AB 617 Community Emission Inventory Forecasting: Key Elements

Below are the key elements needed to conduct a criteria pollutant and air toxics forecasted inventory to support community emission reduction programs. Note that the air toxics forecast builds off of the criteria pollutant results – they are meant to be done in sequence. For year 1 AB 617 communities, it is expected the forecast will generate values for the 2024 and 2029 data years, which are five and ten years after adoption of a community emission reduction program.

Stationary and Areawide Sources

Forecasted emission inventories are a projection of the base year inventory that reflects expected growth trends for each source category and emission reductions due to adopted control measures.

A criteria pollutant forecasted inventory takes into account the following components:

- **Base year inventory.** The base year inventory forms the basis for all future year projections. For cases of year 1 AB 617 communities, the base year is 2017.
- **Growth profiles.** Growth profiles for point and areawide sources are derived from surrogates such as economic activity, fuel usage, population, housing units, etc., that best reflect the expected growth trends for each specific source category. Growth projections are obtained primarily from government entities with expertise in developing forecasts for specific sectors, or in some cases, from econometric models or historical trends.
- **Control profiles.** Control profiles account for emission reductions resulting from adopted rules and regulations. Control profiles are typically derived from data provided by the regulatory agencies responsible for the affected emission categories.

The sources for each of the above components must be well documented.

Mobile Sources

- If CARB staff is calculating the on- and off-road community emissions, then it will also generate a forecast.
- If an air district chooses to calculate mobile emissions, please contact CARB staff to discuss the surrogates needed for the forecasting estimate.

Data Fidelity

Growth profiles may vary by region, category and year. Control profiles may vary by region, category, pollutant, and year.

The base year inventory and forecasted inventory should be captured by the following key fields, at a minimum:

Community Name
County Code (CO)
Air Basin Code (AB)

District Code (DIS)
Facility ID (FACID) [where applicable]
Facility Name (FNAME)
Facility Street (FSTREET)
Facility City (FCITY)
Facility ZIP (FZIP)
Emission Inventory Code (EIC)
Source Classification Code (SCC)
Standard Industrial Classification (SIC) Code
Pollutant Name (abbreviated pollutant name, like POLABBREV in CEIDARS pollutant table)
Growth Parameter Name (e.g. fuel throughput; population etc.)
Growth Factor (ratio representing growth of forecast year to base year)
Control Rule Responsible Agency
Control Rule Number
Control Factor (ratio representing control of forecast year to base year)
Year
Annual Emissions

Air Toxics Inventory Forecast Considerations

- Details on the base year inventory (i.e., what point sources are included, which categories were estimated as area sources, and how were on-road and off-road sources estimated)
- Details on emission reconciliation, if the inventory has any categories that overlap between point and areawide sources
- Details on how base year toxic emissions are estimated for each category (e.g., stack tests, emission factors, speciation profiles, etc.), including data sources
- Including a toxics augmentation step to account for key toxic substances (e.g., certain PAHs, some hexavalent chromium fractions, and some highly reactive organics such as acrolein and 1,3-butadiene) that are not fully captured through the organic gas nor filterable PM speciation profiles
- Growth assumptions used in forecasting for each category
- District rules or other control strategies that are reflected in the control profiles, including any relevant ATCMS

Documentation for a Forecasted Inventory

The forecasted inventory elements discussed above should be well documented and included as part of the forecasted inventory for AB 617 communities with an emissions reduction program. Documentation should include methods, results, assumptions, uncertainties, existing data gaps, and future plans and schedule for improving the community-scale forecasted inventory.