

Work Plan to Implement API Climate Challenge Program

In cooperation with the Department of Energy, the American Petroleum Institute (API) is working with its members on a variety of fronts to address climate change. As its first order of business, API continues to work towards its 100 percent participation in the API Climate Challenge Program. Activities by API and its members that are underway or are soon-to-be underway are listed below by work plan element.

Element 1: Emissions measurement and reporting protocols

API has taken significant steps under its Climate Greenhouse Gas Estimation & Reporting Challenge.

- ✍ Working with international oil and gas associations such as the International Petroleum Industry Environmental Conservation Association (IPIECA) and the International Association of Oil and Gas Producers (OGP), API has completed standardized policy guidelines for developing consistent and robust greenhouse gas emissions estimates for use by any oil and gas facility located anywhere in the world. The adoption of the guidelines was announced in Milan, Italy, at the Ninth Meeting of the UN Framework Convention on Climate Change (COP-9). The *Petroleum Industry Guidelines for Reporting Greenhouse Gas Emissions* were posted on the Internet for download in early January 2004.
- ✍ Based on lessons learned from the pilot test version of our *Compendium of Greenhouse Gas Emissions Estimation Methodologies for the Oil and Gas Industry*, API and its members have refined and expanded the *Compendium*. The updated version, which provides detailed methods for estimating greenhouse gas emissions, was released in February 2004.
- ✍ API has begun distribution of a software tool, SANGEA™, which is one *Compendium* compliant method companies can use to estimate their greenhouse gas emissions. SANGEA™ is available free to companies in the petroleum, petrochemical and energy industry and to government and quasi-government bodies regulating those industries. It was developed and provided free of charge to API by ChevronTexaco, a member company.
- ✍ API has established a website (<http://ghg.api.org>) as a means of distributing SANGEA™ as well as providing a user-manual and technical support. Additionally, the IPIECA/API/OGP *Guidelines* as well as the *API Compendium* can be downloaded from this site. API also is conducting periodic training sessions on this suite of tools.
- ✍ Special workgroups are creating and testing tools and reporting forms for tracking greenhouse gas emission trends as well as progress in reducing the industry's GHG-intensity in support of the national GHG-intensity reduction goal.
- ? After the second annual GHG data collection cycle and after thorough data quality assessment and control confirms that the GHG emissions and GHG Intensity data are sound, API will begin routine collection and public reporting of aggregate results on an annual basis.

Element 2: Identify/implement near-term, cost-effective opportunities

Under API's Climate Action Challenge program, participating companies pledge to integrate climate and greenhouse gas considerations into their operating and capital equipment decision-making processes in order to impact the GHG intensity of their operations over 2002-2012. API is taking steps to promote, facilitate, and document actions taken under the Climate Action Challenge. These steps include:

- ✍ Continuing to hold periodic voluntary actions conferences for the oil and gas industry to share lessons learned and promote best practices for addressing greenhouse gas emissions. API's Fourth Voluntary Actions Conference was held in Washington, DC in December 2006.
- ✍ Working to expand membership participation in federal government programs such as Natural Gas Star and CHP Challenge. At API's Third Voluntary Action Conference, EPA announced that 100% of API member natural gas volumes were from companies participating in EPA's Natural Gas STAR program. Additionally, API is investigating opportunities for advancing the World Bank's Greenhouse Gas Flare Reduction program and the EPA's new Methane to Markets program that seeks to expand the successful Natural Gas STAR program internationally.
- ✍ Continuing development of tools to help API members track progress on their pledge to improve aggregate refinery energy efficiency by 10% by 2012 and developing periodic reports as the necessary data become available. API members have adopted the Solomon Energy Intensity Index for measuring progress towards our 2002-2012 refinery energy efficiency improvement target.
- ✍ Developing emission reduction case studies to demonstrate the practical application of the *Compendium* as well as to help identify cost-effective emission reduction opportunities.
- ✍ Developing periodic reports on members' participation in the API Climate Action Challenge and documenting the types of actions taken.

Element 3: Develop cross-sector projects for reducing greenhouse gas emissions intensity

Under elements of the API Climate Challenge program, opportunities exist for cross-sector projects to reduce greenhouse gas emissions. Initially, these efforts likely will focus on increasing participation in existing programs. Later, effort will focus on developing new opportunities. Current areas of activity include:

- ✍ Promoting continued partnerships with universities and others that undertake research on a broad range of climate-related issues and technologies. For example, API members are participating in significant climate-related research programs at the Massachusetts Institute of Technology, Princeton University and Stanford University.
- ✍ Promoting the DOE FreedomCar program.

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- ✍ Participating in DOE's Regional Sequestration Partnerships program and supporting other sequestration efforts including the US-led Carbon Sequestration Leadership Forum.
- ✍ Participating in other fuel-cell research and development efforts, such as the California Fuel Cell Partnership.
- ✍ Promoting cross-sector research opportunities. API is one of several industry and government groups that sponsored a technical workshop on black carbon, bringing together technical experts to advance the state of knowledge and identify research needs concerning black carbon in the atmosphere.

Element 4: Accelerate investment in R&D and commercialization of advanced technology

Under the API Climate R&D Challenge program, participating companies pledge to integrate climate and greenhouse gas considerations into their R&D decision-making process. In some cases, work in this area is at the conceptual stage and significant commercialization of technology lies on the horizon. Nevertheless, near-term areas of opportunity include:

- ✍ Working with carbon sequestration initiatives as well as FutureGen to advance technology for GHG-emissions-free generation of electricity and hydrogen from coal.
- ✍ Working with federal agencies like the Department of Energy to develop new synergetic cross-sector programs.
- ✍ Joining one or more of the Regional Partnerships established by the Department of Energy to further the development of carbon sequestration on a large scale.
- ✍ Investing in research, development and production facilities for solar energy, wind, geothermal and cellulosic ethanol production.