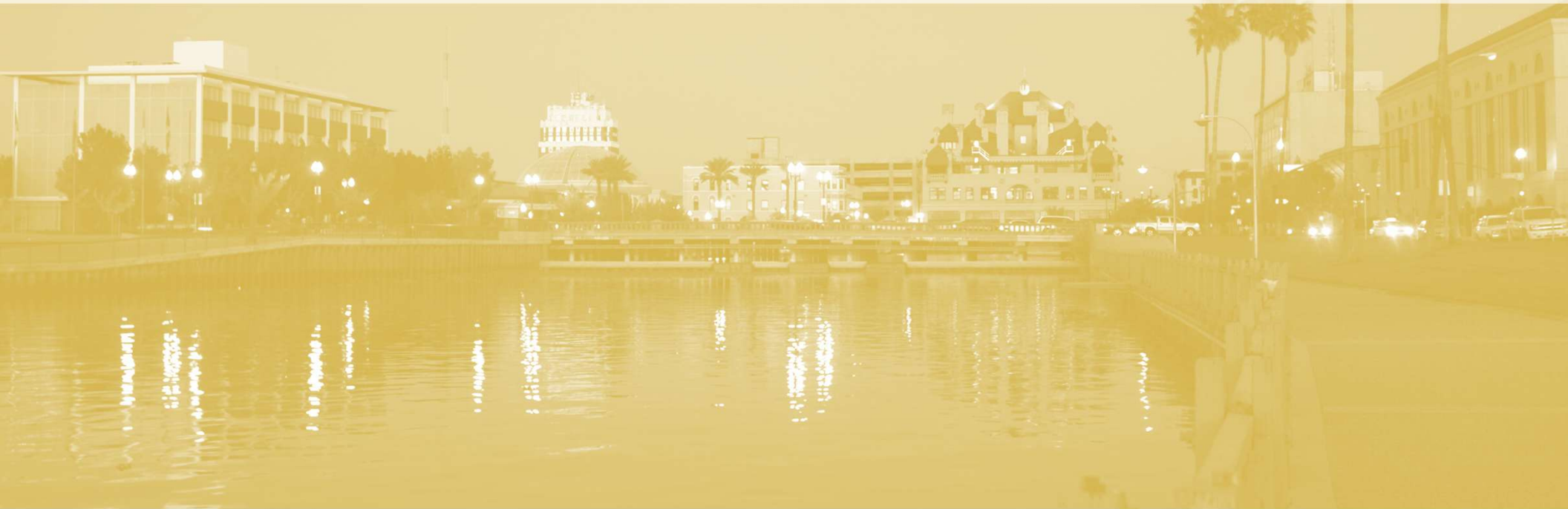


Co-pollutant Inventory and Forecast



Co-pollutant Inventory

What are Co-pollutants?

- Co-pollutants include **criteria air pollutants (CAPs)** and **hazardous air pollutants (HAPs)**:
 - **Criteria air pollutants:** carbon monoxide (CO), ozone (O₃), nitrogen dioxide (NO₂), particulate matter (PM_{2.5} and PM₁₀), sulfur dioxide (SO₂), and lead (Pb, which is also a HAP)
 - **Hazardous air pollutants:** 188 HAPs (e.g., benzene, formaldehyde, asbestos, etc.)
- CAPs and HAPs pose significant risks to public health, the environment, and property.
- The Clean Air Act requires the EPA to regulate both CAPs and HAPs
- Co-pollutants are **NOT** greenhouse gases (think of GHGs as global climate pollutants and co-pollutants as local and regional pollutants of concern)

Co-pollutant Inventory

- US EPA National Emissions Inventory (NEI) was used to create a 2022 co-pollutant inventory for the Stockton MSA region
- NEI inventory based primarily upon data provided by State, Local, and Tribal air agencies for sources in their jurisdictions and supplemented by data developed by the US EPA
- The inventory includes **particulate matter (PM_{2.5} and PM₁₀), sulfur dioxide (SO₂), carbon monoxide (CO), lead (Pb), ammonia (NH₃), nitrogen oxides (NO_x), volatile organic compounds (VOC), and various HAPs**
 - Ozone itself is not included in the inventory because it is not directly emitted. However, nitrogen oxides (NO_x), ammonia (NH₃), and volatile organic compounds (VOCs) are **ozone precursors** and are included.
- NEI 2017 data was used as a proxy for 2022
 - Although the 2020 NEI is the most current data available, the 2017 NEI data aligns more closely with the GHG inventory base year of 2022, especially considering that 2020 was affected significantly by the COVID-19 pandemic

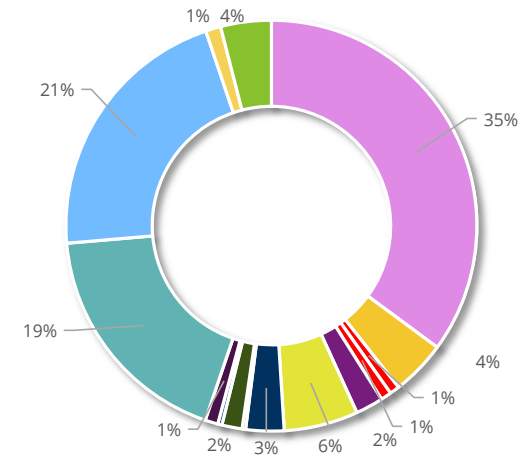
Co-pollutant Inventory

Sector

Sector Descriptors from NEI Included

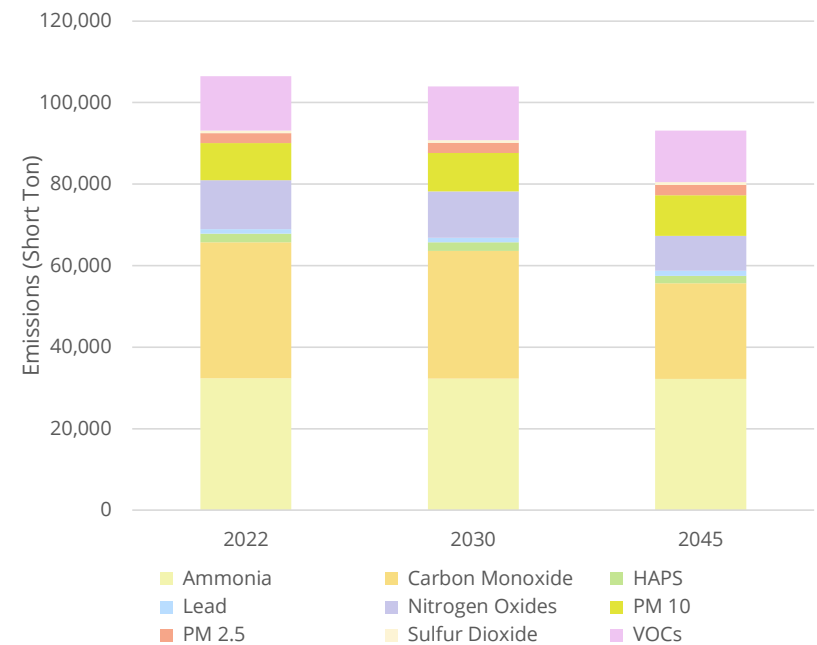
Agriculture	Crops and livestock dust, fertilizer, livestock waste
Dust	Construction dust, paved/unpaved roads
Fires	Agriculture field burning, prescribed fires, wildfires
Fuel Combustion	Coal, oil, natural gas, biomass, wood, other combustion
Industrial Processes	Manufacturing, mining, metals, refineries, other processes
Miscellaneous	Non-industrial sources not classified elsewhere
Mobile - Aviation	Aircraft
Mobile - Waterborne	Commercial Marine Vessels
Mobile - Locomotives	Locomotives
Mobile-Non-Road Equipment	Non-Road Equipment (diesel, gasoline, other)
Mobile -On-Road Equipment	On-Road Vehicles (diesel heavy and light, non-diesel heavy and light)
Other	Vegetation and soil, bulk gasoline terminals, commercial cooking, gas stations, waste disposal
Solvent	Solvents, degreasing, dry cleaning, graphic arts, surface coating

Total 2022 Co-pollutant Emissions



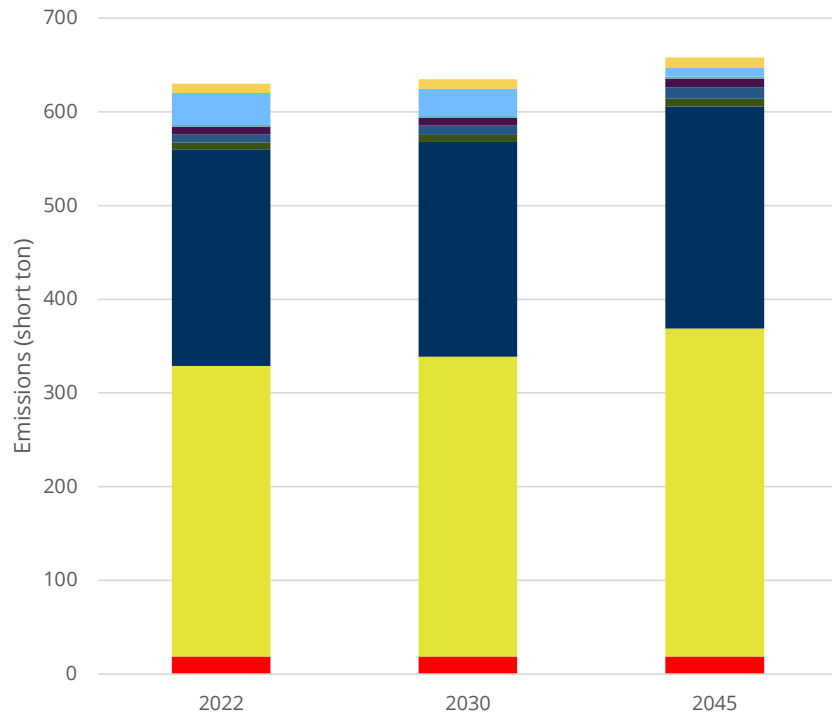
Co-pollutant Forecast

Sector	Forecast Indicator
Agriculture	No change
Dust	VMT projections
Fires	No change
Fuel Combustion	Service population projections
Industrial Processes	Industrial jobs projection
Miscellaneous	No change
Mobile - Aviation	CARB offroad emissions projection
Mobile - Waterborne	CARB offroad emissions projection
Mobile - Locomotives	Service population projections
Mobile-Non-Road Equipment	CARB offroad emissions projection
Mobile -On-Road Equipment	VMT projections
Other	Service population projections
Solvent	Service population projections

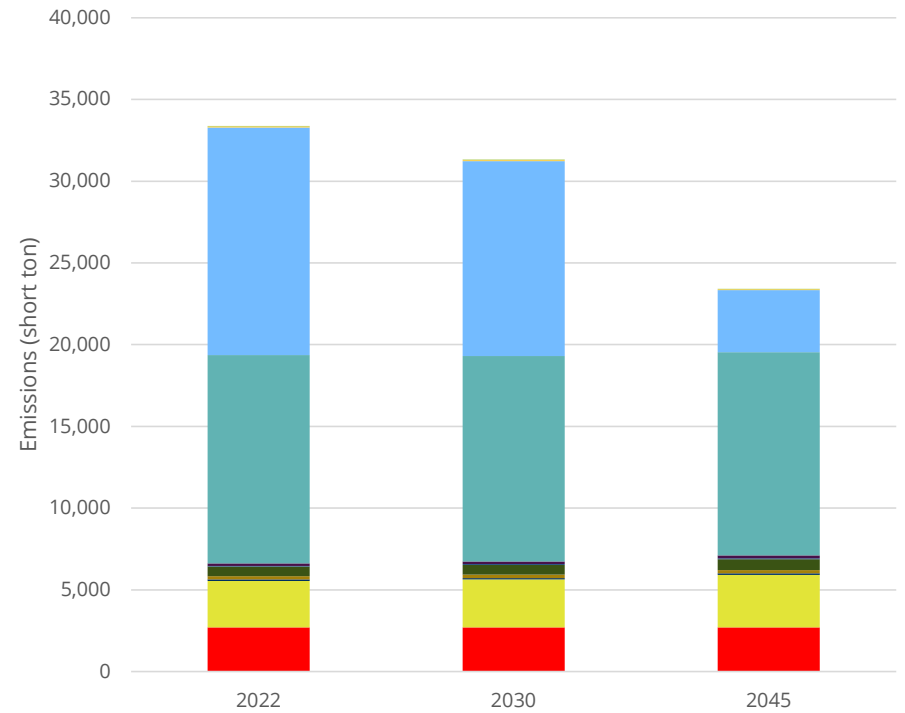


Sector-level Bar Graphs

SULFUR DIOXIDE

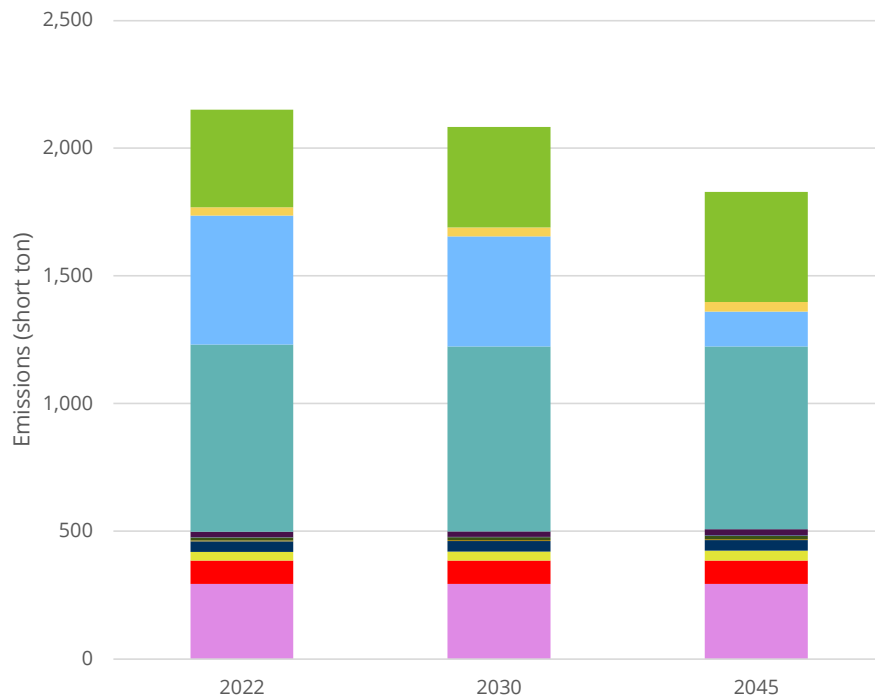


CARBON MONOXIDE

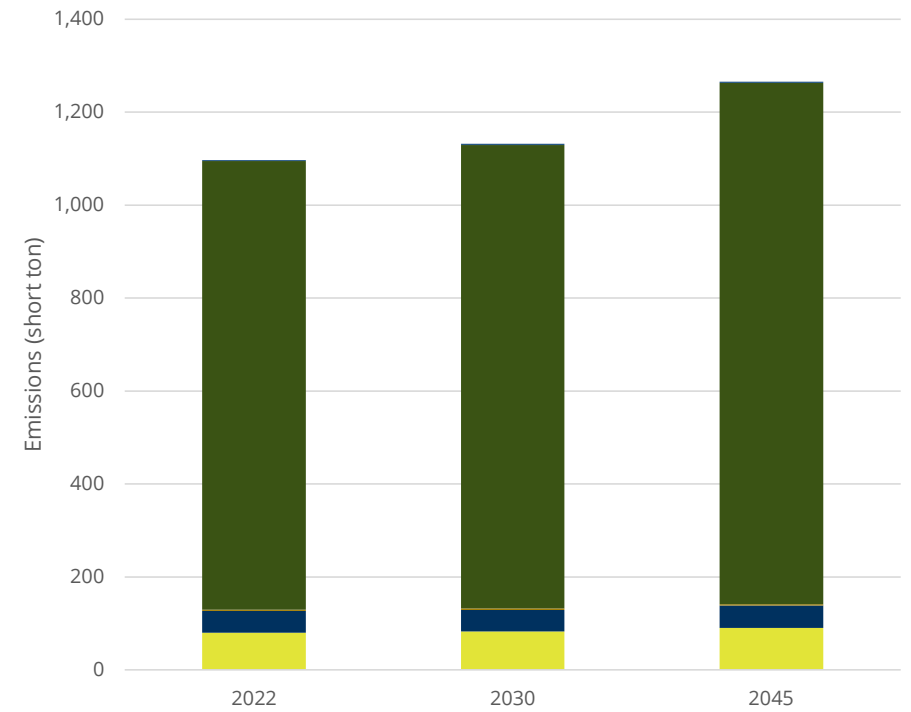


Sector-level Bar Graphs

HAPs

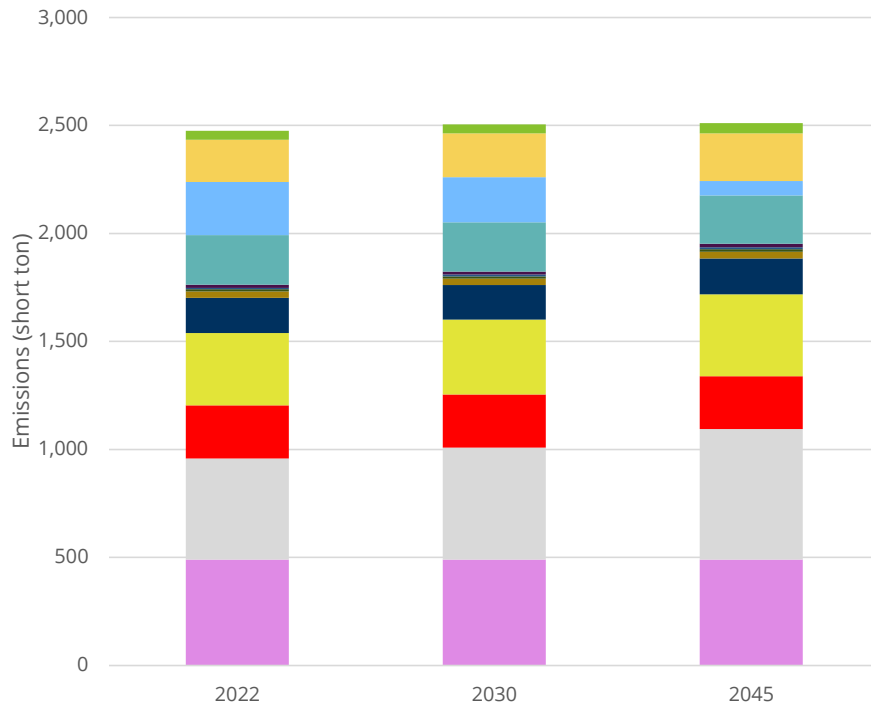


LEAD

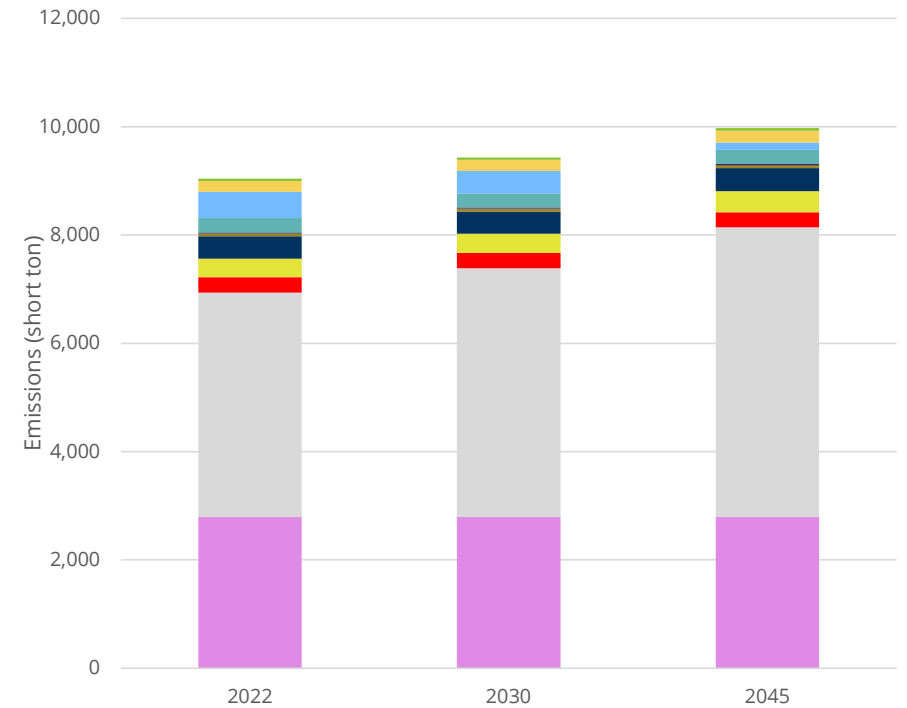


Sector-level Bar Graphs

PM_{2.5}

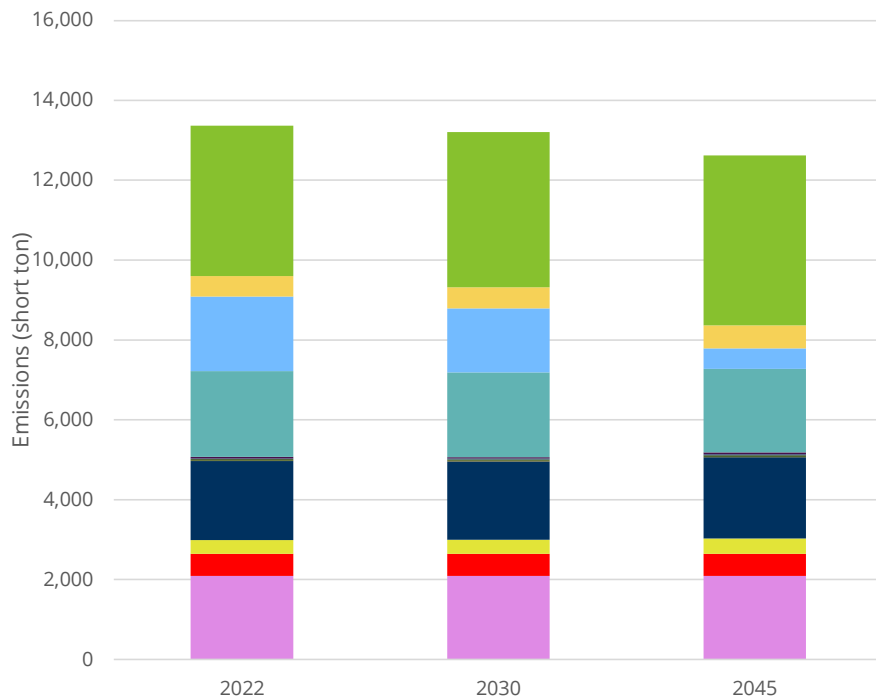


PM₁₀

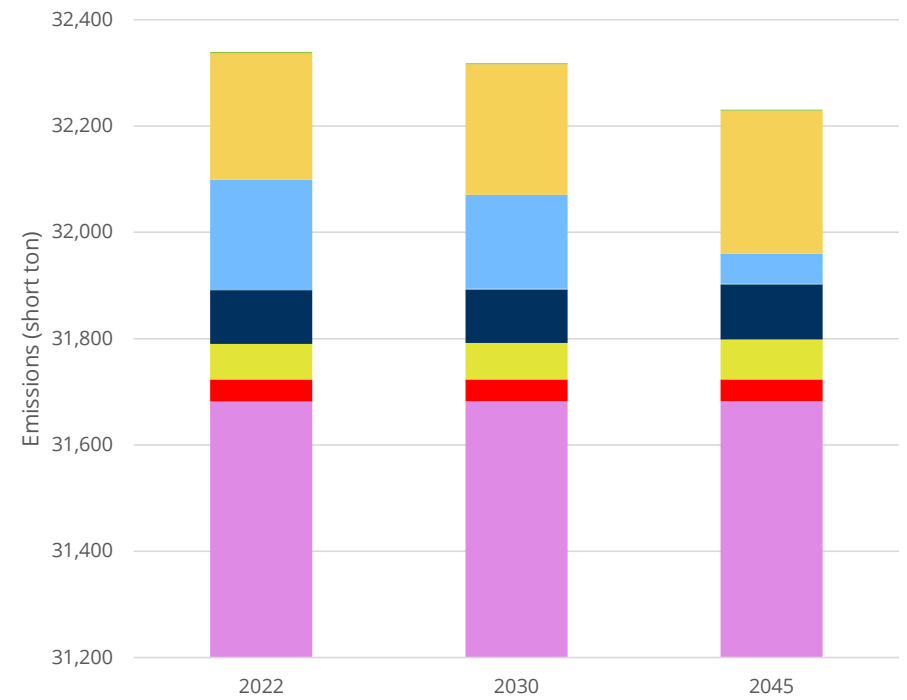


Sector-level Bar Graphs

VOLATILE ORGANIC COMPOUNDS



AMMONIA



Sector-level Bar Graphs

NITROGEN OXIDES

