<table>
<thead>
<tr>
<th><strong>ENERGY GOALS</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>✪ Drive building efficiency and electrification through voluntary and mandatory programs</td>
</tr>
<tr>
<td>✪ Mitigate the impacts of natural gas use through carbon offsets (short term) and electrification (mid-to-long-term)</td>
</tr>
</tbody>
</table>

**KPIs (Key Performance Indicators)**

- Building Energy Efficiency
  - % Electric efficiency savings: 0.66% (FY18), 0.65% (FY17)
  - % Gas efficiency savings: 0.90% (FY18), 0.81% (FY17)
- Avoided Natural Gas use due to Electrification programs: 4,918 therms (2018), 1,453 therms (2017)

**2018 Projects Highlights**

- Achieved carbon neutrality for the FY 2018 gas supply portfolio
- Joined the statewide energy reach code study
- Evaluate and update HPWH pilot based on customer feedback
- Completed a Thermal Microgrid feasibility assessment study
- 90% completion of replacement sludge incinerator facility
- Adopted a Utilities Strategic Plan

<table>
<thead>
<tr>
<th><strong>WATER GOALS</strong></th>
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<tbody>
<tr>
<td>✪ Reduce inefficient water consumption</td>
</tr>
<tr>
<td>✪ Ensure adequate water supply from sustainable sources</td>
</tr>
<tr>
<td>✪ Protect canopy, creeks, groundwater and the bay</td>
</tr>
</tbody>
</table>

**KPIs**

- Per Capita Water Use = Gallons Per Capita Per Day
  - % Recycled Water (RW) Use: Volume of RW/ RW Filter Capacity
    - 18% (2018), 16% (2017)

**2018 Projects Highlights**

- Submitted recommendations for the 2019 Green Building Ordinances on gray water and water efficiency
- Completed 85% draft Green Stormwater Infrastructure Plan
- Completed Recycled Water Phase III Expansion Pipeline Business Plan
- Identified water reuse alternatives
- In discussion with Santa Clara Valley Water District and City of Mountain View for funding remainder of design and construction of salt removal facilities

<table>
<thead>
<tr>
<th><strong>MOBILITY GOALS</strong></th>
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</thead>
<tbody>
<tr>
<td>✪ Reduce Single Occupancy Vehicle (SOV) travel</td>
</tr>
<tr>
<td>✪ Make it more convenient not to drive</td>
</tr>
</tbody>
</table>

**KPIs**

- SOV commute mode share = Downtown Palo Alto SOV commute trips
  - Drive Alone: 49% (2018), 53% (2017); Transit: 27% (2018), 20% (2017); Rideshare: 9% (2018), 8% (2017)
- Transit (Caltrain) ridership: 9,457 (FY18), 9,072 (FY17)
- Commute Benefits participation by City Employees:
  - Go Pass: 190 (2018), 198 (2017); GoNavia: 49 (2018), 62 (2017);

**2018 Projects Highlights**

- Participated in and advocated for regional transit programs
- Increased active transportation mode share for school commutes.
- Tracked performance of Palo Alto TMA programs
- Adopted a Workforce Housing Ordinance

<table>
<thead>
<tr>
<th><strong>ELECTRIC VEHICLE GOALS</strong></th>
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<tbody>
<tr>
<td>✪ Accelerate electric vehicle (EV) penetration</td>
</tr>
<tr>
<td>✪ Make “Going EV” more convenient and economical than using fossil fueled vehicles</td>
</tr>
</tbody>
</table>

**KPIs**

- GHG emissions: 9,600 MT CO2e reduction due to EVs
- EV penetration: approximately 4,000 EVs (out of approximately 45,000 – 50,000 registered vehicles in Palo Alto)

**2018 Projects Highlights**

- Drafted a plan to diversify the EV charging network (superchargers, DC fast chargers, curb-side charging pilot)
- Approved a curbside EV Charger pilot program
- Piloted the world’s first full-sized all-electric side-loading refuse truck
- Identified 17 City fleet sedans that could be replaced with EVs
- Launched a regional EV group-buy program
- Completed a Distributed Energy Resources Survey
- Co-sponsored 3 educational, ride-and-drive events
Green Building Vision

A Green, Sustainable Built Environment in Palo Alto

2016 CODE CYCLE

LANDSCAPING
- Lower trigger for landscape projects below BAWSKA requirement
- Yes to permit to allow enforcement, final building w/o landscape install
- Study rainwater capture options

MATERIALS & WASTE
- Lower construction/demolition recycling requirement to 80%
- Increase diversion
- Limit to approved facilities

ZERO NET ENERGY TARGETS
- Keep state TDV
- Each home has budget = 1000 sq ft home
- Everything above must be offset with renewable energy sources.

SOLAR MANDATE
- All non-residential buildings will have to produce x% of energy from onsite solar or additional savings

INDOOR AIR QUALITY
- IAQ management plan mandatory during Tier 2 construction

WATER EFFICIENCY
- Explore grey water systems for residential
- Require grey water reuse for non-residential buildings
- Water budget required for new commercial buildings and single/multifamily homes

GOALS
- More energy than used
- Clean water
- Healthy places to live, work & play

Self-reliant buildings that contribute...

Raising the bar for green buildings... higher than the rest!

Palo Alto Green Building Ordinance

CHALLENGES & LIMITATIONS
- How to enforce?
- Flexibility
- Cost
- Functionality
- Buildability
- Cooperation with utilities companies

Fall, 2015