

Greenhouse Gas Emissions Management and Net-Zero Planning



Areas of Expertise

- Baseline and Follow-On Inventories
- Database Selection and Development
- Energy Use Surveys
- Goal Setting, SBTi Target-Setting, and Climate Action Planning
- Carbon Pricing Programs (such as Cap-and-Trade)
- Voluntary Climate-Related Frameworks
- Life Cycle Analyses
- Carbon Removal

Overview

Organizations of all kinds are addressing climate change and GHG management as a result of:

- Interests of stakeholders, including NGOs, communities, shareholders, investors and employees
- Specific regulatory programs, including regional and state initiatives in the United States, and global pacts such as the Paris Accord
- Voluntary reporting and mitigation programs that encourage companies to disclose their GHG footprints along with financial information including the CDP (formerly the Carbon Disclosure Project) and other ESG and climate-related reporting frameworks and standards
- Recognition that the implementation of sustainability principles is a fundamental element of adopting a “triple bottom line” approach to management driven by environmental, social and financial metrics

Our Approach

AECOM’s scientists and engineers collaborate with our clients to produce results that achieve compliance and create the basis for reduction of GHG emissions. Our experts combine in-depth knowledge of the latest reporting frameworks with years of experience helping our clients develop their baseline inventories and create management systems using the most cost-effective, industry best practices.

We use this process to inventory GHGs:

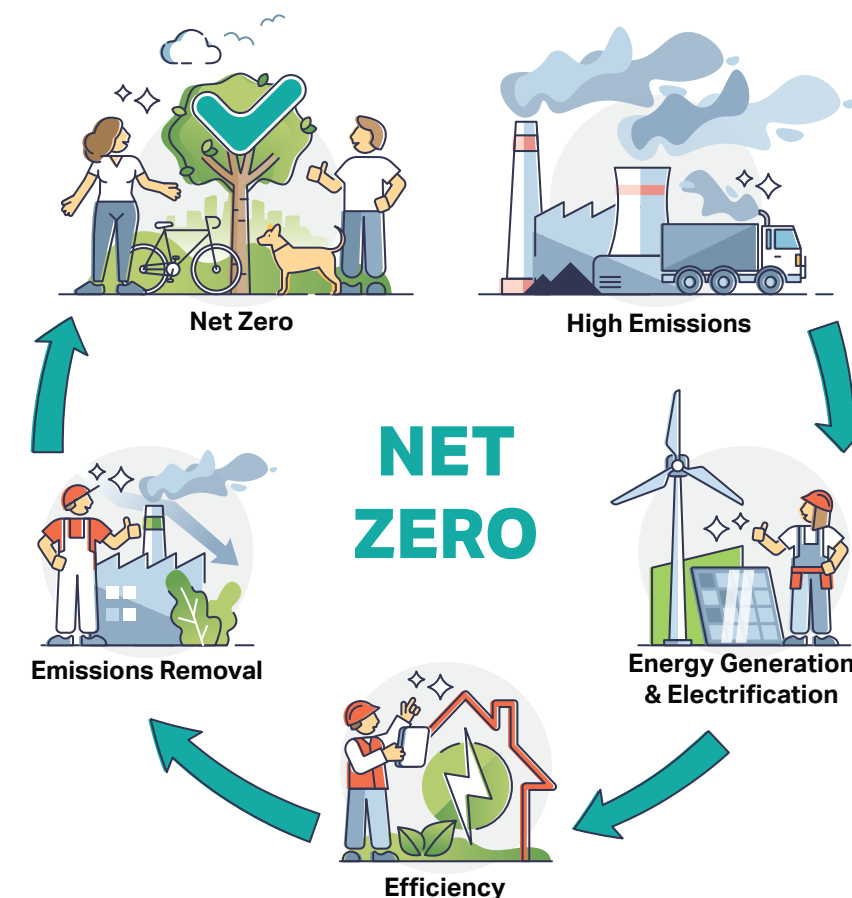
- **PROTOCOL SELECTION.** Selection of the standard used for the development of the inventory.
- **BOUNDARY DETERMINATION.** Establishment of the geographic/organizational boundaries of the inventory.
- **SOURCES AND POLLUTANTS COVERED.** Identification of the emission sources and GHG pollutants to be included in the inventory.
- **DATA COLLECTION.** Gathering and compilation of the data in accordance with selected protocol.
- **INVENTORY DEVELOPMENT.** Development of the inventory following the selected protocol.
- **QUALITY ASSURANCE.** Review and verification of the data collected and the computation methods.
- **VERIFICATION.** Work with an independent third-party Verifier to obtain a successful verification of the GHG inventory.

Key AECOM Qualifications

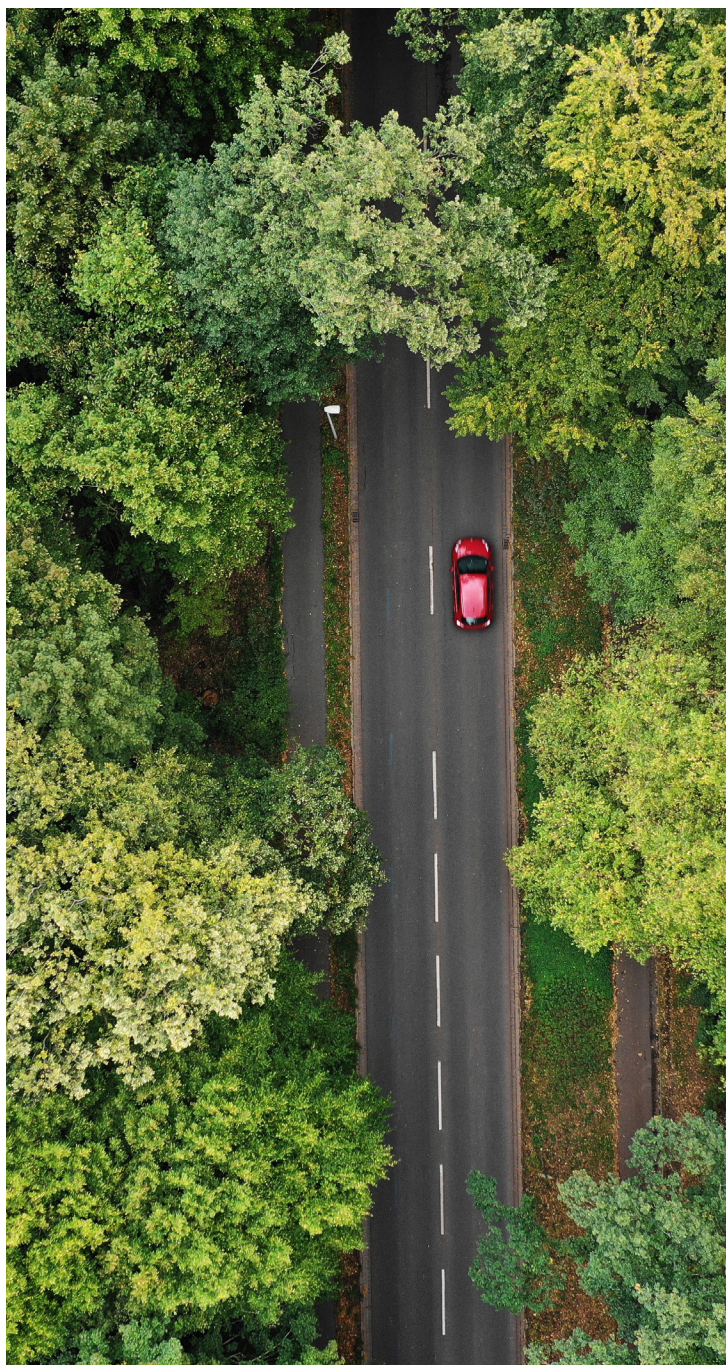
AECOM’s greenhouse gas (GHG) and net-zero planning services provide support from over 350 technical professionals who bring regulatory and voluntary compliance skill and experience to a specialized market with evolving sustainability needs. Key highlights:

- Experienced California Certified GHG Lead Verifiers
- Proven GHG Assessment and Reduction Opportunity Implementation
- Location and Sector-Specific Approach
- Carbon Neutrality and Zero Emissions Alignment
- Specialized Tool Development Capabilities

We aim to ensure that today’s projects will reduce the impact on our environment and that tomorrow’s solutions are sustainable and conform to best environmental practices. AECOM brings together the unique capabilities of our specialist technology groups, and strong local presence provided by our global reach. We have the expertise, knowledge and resources to respond to these challenges and provide solutions anywhere in the world.



Greenhouse Gas Emissions Management and Net-Zero Planning *(continued)*



Areas of Expertise

AECOM has expertise in managing large multi-faceted GHG/carbon management projects, ranging from the preparation of GHG emission inventories for EPA and state-level mandatory reporting to the preparation of GHG/carbon life cycle analyses. AECOM has prepared organization-wide and facility-specific GHG emission inventories for the six internationally recognized GHGs (Carbon Dioxide [CO₂], Methane [CH₄], Nitrous Oxide [N₂O], Hydrofluorocarbons [HFCs], Perfluorocarbons [PFCs] and Sulfur Hexafluoride [SF₆]) on a compound-specific and total carbon equivalent basis.

BASELINE INVENTORY AND ITERATIVE EVALUATIONS. A baseline inventory summarizes an entity's GHG emissions during a specific year and serves as a benchmark for tracking GHG emission levels over time. GHG management and net-zero planning are an iterative process requiring follow-on and continually improved inventories. AECOM has prepared baseline and follow-on GHG emission inventories for single-facility and multi-facility entities so that annual impacts to an entity's direct and indirect (e.g. Scopes 1, 2, & 3) GHG emissions can be evaluated for planned reductions.

DATABASE SELECTION AND DEVELOPMENT. The selection and development of a database during the preparation of the baseline GHG emission inventory assists entities in data collection and emission estimation for future calendar years. AECOM has developed user-friendly database systems for tracking required data elements for annual emission inventories and for preparing annual GHG emission estimates. AECOM has experience with current GHG management software tools, and has customized systems for accounting annual GHG emissions and reductions to assist entities in tracking and managing their GHG profiles.

ENERGY USE SURVEYS. AECOM has prepared energy use surveys to assist facilities in quantifying GHG emission estimates associated with energy consumption sources and identifying potential GHG mitigation options. These energy surveys include evaluation and documentation of energy and/or electricity consumption from mechanical, lighting and process equipment, as well as from stationary and mobile combustion sources.

GOAL SETTING AND CLIMATE ACTION PLANNING. AECOM has developed an effective and proven process to support clients in the development of GHG reduction goals that are ambitious, achievable and aligned with the Science Based Target Initiative (SBTi). Our practitioners are able to complete scenario analysis, identify the areas where action is needed and develop a list of GHG reduction actions that helps the client reach the goals.

REGULATORY COMPLIANCE. AECOM supports all kinds of organizations in proactively complying with federal, state and local GHG regulatory requirements. For example, California has led the way in the establishment of an economy-wide climate change program with multiple regulations developed under California's landmark AB-32 legislation, such as: Mandatory GHG Reporting Program, Cap-and-Trade and the companion Low Carbon Fuel Standard. AECOM assists numerous clients in understanding and meeting their compliance obligations under these regulations.

LIFE CYCLE ANALYSES. A life cycle analysis (LCA) identifies the environmental impacts of a project from production to final disposal (from "cradle to grave"). AECOM has prepared comprehensive GHG life cycle analyses to assess overall carbon impact of products, processes, and has proposed infrastructure and energy projects to demonstrate the potential benefits to regulators and stakeholders.

CARBON REMOVAL. AECOM has evaluated and supported implementation of carbon removal efforts from both industrial processes and natural resources.

Key Reference Material

GHG Protocols and Frameworks

- World Resource Institute/World Business Council for Sustainable Development, GHG Protocol
- International Organization for Standardization (ISO 14064)
- CDP (formally Carbon Disclosure Project)
- SBTi
- The Climate Registry
- International Council on Local Environmental Initiatives (ICLEI)
- U.S. Environmental Protection Agency (40 CFR Part 98)
- California Air Resources Board (17 CCR §95100 and others)