Evolution of Emissions Accounting: 
*The US Community Protocol*
Our mission is to build, serve and drive a movement of local governments to advance deep reductions in greenhouse gas emissions and achieve tangible improvements in local sustainability.
The ICLEI Network

• Global network of 1,000+ local governments
• ICLEI USA – 400+ members, representing around 20% of U.S. population
• Based in California, approximately 90 members in California
• CA-specific tools under the SEEC partnership ‘09-’14
The US Community Protocol

- Standard for accounting and reporting GHG emissions at the community scale
- Released in October 2012
- Led by Steering Committee of local governments and emissions accounting experts
- Advised by six technical advisory committees organized by sector
Community Protocol – What is it?

- A national standard for accounting and reporting community-scale GHG emissions

- Developed for and by local governments

- An innovative approach:
  - Requirements mostly around process
  - Few requirements for emissions sources to include
  - Guidance on “reporting frameworks,” and a focus on helping local governments meet their reporting goals
  - Extensive best practice accounting methods

- Provides guidance around inventory scoping, accounting, and reporting
Why Use the Protocol?

• To ensure an accurate, transparent, and complete inventory

• Confidence in using best practice methods

• Confidence in methodology for CEQA purposes

• Standardization allows for comparison over time and among communities

• Harmonization with free tools in California
Inventory Steps

1. Conduct the Scoping Process
2. Perform Emissions Calculations
3. Complete the GHG Inventory Report
Step 1. Scoping Process

• Reflect on inventory goals and identify related reporting frameworks

• Review list of potential sources and activities (Table 2 in protocol) for emissions that would fall into your reporting frameworks

• Be sure to include the five Basic Emissions Generating Activities
Basic Emissions Generating Activities *(Required)*

1. Use of electricity by the community
2. Use of fuel in residential and commercial stationary combustion equipment
3. On-road passenger and freight motor vehicle travel
4. Use of energy in potable water and wastewater treatment and distribution
5. Generation of solid waste by the community
Use of energy in potable water and wastewater treatment and distribution
Reporting Frameworks

Strongly Recommended (in priority order)

• Significant influence
• Community-wide activities
• Household consumption

Also recommended

• In-boundary sources
• Government consumption
• Full consumption-based inventory
• Life cycle emissions of community businesses
• Individual industry sectors
• Create your own story
“Significant Influence” Framework

Include sources and activities over which the local gov’t has significant influence to bring about emissions reductions through policymaking. Criteria include:

• Ownership
• Operational control
• Regulatory authority
• Enforcement responsibility
• Budgetary responsibility
# Community-wide Activities Frame

- Community-wide **activities**, regardless of local government influence
- Allows for monitoring and benchmarking of urban efficiency

<table>
<thead>
<tr>
<th>Source</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Any physical process inside the jurisdictional boundary that releases GHG emissions into the atmosphere.</td>
<td>The use of energy, materials, and/or services by members of the community that result in the creation of GHG emissions.</td>
</tr>
</tbody>
</table>

*“In the community”*  
*“By the community”*
<table>
<thead>
<tr>
<th>GHG Emissions Sources</th>
<th>Activities Resulting in GHG Emissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stationary combustion equipment in the community</td>
<td>Use of stationary combustion equipment by the community</td>
</tr>
<tr>
<td>Power generating facilities in the community</td>
<td>Use of purchased electricity by the community</td>
</tr>
<tr>
<td>On-road motor vehicles operating within the community boundary</td>
<td>Use of on-road motor vehicles associated with community land uses</td>
</tr>
</tbody>
</table>
Building on the production-based method, the geographic-plus inventory also includes electricity and air travel.*

Emission Exports:
Emissions released inside King County for consumption outside King County

Emission Imports:
Emissions released outside King County for consumption inside King County

* About 2 of the 7 million MTCO₂e from air travel and from the electricity used in the community are released for consumption outside King County.
## Sample Scoping and Reporting Table

<table>
<thead>
<tr>
<th>Emissions Type</th>
<th>Source or Activity?</th>
<th>Included, Required Activities</th>
<th>Included, under reporting frameworks:</th>
<th>Excluded (IE, NA, NO, or NE)</th>
<th>Explanatory Notes (optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Built Environment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of fuel in residential and commercial stationary combustion equipment</td>
<td>Source AND Activity</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>Industrial stationary combustion sources</td>
<td>Source</td>
<td>•</td>
<td></td>
<td>NO</td>
<td>No industrial facilities in the community</td>
</tr>
<tr>
<td>Electricity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power generation in the community</td>
<td>Source</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use of electricity by the community</td>
<td>Activity</td>
<td>•</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District Heating/Cooling</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>District heating/cooling facilities in the community</td>
<td>Source</td>
<td>•</td>
<td></td>
<td>NE</td>
<td>This is a very small source here</td>
</tr>
<tr>
<td>Use of district heating/cooling by the community</td>
<td>Activity</td>
<td>•</td>
<td></td>
<td>NE</td>
<td>This is not a common activity here</td>
</tr>
<tr>
<td>Industrial process emissions in the community</td>
<td>Source</td>
<td>•</td>
<td></td>
<td>NO</td>
<td>No industrial facilities in the community</td>
</tr>
<tr>
<td>Refrigerant leakage in the community</td>
<td>Source</td>
<td>•</td>
<td></td>
<td>NE</td>
<td>No data available</td>
</tr>
<tr>
<td>Transportation and Other Mobile Sources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-road Passenger Vehicles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-road passenger vehicles operating within the community boundary</td>
<td>Source</td>
<td>•</td>
<td></td>
<td>IE</td>
<td>Obtained data for preferred activity-based method instead</td>
</tr>
<tr>
<td>On-road passenger vehicle travel associated with community land uses</td>
<td>Activity</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
<tr>
<td>On-road Freight Vehicles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>On-road freight and service vehicles operating within the community boundary</td>
<td>Source</td>
<td>•</td>
<td></td>
<td>NE</td>
<td></td>
</tr>
<tr>
<td>On-road freight and service vehicle travel associated with community land uses</td>
<td>Activity</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>
Step 2. Perform calculations using Protocol accounting methods

- Six sectors
  - Energy; Transportation; Solid Waste; Water and Wastewater; Agriculture; Life-Cycle

- Recommended and Alternate Methods

- Contained in Appendices
Passenger Vehicles – In-Boundary Source (alternate method)
Passenger Vehicles
Origin/Destination Based (recommended)
Step 3: Reporting Requirements

- Complete and include the Community GHG Sources and Activities Tracking Tables (Appendix B)

- Include quantified estimates of emissions associated with the five Basic Emissions Generating Activities
Reporting Requirements

• Include data for each emissions source or activity on a line item basis, and for each include:
  • Activity data
  • Emission factor used (w/ source)
  • Emissions in CO$_2$E
  • Accounting method used

• Include community context data (at minimum, total population and households in the inventory year)
What’s Next?

• Periodic updates (comments welcomed!)

• Enhanced SEEC Tools

• Emissions Reduction Protocols
  • Recycling Protocol – Public Comment Period, March 2013

• Resolving technical challenges
  • Lifecycle methodologies
  • Re-inventories
Web-Portal

Web-Access to:

- Tools
- Resources
- Guidance
- Trainings & Webinars
- Training schedules
- Program news

www.californiaseec.org
### Inventory Record

**Record Name**: Residential 1

- [ ] Info-Only Record
- [ ] Scope 3 Record
- [ ] Use CEC Average Electricity Coefficients

### Energy Usage

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Usage</th>
<th>Unit</th>
<th>CO2e (metric tons)</th>
<th>Energy (MMBtu)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td></td>
<td>kWh</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Green Electricity</td>
<td></td>
<td>kWh</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Natural Gas</td>
<td></td>
<td>therms</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Propane</td>
<td></td>
<td>gallons</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Fuel Oil</td>
<td></td>
<td>gallons</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
May 2013 - Community GHG Inventory
Instructions and Report Template

[Name of Jurisdiction]
[Base Year] Community-Wide & Local Government Operations Greenhouse Gas Emissions Inventory

Produced by [Lead Department or Task Force]
With Assistance from ICLEI - Local Governments for Sustainability USA
[Title of Local Climate Protection Program]
[Reference to Further Information]
Web-based Trainings

• Short Recorded Training Modules on Concepts, Tools, and Process for:
  • Inventories
  • Target-setting
  • Forecasting
  • Action Planning

• Interactive e-learning
Questions?

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