City of Carmel-by-the-Sea
Greenhouse Gas Inventory Presentation

City of Carmel Climate Committee Meeting
December 10, 2019

Amaury Berteaud, Assistant Special Projects Manager
AMBA Energy Watch Introduction
2006 – 2018

Service to our AMBAG Community

- Created in 2006 by a unanimous decision of the AMBAG Board of Directors with the goal of increasing energy efficiency across the region.

- 110 million annual kWh of energy savings from 2006 – 2019 as well as approximately $75 million in avoided energy costs.

- In 2009 it was unanimously decided by staff from AMBAG’s 21 jurisdictions that AMBAG Energy Watch would conduct the 2005 GHG inventories using the best available protocol and software.

- In 2013 AMBAG Energy Watch conducted the 2010 GHG inventories using the US Community Protocol and the SEEC software tools which were provided at no cost.

- In 2018 AMBAG Energy Watch conducted the 2015 GHG inventories and updated the 2005 and 2010 to the latest iteration of the US Community Protocol. All Inventories were calculated using the Clearpath tool suite.
Related Terms

- **Baseline year**: A specific year against which emissions are tracked over time.

- **Greenhouse gases (GHGs)**: carbon dioxide (CO2), methane (CH4) and nitrous oxide (N2O). Emissions are expressed in equivalents of carbon dioxide (CO2e).

- **Community Greenhouse Gas Inventory**: a calculation of GHG emissions generated as a result of activities within a community.
2005-2015 Greenhouse Gas inventories

### Community Emissions by Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Residential</th>
<th>Commercial / Industrial</th>
<th>Transportation</th>
<th>Solid Waste</th>
<th>Wastewater</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>12,336</td>
<td>10,468</td>
<td>14,844</td>
<td>3,036</td>
<td>76</td>
<td>40,760</td>
</tr>
<tr>
<td>2010</td>
<td>13,060</td>
<td>10,618</td>
<td>14,662</td>
<td>1,639</td>
<td>72</td>
<td>40,051</td>
</tr>
<tr>
<td>2015</td>
<td>9,687</td>
<td>8,001</td>
<td>8,169</td>
<td>1,527</td>
<td>74</td>
<td>27,458</td>
</tr>
</tbody>
</table>

% change 2005-2015:
- Residential: -21%
- Commercial / Industrial: -24%
- Transportation: -45%
- Solid Waste: -50%
- Wastewater: -3%
- Total: -33%
2015 GHG Emissions by Sector

<table>
<thead>
<tr>
<th>2015 Community Emissions by Sector</th>
<th>Residential (CO$_2$e metric tons)</th>
<th>Commercial / Industrial (CO$_2$e metric tons)</th>
<th>Transportation (CO$_2$e metric tons)</th>
<th>Solid Waste (CO$_2$e metric tons)</th>
<th>Wastewater (CO$_2$e metric tons)</th>
<th>Total (CO$_2$e metric tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO$_2$e (metric tons)</td>
<td>9,687</td>
<td>8,001</td>
<td>8,169</td>
<td>1,527</td>
<td>74</td>
<td>27,458</td>
</tr>
<tr>
<td>% of Total CO$_2$e</td>
<td>35%</td>
<td>29%</td>
<td>30%</td>
<td>6%</td>
<td>0.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>
**Energy Use Emissions**

*The transportation, solid waste and wastewater sector are excluded from this analysis*
### 2005 Government GHG Emissions by Sector

**2% of Total 2005 Community Emissions***

<table>
<thead>
<tr>
<th>Sector</th>
<th>Buildings/Facilities</th>
<th>Streetlights</th>
<th>Solid Waste</th>
<th>Vehicle Fleet</th>
<th>Employee Commute</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO₂e (metric tons)</td>
<td>179</td>
<td>6</td>
<td>88</td>
<td>191</td>
<td>257</td>
<td>721</td>
</tr>
<tr>
<td>% of Total CO₂e</td>
<td>35%</td>
<td>29%</td>
<td>30%</td>
<td>6%</td>
<td>0.3%</td>
<td>100%</td>
</tr>
</tbody>
</table>
Questions?

Amaury Berteaud, abertaud@ambag.org, (831)-264-5089