### Develop grid-tied backup solar and modernize Los Angeles's energy grid

- Implement Port Energy Management Action Plan (EMAP)
- · Pilot backup power projects at critical facilities
- Fund electrical-grid upgrades through the Power Reliability Program facilitates high penetration of renewables
- Create bidirectional smart grid to prepare for large-scale adoption of electric vehicles (EVs)
- · Use smart-grid technologies to monitor and track energy-efficiency progress
- · Implement demand management solutions

#### Lead by example with solar installations on new and existing City projects

- · Install solar on LA Convention Center roof
- Create PV installation requirement for City projects
- · Create financing tool for PV installation on existing City buildings
- Assist Port of LA in adding solar PV installations (at least 10 MW)

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StrategiesPriority Initiatives





### Energy-Efficient Buildings

Buildings are the largest consumers of electricity in the city and a major source of greenhousegas emissions. Smart, cost-effective retrofits will benefit our buildings for decades, create local green jobs, and lower energy bills. Energy-efficient buildings also reduce LA's contribution to global warming and create healthier, more comfortable spaces. Our city's mild climate enables us to be a national leader in reducing energy consumption and make our buildings more efficient. LA's vision is to significantly reduce energy consumption per square foot across all building types in the city.









# We save money and energy by increasing the efficiency of our buildings.

2017





By 2017 we will expand the Better Buildings Challenge (BBC) to over 60 million square feet, and avoid 1250 GWh of energy use due to efficiency programs



#### REDUCE ENERGY USE

By 2035 we will reduce energy use per square foot — for all building types — by 30%

### DID YOU KNOW?

- Energy used in buildings is the largest source of greenhouse gas emissions in Los Angeles.
- Implementing energy-efficiency measures is often the most cost-effective action property owners can take to reduce energy bills and GHG emissions.
- Most buildings in Los Angeles were built before state energy codes, and use much more energy than those built today





• The Los Angeles Department of Water and Power has the most aggressive energy-efficiency program of any California utility.

### Targets

#### Long-Term Outcomes

#### Energy Use:

 Reduce energy use per square foot below 2013 baseline – for all building types – by at least:



Building Energy Use Intensity\* of 70 mBTU/sf in 2013 Source: Los Angeles Bureau of Sanitation Climate Inventory and LA County Tax Assessor Database

\*Energy Use Intensity, expresses building energy use per square foot

#### **Energy Efficiency:**

 Use energy efficiency to deliver 15% of all of LA's projected electricity needs by 2020, including through rebates, incentives, and education:



Source: LADWP Energy Efficiency Potential Study. Post 2020 savings are indicative and subject to revision.

### 2017

#### Near-Term Outcomes

- · Avoid cumulative 1250 GWh of energy use between 2014 and 2017 due to efficiency programs
- $\cdot$  12,500 homes retrofitted with residential PACE financing
- $\cdot$  Expand Los Angeles Better Buildings Challenge (LABBC) to 60 million square feet
- $\cdot$  Create benchmarking policy to monitor and disclose building energy use
- Develop policy package (e.g., audits and retro-commissioning) to address energy consumption in the city's largest buildings (public and private)



### Strategies & Priority Initiatives



#### We save money and energy by increasing the efficiency of our buildings.

### Execute, expand, and continually refine DWP energy-efficiency programs

- · Seek stakeholder input to ensure the most effective use of DWP energy-efficiency funding
- Ensure adequate funding levels for entire energy-efficiency program package through 2020
- · Expand commercial building demand response pilot to full program and increase participation
- Extend energy-efficiency goals and funding beyond 2020

### Measure, track, and make available building energy data

- Create benchmarking policy to monitor and disclose building energy use
- · Develop comprehensive building data system
- Develop policy package (e.g., audits and retro-commissioning) to address energy consumption in the city's largest buildings (public and private)
- Expand and improve access to financing for energy-efficiency (e.g., PACE programs, green bank, private-sector lending, etc.)
- · Make workforce training investments to meet increased demand for building professionals
- · Implement energy-efficiency retrofits across the City's affordable housing portfolio
- Increase awareness of existing residential- and small-business- retrofit incentives via education campaigns

### Measure, track, and make available building energy data (cont.d)

 Identify and communicate energy conservation potential for multifamily properties through City's Gateway to Green program

### Advance energy-efficiency and green-building programs

- Expand LA Better Buildings Challenge to new sectors, including the City's affordable housing stocks
- Increase participation in energy-efficiency and green business certification programs
- Assess options for private-sector green-building policy to incentivize or require LEED Silver or better new construction and major rehabilitation

#### Prepare for energy code upgrades

- Pilot Net-Zero Energy municipal buildings (new or retrofit)
- Develop outreach and training on Title 24 compliance

### Lead by example through reduced energy consumption in municipal buildings

- Adopt municipal target for energy reduction in city buildings
- Increase municipal green-building standard for new construction
- Implement systems and gather data to understand City energy use at the actionable level

This Page:

Strategies

Priority Initiatives



# Carbon & Climate Leadership

Climate change is considered by many experts to be one of the biggest challenges facing humanity, and it will bring dramatic challenges to Los Angeles in the coming years, including wide-ranging effects on the health and welfare of Angelenos. As the largest city in a state that is taking the most ambitious and aggressive action on climate change, LA is poised to establish itself as the national leader in carbon reduction and climate change action, and in doing so catalyzing clean energy industry and creating new green jobs. Los Angeles is currently reducing greenhouse gas emissions through the elimination of coal in our energy mix, prioritizing energy efficiency, and inspiring other cities across the US to take similar action.





As a proactive leader on climate issues, we strengthen LA's economy by dramatically reducing GHG emissions and rallying other cities to follow our lead.



### **DID YOU KNOW?**

- More than 70% of global greenhouse-gas emissions come from cities, with buildings and energy use as the greatest contributors.
- Transportation and coal-fired power plants are the largest sources of greenhouse-gas emissions for Los Angeles
- LA faces the consequences of climate change on several fronts: a future of increased extreme heat, worsened drought, a longer fire season, and low-lying neighborhoods vulnerable to rising sea levels.






- · By 2025, Los Angeles will eliminate its use of coal-fired electricity.
- Mayor Garcetti serves on the C40 steering committee; represents the largest city on President Obama's Climate Task Force; and co-created the Mayors' National Climate Action Agenda, a national movement to drive cities to take action and improve standards for carbon inventories and climate action.

### Long-Term Outcomes

### Greenhouse Gas (GHG) Emissions:

 Reduce GHG emissions below 1990 baseline by at least:



# 54.1 MMtCO2e\* in 1990 Source: Los Angeles Bureau of Sanitation Climate Inventory \*Million metric tons of carbon dioxide equivalent 1990 baseline subject to revision to align with forthcoming national GHG accounting protocols.

### Climate Leadership:

 Influence national and global action through the leadership of LA and other cities on climate change

### GHG Efficiency:

 Improve GHG efficiency of Los Angeles's economy from 2009 levels:



GHG efficiency is the amount of GHGs emitted per dollar of economic productivity. 44.5 mtCO2e\* per million dollars of metro area GDP in 2009

### Coal-Free Electricity:

 Have no ownership stake in coal-fired power plants by 2025

### 2017

### Near-Term Outcomes

- · Establish a pathway to derive 50% of LADWP's electricity from renewable sources by 2030
- Develop a comprehensive climate action and adaptation plan, including an annual standardized GHG inventory
- · Work with other cities to establish standardization of municipal and community-wide GHG inventory reporting in the US and globally
- · Lead mayors of US' largest cities to sign on to the Mayors' National Climate Action Agreement (MNCAA)
- Accelerate the decarbonization of the electricity grid, including ceasing delivery of power from Navajo Generating Station

## Carbon & Climate Leadership $(\uparrow \downarrow)$

### Strategies & Priority Initiatives



As a proactive leader on climate issues, we strengthen LA's economy by dramatically reducing GHG emissions and rallying other cities to follow our lead.

#### Measure and prepare for citywide climate action

- Build on Climate LA work to develop a climate action plan that integrates with state and national goals and quantifies emission reductions from policy actions
- Perform analysis of long-term GHG reduction measures needed to meet 80% reduction target by 2050

#### De-carbonize LA's electrical grid

- · Retire coal power plants on schedule
- Incorporate GHG reduction targets into DWP's Integrated Resource Plan
- Pursue a mix of renewable resources (utilityscale solar, distributed solar, hydro, wind, geothermal) to meet RPS commitments
- Assess development of a statewide Clean Energy Standard as a means to achieving greater emissions reductions above the current RPS

### Reduce individual and citywide energy consumption through education and retrofitting

- Reduce energy consumption of individuals and buildings
- Reduce imported water use and associated GHG emissions
- Increase education on GHGs and individual actions via libraries, zoo, local colleges/ universities, and other public outlets

### Leverage local expertise to develop and support climate-change related technologies

- Assist LA companies in exporting knowledge and technologies related to climate change mitigation and adaptation
- Develop new technologies and a knowedgebase cluster in LA related to climate change mitigation and adaptation

### Lead national initiatives and international efforts to establish binding climate agreements

- · Recruit other US mayors to the MNCAA
- Implement key MNCAA tenets: required GHG reporting, standard updates to GHG inventory, and offset projects in the city
- Lead regional cities to make GHG reduction commitments consistent with national and international agreements

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### Waste & Landfills

Every household and business in the city generates waste, and our local landfills are filling up. By managing our waste in a smarter way through recycling and reusing materials such as packaging, food waste, and old electronics, we can turn this problem into an opportunity. Embracing resource recovery will provide opportunities for Los Angeles to use new technologies and methods, propelling us toward a cradle-to-cradle future, where most waste is ultimately reused locally rather than exported elsewhere. Recovering materials from the waste stream and reusing them locally will decrease our need for diminishing resources and stimulate green-job growth.



LA becomes the first big city in the US to achieve zero waste, and recycle and reuse most of its waste locally.



### DID YOU KNOW?

- In 2012, Americans generated about 251 million tons of trash with Los Angeles sending almost three million tons of waste to landfills every year.
- Many recyclable commodities are shipped overseas before being processed and used in new products.
- Current waste-hauling practices increase emissions, congestion, and noise pollution, all resulting in reduced environmental equity.





- LA is the largest city in the US to create a commercial franchise agreement with waste haulers, which will increase recycling and resource recovery while reducing air pollution from trash trucks.
- $\cdot\,$  LA is the largest city in the US to ban single-use plastic bags.



### Long-Term Outcomes

### Landfill Diversion:

· Increase landfill diversion rate to at least:



76.4% of waste diverted from the landfill between July 2013 and June 2014 Source: Los Angeles Bureau of Sanitation Zero Waste Progress Report

### Local Reuse:

 Increase proportion of waste products and recyclable commodities productively reused and/ or repurposed within LA County to at least:



No baseline but tracking this metric will begin with the implementation of the Waste Franchise system

Emphasis will be on organic waste and specialty waste streams.

### 2017

### Near-Term Outcomes

- · Expand local organic waste-collection program
- Designate a site and project parameters for an anaerobic digestion facility with at least 50 tons of capacity to process local organic waste
- Implement a waste franchise system to increase commercial recycling rates, reduce pollution from heavy-duty waste-hauling vehicles, and enhance material recovery opportunities to reach an 80% diversion rate by 2020



### Strategies & Priority Initiatives



We become the first big city in the US to achieve "zero waste," and recycle and reuse most of our waste locally.

### Execute and expand plans to increase landfill diversion and recycling

- Execute the Solid Waste Integrated Resources Plan's series of initiatives to develop blue, green and black bin infrastructure; fund specialized programs and pilots; and move the City toward zero waste
- Expand pilots for residential organics collection by 2017 and commercial by 2018 (e.g., four-bin, combined green bin, in-sink)
- · Continue aggressive recycling education

#### Create additional landfill diversion infrastructure

- Create an anaerobic digester and/or food waste pre-processing facility to better manage organic waste
- Create a Materials Recovery Facility (MRF) to expand infrastructure and capacity through Zero Waste LA for public/private use
- Develop systems and infrastructure to better allow city to recycle specialty waste streams, particularly electronic waste and mattresses
- Increase construction and demolition waste recycling requirements beyond current 65%

#### Develop "cradle-to-cradle" economy in LA through Extended Producer Responsibility (EPR) and resource recovery

 Recruit remanufacturers to improve material recovery and resale through land acquisition and other incentives

- Improve measurement and transparency about waste-stream destinations
- Develop extended producer responsibility guidelines to encourage retailers and manufacturers to recycle goods, take back materials, and/or reduce packaging
- Capture materials "feedstocks" by working with producers to design products for remanufacturing
- Analyze reduction strategies for non recyclable (e.g., blown polystyrene, flushable sanitary wipes) waste types that present challenges to meet diversion targets and/or to the sanitation system

### Encourage innovative expansion of recycling and waste diversion

- Retrofit City Asphalt Plant 1 to produce at least 50% recycled content asphalt
- Promote use of incentives in Los Angeles's Recycling Market Development Zone
- Support high-profile City recycling initiatives (e.g., Zoo initiatives, LAWA recycling for tenants and construction)

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# ECONOMY



Housing & Development



Mobility & Transit



Prosperity & Green Jobs



Preparedness & Resiliency

Strengthening the Economy of LA ensures we can satisfy our basic needs for housing, jobs, mobility, and resiliency.







The availability and affordability of housing are among the most visible and important economic issues facing Angelenos today. They're also critical elements to a strong and thriving Los Angeles. The pLAn and its strategic initiatives aim to ease housing costs, lower utility bills, promote appropriate development, encourage housing around transit hubs, and increase the production and preservation of affordable housing. These steps will allow Los Angeles to properly serve all individuals and families, while improving total housing affordability in LA and preventing the loss of existing affordable housing.





We address LA's housing shortage, ensure that most new units are accessible to high-quality transit, and close the gap between incomes and rents.



2017

We will start constructing 17,000 new units of housing within 1,500 feet of transit by 2017

2025



100,000 new housing units by 2021, leading to 150,000 new housing units by 2025



2035

Reduce the number of rent-burdened households by at least 15 percentage points by 2035

## **DID YOU KNOW?**

- If we do not act to increase in supply of housing units, LA's Department of City Planning estimates that Los Angeles could have a backlog of over 100,000 units by 2021.
- The Los Angeles region is the most expensive housing market in the country when comparing median rents to median incomes.
- The priorities for California's cap-and-trade revenues include funding for affordable housing near mass transit.





- · LA has started revamping its zoning codes, streamlining development processes, and targeting improvements to better promote transit-oriented development.
- To help increase housing affordability, Mayor Garcetti has set targets of raising the minimum wage to \$13.25 per hour in 2017, and having 100,000 new housing units built in LA by 2021.

### Long-Term Outcomes

### New Housing:

Increase cumulative new housing unit construction to:



12,394 new housing units permitted in 2014. Source: City of Los Angeles, Department of Building and Safety

### Total Affordability:

· Reduce the number of rent-burdened households by:



61.7% of renters spent 30% or more of income on rent in 2012 Source: United States Census Bureau American Community Survey 2012

### 2017

### Near-Term Outcomes

- · Permits issued for 17,000 new units of housing within 1,500 feet of transit
- Increase the combined annual amount of federal, state, and local money dedicated to affordable housing development by at least 33% compared to 2014 levels
- Minimize the loss of existing affordable housing units through density bonus revision and implementation of AB 2222

### Transit-Oriented Development:

• Ensure proportion of new housing units built within 1,500 feet of transit is at least:



<sup>43%</sup> in 2014. Source: Department of Building & Safety



### Strategies & Priority Initiatives



We eliminate LA's housing shortage, ensure that most new units are accessible to high-quality transit, and close the gap between incomes and rents.

### Expand zoning capacity in key transit nodes and corridors

- · Leverage re:code LA to promote a transit-oriented city and new Transit Neighborhood Plans
- · Complete community plans currently underway
- · Revise FAR in mixed-use zones on targeted commercial corridors
- Pilot new transitional height zones at key transit nodes
- Pilot new regulations governing second units and granny flats

Create pathways for permanent sources of funding for Transit-Oriented Development (TOD) and affordable housing

- · Work with Metro on affordable housing joint development and funding opportunities
- Rebuild the Affordable Housing Trust Fund with a combination of federal, state, and local sources.
- Ensure HCID's "Managed Pipeline" prioritizes TOD projects

### Streamline the building of TOD and affordable housing

- Implement Build LA and Parallel Design Permitting process
- Update parking regulations to include standards for bike and car-share infrastructure

#### Preserve existing affordable housing

- Revise density bonus and explore value capture strategies through AB2222 implementation
- Use portion of local housing development funds to preserve existing affordable housing units
- Collect rent data via RSO registration process to better target affordable housing preservation strategies
- · Strengthen Ellis Act affordable housing replacement provisions

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Traffic and difficulty in moving around the city are an unfortunate part of Los Angeles's image and reality. Traffic also presents a significant economic challenge and quality of life impact. As LA expects to add another 500,000 residents over the next 20 years, it is critical that the city provides more options for Angelenos to move around and get to where they need to go. We will focus on public transit, bicycling, walking, and locating Angelenos' residences near transit and the places they would want to travel.







We invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled.



Establish bike share with at least 65 stations and 1,000 bikes

2017

2025

5% 🙃

We will reduce vehicle miles traveled per capita by 5%



# 50%

2035

At least **50%** of all journeys will be on foot, by bike or by using public transit

## **DID YOU KNOW?**

• On average, Angelenos waste 64 hours in traffic each year, making LA the most traffic-congested major city in the US.

**B** 

- Currently, only 16% of Angelenos walk, bike, or take public transit on their daily work commute.
- Fewer than half of Angelenos live within one quarter mile of high-quality transit.





- · Annual transit passenger miles traveled has increased 56% since 1984.
- Over 800,000 people have participated in 12 CicLAvia events, helping Angelenos transform their relationship with our streets, explore neighborhoods across the city on their bikes, and experience the city in new ways.



### Long-Term Outcomes

### Vehicle-Miles Traveled (VMT):

· Reduce daily VMT per capita by at least:



14.7 VMT per capita in 2012 Source: Los Angeles Bureau of Sanitation Climate Inventory using Southern California Association of Governments data

#### Mode Share:

 Increase the percentage of all trips made by walking, biking, or transit to at least:



26% of all trips originating in LA are by foot, bike, or transit. Source: Southern California Association of Governments using 2012 data.

### Shared Transportation

 Increase number of trips through shared services, including car share, bike share, and ride share to at least:



0.9% of all trips originating in LA are by shared transportation. Source: CaITRANS using 2012 data.

### 2017

### Near-Term Outcomes

- $\cdot$  Complete LA Metro's integrated regional integrated bike share system plan
- $\cdot$  Establish bike share system in LA starting with at least 65 stations and 1,000 bikes
- · Increase multi modal connections at 10 rail stations
- · (See Housing & Development chapter for 2017 outcomes about housing near transit)



### Strategies & Priority Initiatives



We invest in rail, bus lines, pedestrian/bike safety, and complete neighborhoods that provide more mobility options and reduce vehicle miles traveled.

ECONOMY

#### Improve pedestrian and bicycle infrastructure and other sustainable transport, emphasizing connections to mass transit

- · Support implementation of Metro's first-mile, last-mile strategic plan
- Build bike infrastructure (lane network, racks, districts) per DOT strategic plan and 2035 Mobility Element
- Build out the LA River Bike Path (See "Urban Ecosystem" chapter)
- Site and build multi modal Integrated Mobility Hubs with infrastructure for car share, shared rides, and bike share
- Support strategic mode shift opportunities for short trips with more Transportation Management Organizations (TMOs), car sharing, and improved pedestrian connectivity for major events and destinations
- · Upgrade Jordan Downs pedestrian and bike infrastructure

#### Expand high-quality transit options across the city

- Expand and upgrade Bus Rapid Transit (BRT) on Vermont Ave and other corridors through implementation of Metro's BRT Study
- · Expand capacity of park and ride network
- Keep Measure R build out on schedule to expand rail network
- Fund Airport Connector and keep build out on schedule
- Modify existing DASH routes and expand service to better connect with regional transit services and future light rail

#### Leverage zoning, planning and community vibrancy to move Angelenos closer to work and transit

- Use tools to increase TOD (e.g. expanding Transit Neighborhood Plans, and density bonus revision). (See Housing & Development chapter)
- Increase vibrancy of streets and improve pedestrian and bike safety. (See Livable Neighborhoods chapter)

#### Secure new funds for mobility projects

- · Explore a new County-wide transportation funding mechanism
- Create new funding mechanisms for neighborhood and district specific mobility and traffic management projects
- Pursue Cap-and-Trade funding for "active" transit projects
- Pursue Federal transit funding through the Small Starts and New Starts programs

#### Revise parking management to align with new infrastructure and mobility options

- · Expand dynamically priced parking
- Revise parking minimums and create Parking Districts near transit hubs
- Pilot and expand initiatives on alternative car structures and technologies (including car sharing of traditional and autonomous vehicles)







### Prosperity & Green Jobs

The economic power of individual workers and the green business sector are key components of a sustainable city's strength and vitality. Developing prosperity through green jobs can drive triple bottom-line returns that achieve economic success, improve equity, and strengthen the environment. Opportunities include: increasing the number of green jobs through water and energy efficiency, transit growth, and improving our national and global competitiveness in the clean tech sector.





We strengthen and grow our economy including through increased green jobs and investments in clean technology sectors.



### 2017 GREEN INVESTMENTS

By 2017, we will achieve \$100 million of green investment through the LA Clean Tech Incubator

Increase green investment in LA \$2 billion by 2035

### **GREEN JOBS CREATED**



# DID YOU KNOW?

- Green jobs (e.g., performing energy efficiency upgrades, installing solar PV systems, etc.) deliver outsized benefits to lower-skilled workers, including higher wages.
- According to the Brookings Institution, most of Southern California's green jobs are located outside of the City of Los Angeles, contributing to the nearly 1% gap between the City's unemployment rate and that of LA County.
- With the Department of Water and Power, Metro, and the Bureau of Sanitation poised to make large investments in public infrastructure, LA has the opportunity to grow its local base of companies in the environmental services, clean tech, and manufacuturing sectors.







- LA's policies on green building, water infrastructure, energy efficiency, and transit have set LA on the path to create 20,000 new green jobs by 2017.
- By leveraging clean air initiatives at the Port of Los Angeles, local entrepreneurs and major international companies have developed new technologies for moving goods efficiently while reducing pollution levels.



### TARGETS

### Long-Term Outcomes

#### Green Jobs:

· Increase green jobs in LA by at least:





### Employment

· Eliminate unemployment rate gap between City of LA and LA County from today's gap:



Gap as of November 2014 is 0.6%

LA County unemployment rate in November 2014 was 7.9% according to U.S. Bureau of Labor Statistics. L.A. City unemployment in November 2014 was 8.5% according to UCLA Anderson Forecast.

### 2017

### Near-Term Outcomes

- Increase minimum wage to \$13.25/hr
- · Achieve annual parity between incoming and outgoing entitlement cases (i.e. no additional case backlog)
- · Create 20,000 green jobs
- · Attract \$100 million of private-sector investment though the LA Clean Tech Incubator



### STRATEGIES & PRIORITY INITIATIVES



We strengthen and grow our economy including through increased green jobs and investments in clean technology sectors

#### Raise wages and improve business climate

- · Increase minimum wage
- Remove barriers to entrepreneurship and growing business by cutting red tape and reducing the gross-receipts tax
- · Create "white glove" service for establishing and permitting clean tech and green companies

#### Expand deployment of clean technology

- Expand existing programs that generate demand for clean tech (e.g., Port Technology Advancement Program, feed-in tariff and energy efficiency funds)
- Work with proprietary departments to develop, pilot, and prefer "Made in LA" clean technologies
- Start a solar-to-grid program on streetlight poles in the city

### Use LA's environmental leadership to attract trade and conventions

- · Expand environmental initiatives at LAX to improve performance and customer experience
- Build on Port of Los Angeles's environmental leadership to increase efficiency and develop new technologies
- Increase competitiveness for conventions, trade shows, and conferences by ensuring LA Convention Center (LACC) maintains its LEED Gold status (including in any future revitalization of LACC), and increasing the number of greencertified hotels in Los Angeles

#### Create a comprehensive green/clean business development plan with the following components and characteristics:

#### Resources

Attract mature green industries to the city via incentives and business-tax holidays

Leverage opportunities with other municipalities and partners that provide tax credits, low-interest financing, and loan guarantees for green start-ups

Champion private equity firms and other entities to create clean tech or "green" investment funds

Encourage companies to take green actions and incentivize their employees to obtain training and certifications

#### Supporting Infrastructure

Develop infrastructure to grow green startups into mature businesses (e.g., office space and low-cost warehousing for short- to medium-term use)

Create and support network of local business incubators

#### Workforce Development

Create private-sector partnerships for apprenticeship programs in green industries

Create partnerships with higher education institutions to retain high-skill graduates and enlarge the talent pool in Los Angeles.

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We must prepare Los Angeles for future earthquakes and increasing climate disruptions facing our city, including bigger wildfires, longer and hotter heatwaves, and rising sea levels. Whether in the form of distributed water solutions to help increase local water supplies and fight fires post-earthquake, or the integration of grid-tied solar powered backup systems to keep fire stations running, it is immediately necessary to have proactive solutions to prepare the city.





We are prepared for natural disasters, and we decrease our vulnerability to climate change.



## DID YOU KNOW?

- By midcentury, the number of extreme-temperature days (above 95 degrees) is predicted to triple in downtown Los Angeles.
- Average temperatures in LA are nearly six degrees hotter than surrounding areas largely due to asphalt in the city. This is known as the heat-island effect.
- Having distributed water and electricity supplies can help first responders after a disaster, and better assist our most at-risk populations.





- LA helped found the LA Regional Collaborative on Climate Action (LARC) to further understand and prepare for future climate impacts, while working with UCLA and USC to advance related research.
- · Los Angeles has made significant progress to retrofit our buildings for earthquakes, and now Mayor Garcetti's "Resilient by Design" plan targets additional vulnerable building types for upgrades.

### Long-Term Outcomes

#### Urban Heat Island:

 Reduce urban/rural temperature differential by at least:



 $<sup>5.58^\</sup>circ\text{F}$  \* in 2012 Source: Yale-NUIST Center on Atmospheric Environment, using NASA MODIS data \*Annual-mean daytime  $\Delta\text{T}$ 

#### "Return to Normal"

 Improve our preparedness and resiliency so the city and commercial activity can "return to normal" after a disaster as quickly as possible



- Develop measurable targets for post-disaster service restoration in the areas of water, electricity, communications, and surface transportation
- Develop measurable targets for post-disaster service restoration by Tier 1, 2, and 3 City Departments

### 2017

### Near-Term Outcomes

- · Implement enhanced Reverse 911 system to incorporate mobile phones and alerts
- · Install 10,000 new cool roofs
- $\cdot$  Pilot installation of "cool slurry" pavement
- $\cdot\,$  Develop comprehensive climate action and adaptation plan



### Strategies & Priority Initiatives



We are prepared for natural disasters, and we decrease our vulnerability to climate change.

#### Integrate sustainability and climate resiliency efforts

- Support Chief Resiliency Officer to comprehensively address resiliency
- Convene group of key technical and academic experts to integrate resiliency strategy with climate action and adaptation plan

### Ensure Los Angeles's preparedness for all natural disasters

- Develop citywide WiFi for emergency use powered by backup solar power
- Expand Port solar installations to incorporate backup and emergency power
- Develop local/regional water storage and backup firefighting system
- Encourage residential water storage (e.g., rain barrels and small cisterns)
- Secure emergency services contracts for disaster-response functions
- Increase electricity-based preparedness (e.g., electrical grid and grid upgrades, micro-grids, grid-tied backup solar and streetlight solar-togrid)
- Develop plan for post-disaster resource recovery
- Improve the seismic resiliency of the LA Aqueduct

#### Help individuals to be prepared

- Leverage libraries and other city facilities to distribute information on preparedness and action plans
- · Help individuals understand and implement residential backup power systems
- Conduct regular drills and emergency response exercises

#### Safeguard buildings through seismic retrofits outlined in the City's "Resilience by Design" earthquake preparedness plan

- Assess and retrofit vulnerable pre-1980 soft story and concrete buildings
- · Implement a Seismic Safety Rating System
- · Create a Back-To-Business inspection program

### Reduce the impact of Los Angeles's urban heat island effect

- Identify neighborhoods with the most asphalt cover, highest temperature, and buildings with most heat evacuations
- Add additional street trees and cool roofs, prioritizing neighborhoods with the most severe heat island effect
- Promote "softening" of hardscape in alleys and parking lots
- · Install cool-pavement and cool-street coverings
- Prepare additional city buildings to function as cooling centers and disaster gathering places

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# EQUITY



Air Quality



Environmental Justice



Urban Ecosystem



Livable Neighborhoods
Building equity in our city ensures all Angelenos have access to healthy, livable neighborhoods. It also strengthens a sense of collective ownership of our common future.







Los Angeles has made great strides in improving its air quality since the 1970's, yet more work is required to protect public health and improve our air. Mobile sources (trucks, ships, aircraft, and personal vehicles) emit 90% of the region's air pollutants. A key piece of the solution will be Los Angeles facilitating the transition to low and zero-emissions transportation primarily though electric vehicles (EVs). We will strive to eliminate non-attainment days (air pollutants exceed federal standards) by making EV use more convenient and practical, and by shifting commercial goods movement to lower or zero-emissions technologies.



We will install more than 1,000 new publicly available EV charging stations throughout the city, including more than 100 on City property.

days

We will have zero days when air pollution reaches unhealthy levels



25% of all light-duty passenger vehicles on the road will be electric or zero emission

# **DID YOU KNOW?**

- According to the EPA, the LA region has the worst air quality of any region in the US.
- Poor air quality leads to health problems, increased healthcare costs, and lost productivity, often disproportionately impacting lower-income Angelenos.
- Within the South Coast Air Basin, studies estimate that approximately 3,600 people die prematurely each year from poor air quality and particulate matter.





• The number of days where air quality does not attain Federal standards has dramatically decreased since the 1990s.



## Targets

### Long-Term Outcomes

#### Attainment:

· By 2025, we will have zero days when air pollution reaches unhealthy levels.

40 Non-attainment days in LA County in 2013 Source: South Coast Air Quality Management District

#### Electric Vehicles (EVs):

 Increase the percentage of electric and zero emissions vehicles in the city to:

#### Goods Movement:

 Increase the percentage of Port-related goods movement trips that use zero-emissions technology to at least:



Approximately 0.06% of cars and light-duty trucks are zero-emission plug-in electric vehicles as of March 2014

Source: UCLA Luskin Center for Innovation and California Department of Motor Vehicles



As of 2014, the only ZEV trips are part of technology-development pilot programs

# 2017

### Near-Term Outcomes

- Install more than 1,000 publicly available EV charging stations, with more than 100 (including DC fast chargers) on City property
- Expand alternative maritime power and alternative low-emission compliance mechanisms (e.g., sock on the stack) to 70% of ships calling at the Port of Los Angeles
- · Execute four zero-emissions or PZEVs goods movement pilots within the Port of Los Angeles
- · Develop and complete Clean Air Action Plan 2.0 at the Port of Los Angeles



# Strategies & Priority Initiatives



#### We all have healthy air to breathe.

Accelerate air quality improvements at the Port of Los Angeles from the current Clean Air Action Plan

- · Implement the Clean Truck Program (CTP)
- Implement the Environmental Ship Index program (ESI)
- Implement the Vessel Speed Reduction program (VSR)
- Implement the Alternative Maritime Power program (AMP)
- Implement the Air Quality Mitigation Incentive Program (AQMIP)
- Create and begin using sustainable lease agreements

#### Convert local goods movement to zeroemissions

- Support technology development for zero emissions goods movement
- Support gasification (with secondary treatment for NOx) and electrification of heavy-duty rail to achieve zero and near-zero emissions rail transport
- Reduce emissions from goods movement with a focus on low-income neighborhoods (See Environmental Justice chapter)

## Transition personal transport toward zero emissions

 Develop more EV charging stations on public/ municipal property

- Develop and execute comprehensive EV infrastructure strategy
- Streamline rates and permits to make charging stations in homes and multifamily buildings easier and cheaper
- Support California Air Resources Board (CARB) rulings on efficiency standards for vehicles
- Work to include emission reduction credits for EV charging infrastructure in AQMD's Air Quality Investment Program (Rule 2202) for large employers
- Modify Green Building Ordinance to require EV charging

# Improve air quality and reduce toxicity in LA's most affected neighborhoods

- Identify strategies to improve air quality in Clean Up Green Up neighborhoods
- · (See Environmental Justice chapter)

#### Lead by example with air quality improvements to the City fleet, airport, and public transportation

- Green the City fleet to reduce fuel use (e.g., EVs, efficient vehicles, rightsizing, telematics, and behavior change)
- Pilot new forms of low-impact transport (e.g., EV buses, car share, taxis)
- Implement LA World Airports air quality actions

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#### EQUITY





### **Environmental Justice**

Underserved, low-income individuals and communities often bear the burden of environmental pollution, health impacts and economic health challenges, and therefore need and deserve specific improvements and investments. All Angelenos have the right to health and opportunity in our city. Improving air quality and neighborhood conditions helps ensure that no Angeleno becomes or remains marginalized. The pLAn also addresses food deserts and takes steps to deliver benefits from the green economy to all Angelenos.







### We ensure the benefits of the pLAn extend to all Angelenos.

Reduce the number of annual childhood asthma-related emergencyroom visits in LA's most contaminated neighborhoods to less than:





Ensure all low-income Angelenos live within ½ mile of fresh food by 2035

# **DID YOU KNOW?**

- In Los Angeles, hazardous facilities and corridors for goods movement are located primarily in low-income, minority communities, such as Boyle Heights, the Figueroa Corridor, Pacoima, Watts, and Wilmington
- While cancer risk from air pollution has dropped since 2005, dirty air remains a key public health challenge in neighborhoods across the city
- California EPA's CalEnviroScreen scores and maps more than 8,000 census tracts statewide using environmental, health, and socioeconomic data to identify the neighborhoods most impacted by pollution and poverty









neighborhoods through piloting "Green Zones" and the creation of an Ombudsperson's Office.

## Targets

### Long-Term Outcomes

### Respiratory Illness:

 Reduce the number of annual childhood asthma-related emergency room visits in LA's most contaminated neighborhoods to less than:



Average number of emergency room visits is 900 per 1,000 children for City of LA. Highest zip code (Central City) has 31.4. Second highest (Harbor Gateway) has 16.3. Source: Plan for Healthy LA. Data from 2010 California Office of Statewide Health Planning and Development.

### Improving Most Impacted Neighborhoods:

• Reduce the number of census tracts in the top 10% of CalEnviroScreen by:



190 census tracts in the top 10% as of FY2014. Source: Office of Environmental Health Hazard Assessment

CalEnviroScreen is a tool from the California Environment Protection Agency (CalEPA) for identifying communities disproportionately burdened by multiple sources of pollution.

## 2017

### Near-Term Outcomes

- Implement and expand Clean Up Green Up program by targeting the highest scoring (i.e., most impacted)
  CalEnviroScreen census tracts, including South LA
- · Implement neighborhood-level air quality monitoring
- · Require all city farmers markets to accept EBT

### Food Deserts:

 $\cdot\,$  Ensure all low-income Angelenos live within  $\frac{1}{2}$  mile of fresh food by 2035



414,384 low-income residents without grocery retail within 1/2 mile in 2010 Source: United States Department of Agriculture Economic Research Service, Food Research Attas



# Strategies & Priority Initiatives



#### We ensure the benefits of the pLAn extend to ALL Angelenos

# Improve air quality and reduce toxicity in LA's most affected neighborhoods

- Implement and expand Clean Up Green Up program to include one or more additional neighborhoods — including from South Los Angeles — with high CalEnviroScreen scores
- · Create neighborhood-level air quality monitoring and define metrics (e.g., PM10 and ozone)
- Create working group to prioritize and execute local air quality mitigation steps in highly impacted neighborhoods
- Reduce emissions from goods movement with a focus on low-income neighborhoods
- Improve LA air quality in general (see Air quality chapter)

## Eliminate food deserts, prioritizing residents in underserved communities

- Expand Neighborhood Market Conversion program and promote investment in new grocery locations via FreshWorks fund
- Create new retail siting policies and update Community Plans to encourage siting of new grocery retail in high-impact, underserved areas

# Expand access to urban agriculture and community gardens

• Expand urban agriculture in the City's federallydesignated Promise Zone (See Urban Ecosystem chapter)

#### Use climate action to create jobs

- Target highest-scoring CalEnviroScreen census
  tracts for investments of cap-and-trade revenue
- Develop climate-related workforce and business creation solutions (see Prosperity & Green Jobs chapter)

# Improve safety and physical environment of underserved areas

- Create opportunities for leadership development and capacity building to enable impacted communities to secure funding from GHG Capand-Trade funding
- Expand Community Safety Partnerships (CSP) to improve public health by ensuring safe routes and safe passage for all pedestrians, including routes to schools

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## Urban Ecosystem

Research has shown that access to nature makes people mentally and physically healthier. LA's natural lands – our own "wild places" – and parks improve environmental quality and increase the economic, physical, and social health of the City's communities. Focusing our efforts to revitalize urban ecosystems, we help prioritize the City's efforts to increase access to outdoor space and develop the richness of those spaces in terms of quality services, diverse ecosystems, and urban agriculture.



Jrban Ecosystem

We all have access to parks and open space, including a revitalized LA River Watershed.

2025

2017



56% of Angelenos will live within ½ mile of a park or open space



We will complete 32 miles of river access within the City of LA by 2025



2035

We will increase the number of urban agriculture sites in LA from the **2013** baseline by at least **50%** 

# DID YOU KNOW?

- Los Angeles is one of the top cities in the nation in terms of total park acreage, but according to the Trust for Public Land, is one of the worst in the nation in terms of park access and playgrounds per capita.
- Currently, 40% of the Los Angeles population lives within one quarter mile of parkland. Living in proximity to a park is shown to help reduce obesity.
- The Army Corps of Engineers began channelizing the LA River in 1938 with concrete, which divided communities and caused environmental damage.





# Targets

### Long-Term Outcomes

#### Los Angeles River:

- $\cdot\,$  Complete 32 miles of river public access within the city of LA by 2025
- Complete or initiate restoration work on 8 "reaches" identified in the Area with Restoration Benefits and Opportunities for Revitalization (ARBOR) Study by 2035

13.3 miles of Los Angeles River public access as of June 2014 Source: City of Los Angeles, Bureau of Engineering

#### Park Access:

• Ensure proportion of Angelenos living within 1/2 mile of a park or open space is at least:

#### Urban Agriculture:

 Increase number of urban agriculture sites in LA from the 2013 baseline by at least:



54% of residents live within 1/2 mile of a park or open space as of 2013 Source: Trust for Public Land ParkScore\* Index



494 urban agriculture sites as of June 2013 Source: CultivateLA: An Assessment of Urban Agriculture in Los Angeles County, University of California Cooperative Extension - Los Angeles

# 2017

### Near-Term Outcomes

- $\cdot\,$  Achieve 56% of Angelenos living within 1/2 mile of a park or open space
- · Develop city biodiversity strategy
- · Develop strategy for funding Park Stewardship Alliance with nonprofits and other partners
- · Pass legislation allowing for and encouraging urban agriculture in open space (e.g., medians, vacant lots, etc.)
- · Initiate tree and tree-canopy registry to document LA's urban forest to guide tree planting investments
- $\cdot\,$  Create 5 additional miles of LA River public access

#### EQUITY



# Strategies & Priority Initiatives



We all have access to parks and open space, including a revitalized LA River.

#### Implement LA River revitalization

- Restore at least 11 miles of the LA River and provide public access to all 32 miles in the City of LA
- Prioritize access infrastructure/LA River bikeway in River revitalization
- Identify opportunities to increase public access and deliver other co-benefits via LA River-adjacent properties owned by the City and other public agencies

Expand number of parks and open spaces for Angelenos

- Partner with government agencies and NGOs to expand the 50 Parks LA Initiative to obtain and transform more properties to open space in underserved communities
- Expand number of green infrastructure sites and green streets (e.g., bioswales, infiltration cutouts, permeable pavement, and street trees)

# Develop funding streams for park quality and maintenance

- Implement changes to Quimby and Finn Fee process to expand park space more quickly
- Seek funding linkages with other requirements such as flood control, air quality mandates, or groundwater recharge
- Strengthen connections with philanthropy and public-private partnerships to maintain existing and add additional parks
- Assess and track park acreage per 1000 residents

#### Protect and support biodiversity

- Convene an expert council to develop soil health and "no-net-loss" biodiversity strategy for the City
- Complete tree and tree-canopy registry to document LA's urban forest and direct new planting to neighborhoods most in need
- Reduce rodenticide use by the city and pilot non toxic alternatives
- · Update watershed-protection policies to include enhanced stream protection

# Expand access to urban agriculture and gardens

- Provide access to land at LA City facilities, including the LA Public Library, to urban agriculture
- Convert parkways and open lots to agriculture and gardening
- Expand urban agriculture in the City's federally designated Promise Zone
- Encourage urban farming through City's compost giveaway and distribution program, use of yard space for urban gardens and a pilot hydroponics/aquaponics program

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### Livable Neighborhoods

Neighborhoods are more than simply places where people reside. Neighborhoods are a great source of pride and self-identification. The pLAn and its strategic initiatives help create the conditions for neighborhoods to thrive, such as building great streets that serve as local destinations, providing safe transit, access to services, and creating opportunities for engagement and the formation of strong community bonds.





We all live in safe, vibrant, well-connected, and healthy neighborhoods



By 2025, we will implement Vision Zero principles on traffic safety



Walk Score

We will increase LA's average Walk Score to 75 by 2025

# **DID YOU KNOW?**

- Roughly 40% of LA's sidewalks need to be repaired or replaced.
- LA had 95 fatal traffic collisions involving cars and pedestrians or bicyclists in 2012.
- Volunteering, civic engagement, and walkability encourage interaction with neighbors, which increases cohesion and sense of pride within neighborhoods.





- The Vision Zero initiative led by LA's Department of Transportation aims to eliminate traffic fatalities for pedestrians and bicyclists.
- · In 2014, the city launched the Mayor's Volunteer Corps., which including a dedicated Neighborhood Corps.



### Targets

### Long-Term Outcomes

### Walk Score:

· Increase LA's average Walk Score to 75 by 2025

Walk Score

2025

64: average Walk Score in 2014. Source: WalkScore® Index

### Pedestrian/Bike Safety:

 Implement Vision Zero policy to reduce traffic fatalities



184, of which 86 involve pedestrians and 9 involve bicycles. Source: Department of Transportation. Date: 2012

## 2017

### Near-Term Outcomes

- · Implement improvements on 15 commercial corridors/Great Streets
- · Achieve designation as an Age-Friendly City by the World Health Organization's Global Network of Age-friendly Cities and Communities



# Strategies & Priority Initiatives



We all live in safe, vibrant, well-connected, and healthy neighborhoods.

#### Strengthen pedestrian and bike safety

- Support the Department of Transportation Strategic Plan to help address pedestrian/bike safety through:
  - Adoption of "Vision Zero" policy and establishment of a multi-agency safety task force
  - Incorporation of safety for pedestrians into all street designs and redesigns
  - Collection of consistent, uniform data to drive improvements in most dangerous locations

#### Improve the vibrancy of our streets

- Use Great Streets and other public improvements to create complete streets that enhance economic development, improve commercial and civic life, decrease retail vacancy rates and enhance safety
- Establish consistent citywide policy for incorporation of green infrastructure into street and sidewalk repair projects

# Connect Angelenos through increased community events in public spaces

- Expand "People St" public space conversions throughout the City
- Increase the number and scope of open street programs, like CicLAvia and "Play Streets"
- Create one-stop-shop to better enable neighborhoods and civic groups to permit and approve community events and festivals

# Catalyze volunteer opportunities to improve neighborhoods

- Support the Neighborhood Council Sustainability Alliance to drive Angelenos to volunteer across the city
- Promote volunteer events for critical initiatives in underserved areas (e.g., tree planting, waterway cleanup, parkway, and median improvements)
- Use our libraries as a platform to promote environmental and social engagement
- Expand public engagement on environmental education through City venues (e.g., Environmental Learning Center at Hyperion)

#### Encourage and support Angelenos' well-being and vitality through healthy food choices and exercise

- Support programs and policies to help Angelenos be active, including encouraging outdoor exercise equipment at parks and other public spaces
- Encourage Angelenos to consider the health and environmental impacts of their dietary choices, including by purchasing locally grown food from farmer's markets
- Support Good Food Purchasing Program to help institutions source local and sustainable food

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The City of Los Angeles has long been a leader on environmental, economic, and social equity issues. When the City leads by example on sustainability performance, it inspires both Angelenos and the nation to take action. Opportunities for City leadership include increasing resource efficiency, achieving a high STAR rating (i.e., a community sustainability rating system), and influencing other cities in the region to act on sustainability and climate change.

Lead By Example





We have a municipal government that leads by example throughout every department in the City of Los Angeles.



# DID YOU KNOW?

- In 2013, the City of Los Angeles was ranked 28th in the US on energy efficiency by the American Council for an Energy Efficient Economy.
- Demonstrating the increased resource-efficiency of the City government including water and energy savings – aligns with Mayor Garcetti's back-to-basics priorities.
- It is estimated that the City of Los Angeles could add 500,000 more residents by 2035.







### Targets

### Long-Term Outcomes

### Energy Efficiency:

· Reduce municipal energy use by:



2,258,739 mmBtu\* in 2013 Source: Los Angeles Bureau of Sanitation Climate Inventory \*Million British Thermal Unit

### GHG Reduction:

 Reduce Greenhouse gas (GHG) emissions by at least 55% by 2035 from 2008 baseline (35% by 2025)



772,696 mtCO2e\* in 2012 Source: Los Angeles Bureau of Sanitation Climate Inventory \*Metric tons of carbon dioxide equivalent

# 2017

### Near-Term Outcomes

- $\cdot\,$  Reduce water use at city facilities and proprietary departments by 20%
- · Achieve 4-STAR Community rating
- Ensure that 50% of the City's light-duty vehicle purchases are EVs, and analyze conversion of other vehicle types to EVs
- $\cdot\,$  Be a Top 10 city as rated by the American Council for an Energy Efficient Economy (ACEEE)
- · Create a city-to-city partnership in LA County to establish a baseline sustainable city plan for adoption.
- · Establish a pLAn working group of key City departments, business leaders, local universities, and key stakeholders.

### Water Efficiency:

· Reduce municipal water use by at least:



16,099 Acre-feet of water used between July 2012 and June 2013 Source: City of Los Angeles, Department of Water and Power

### STAR Certification:

 Achieve and maintain Sustainability Tools for Assessing & Rating Communities (STAR) certification and 5-STAR Community rating by 2025

### Regional Leadership:

 Work with 10 cities in LA County to adopt a sustainability plan by 2025, and 40 cities by 2035

### ZEV Fleet Conversion:

- Ensure that the percentage of the City's light-duty vehicle purchases that are at least::
  - 80% EVs by 2025 - 100% EVs by 2035



# Strategies & Priority Initiatives



#### We have a municipal government that leads by example throughout every department in the City of Los Angeles.

#### Reduce municipal building energy consumption

- Adopt a municipal target for energy reduction in City buildings
- Increase the municipal green building standard for new construction
- Challenge departments and cities in LA County to match the City of LA's targets
- Implement systems and gather data to understand City water and energy use at the actionable level
- Identify and execute opportunities for new and existing buildings for net-zero goals for city facilities

### Reduce emissions from municipal transportation and fleets

- Use leading-edge technologies and approaches (e.g., car sharing, EVs, alternative fuel infrastructure, and low-carbon/biofuels for heavy-duty vehicles)
- Reduce total miles traveled for fleet (e.g., telematics, route optimization, right-sizing, behavior change)
- Green City fleet using technology and vehicle selection (e.g., rightsizing, car sharing, electric vehicles (EVs), alternative fueling sites, clean-fueled and electric heavy-duty vehicles and improved fuel economy vehicles)
- Increase participation of City employees in public transportation incentive programs

#### Reduce municipal water consumption

- Convert road medians and parkway strips to low- or no-water use landscaping
- · Reduce potable water use by 10% in city parks
- Reduce watering to two times per week at City facilities
- Convert 85% of public golf course acreage to recycled water

- Wash city vehicles only at facilities with 100% recirculated water
- · Publish water use at each City-owned facility
- Retrofit municipal and proprietary buildings and adjacent landscapes
- Incorporate additional low water use and permeable materials into standard parkway design guidelines
- Develop strategy to convert City's lakes to recycled water and implement pilot

# Integrate sustainable practices into all City departments and operations

- Expand Green Business Certification Program to reward LA businesses for reducing water, waste and energy
- Fully integrate sustainability goals and processes into all City departments and regulations, and create a shared vision and coordinated strategy (including green purchasing)

#### Pursue 3rd-party sustainable city certifications

- Achieve STAR certification and 4-STAR Community ranking
- Manage project and work with specific departments to achieve 5-STAR ranking

#### Influence regional action on sustainability

- Pursue a defined role for cities in update to California GHG legislation (AB32 2.0)
- Support regional cities and organizations as cities create Sustainable City Plans
- Seek regional strategies and commitments via Councils of Government (COGs), Southern California Association of Governments (SCAG), and other venues to lead development on key issues like transportation and air quality

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## Acknowledgments

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#### Mayor's Sustainability Team

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