



CaIEMod™

California Emission Estimator Model Training

December 7, 2011

Sacramento City Council Chambers

Sacramento, California

What is CalEEMod?

- Quantifies criteria pollutants and GHG emissions
- 63 land use subcategories



- Applies approved emission factors, established methodology, and latest survey data
- Statewide model – all 35 air districts

What is CalEEMod?

- Calculates for air district, county, air basin, state level
- Calculates emissions from construction and operation
- Calculates direct and indirect GHG emissions (e.g., energy use, water/wastewater use, solid waste disposal, and vegetation planting and/or removal)
- Calculates benefits from mitigation measures



Design Specifics

- Flexibility in usage
 - ✓ defaults allow minimal amount of required input
 - ✓ provides ability to insert spreadsheet for large projects (e.g., construction schedule, construction equipment list)
- Regional defaults
- Ability to change defaults
- All equations and sources verified and documented in appendices

New Features



- More GHGs
- Additional land uses
- Vendor trips based on the latest SMAQMD survey
- New consumer product methodology
- New trip rates used – maximum (daily), weighted average (annual)
- Default diverted and pass-by trips included

Expected Use and Interest

- Variety of applications – specific project, mixed use, plans, inventory, *user defined* land uses
- Statewide users include:
 - ✓ environmental consultants
 - ✓ city and county planners
 - ✓ air quality districts
 - ✓ CEQA/NEPA document reviewers
 - ✓ developers
 - ✓ decision-makers
- Interest expressed by National Association of Clean Air Agencies (NACAA) for national model
- Accepted for GHG panel at 2012 Smart Growth Conference

The CalEEMod Story

- Over 5,000 downloads since initial release
- California air districts training classes
- Briefings and hands on training – various organizations and government
- Seven statewide “general audience” training
- Online training segments being produced
- Website - www.caleemod.com
 - ✓ [Modeling files](#)
 - ✓ [User's Guide](#)
 - ✓ [User's Tips](#)
 - ✓ [Technical Paper](#)
 - ✓ [FAQs](#)
 - ✓ [Subscriber sign-up](#)
 - ✓ [Upcoming events](#)

User's Tips

- Tips compiled to assist User in operation
- Guidance includes:
 - ✓ operational information
 - ✓ proper modification of defaults
 - ✓ program limitations
 - ✓ program flexibility
 - ✓ current inconveniences/bugs
- Future upgrade action on items
- Tips are available online
- Tips to be modified after next upgrade

Technical Paper

- Provides understanding as to the development of the model
- Prepared by statewide Focus Group
- Highlights:
 - ✓ New Features
 - ✓ Methodology Reasoning and Differences
 - ✓ Default References
- Available online

Importance to California Air Districts

- Integrity of air quality analysis
- Standardize air quality analysis
- Substantial evidence supporting tool
- Mitigate projects as feasibly possible
- Comply with requirements (*e.g., CEQA, GHG, planning, etc.*)
- Ensure ongoing maintenance and upgrades

Advice to Users

- Calculation tool designed for range of users
- Understand default information
- Provide regional defaults
- Utilize site specific data
 - ✓ traffic studies
 - ✓ water usage
- GHG Mitigation
 - ✓ take advantage of criteria pollutant co-benefits
- Dynamic tool; will require ongoing upgrades

Future Upgrades and Maintenance

- EPA's AP-42 emission factors for paved roads
- CARB's EMFAC2011 and updated OFFROAD emission factors
- Update platform to optimize code and improve speed/model efficiency
- New features (*e.g., emissions from off-road equipment used in operation; energy from elevators/lighting/ventilation in parking structures*)
- Update any air district specific data
- Functionality inconveniences (reloading issues, etc.)
- Update construction profile (*e.g., schedule, type, HP*)

Contact Information

Michael Krause
Program Supervisor
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765
(909) 396-2706
mkrause@aqmd.gov

Local Contact Information

Karen Huss

Air Quality Planner

Sacramento Metropolitan Air Quality Management District

777 12th Street, 3rd Floor

Sacramento, CA 95814

(916) 874-4881

khuss@airquality.org