

**API's Climate Challenge Programs:**  
**I. Climate Action Challenge**  
**II. Climate R&D Challenge**  
**III. Climate Greenhouse Gas Estimation & Reporting Challenge**

**Background:**

The President has established a goal of an 18-percent reduction in the nation's greenhouse gas (GHG) intensity by 2012 and asked American industry to develop voluntary programs to help achieve it. API supports the Administration's approach because it includes the following key elements:

1. Scientific investigations to better understand the impact of human activities on climate and potential mitigation actions.
2. Near-term cost-effective voluntary actions that will continue to reduce GHG intensity in the US.
3. Long-term technology development to identify innovative cost-effective methods to reduce GHG intensity in the future.

Working with its members, API has developed three complementary climate challenge programs (*API Climate Challenge Programs*) to build on, accelerate, and track the progress of existing and new efforts by member companies to address climate change. The programs are designed to help the Administration achieve its 18-percent GHG intensity reduction target, while continuing to provide the energy needs of an expanding economy. The programs will also encourage the development and use of commercially viable low-GHG technologies and the development of partnerships between industry, government, and academia on climate change issues.

The *API Climate Challenge Programs* feature three components:

- The *API Climate Action Challenge* would focus on strategies to build on existing efforts to implement cost-effective GHG Intensity reductions. The industry is undertaking a broad array of operational changes that will result in reduced GHG intensity. One particular example is the voluntary commitment by API-member refining companies to pursue continued cost-effective energy efficiency improvements at their operations. Current data indicates that, on average, the U.S. refining industry has improved energy efficiency at a rate of about 10 percent since 1990. **API-member refining companies will pursue, in the aggregate, an additional energy efficiency improvement of 10 percent between 2002 and 2012.** However, it must be recognized that external factors such as the economy, consumer demand, regulations, and demand on capital play an important role in the cost-effective implementation of energy efficiency improvement projects and the overall energy efficiency of existing operations. As part of this commitment, the API would expect the government to aggressively work to eliminate any potential regulatory barriers to the implementation of cost-effective energy efficiency and emission reduction projects.
- The *API Climate R&D Challenge* involves support for enhanced research and development leading to commercially viable new and improved technologies to reduce or sequester

GHG emissions. This will be a key element in the long-range development of a global energy system where, should circumstances warrant, greenhouse emissions are much lower than today.

- The *API Climate Greenhouse Gas Estimation & Reporting Challenge* would implement more robust methods for calculating, reporting, and tracking emissions industry-wide. Absent these methods, there is no sound basis for projecting GHG levels, trends or how they should be cost-effectively managed. Additionally, consistent, standardized reporting will encourage transparency, allow for meaningful emissions comparisons, and facilitate best practice sharing among member companies.

API's *Climate Challenge Programs* are designed to provide a wide range of opportunities for companies to strengthen their efforts addressing climate change. The great diversity in size and operations of API members mean that few companies will or should have identical programs. Each company will have the freedom to cost-effectively tailor its activities to its own operations. At the same time, API will quickly share with its membership the individual company successes that have the potential for wider application.

**Goals:** It is API's ultimate goal to have 100 percent member company oil and gas sector participation in the API Climate Challenge Programs, which includes the Climate Action Challenge, the Climate R&D Challenge, and the Climate Greenhouse Gas Estimation & Reporting Challenge. The following program elements will provide the necessary information to identify the potential API membership contribution to the national GHG Intensity reduction goal:

- 100 percent of the API oil and gas sector membership will develop greenhouse gas (GHG) management plans that incorporate voluntary actions to reduce, sequester, offset or avoid GHG emissions. As part of a GHG management plan, each company will need to determine what actions to take after considering their unique operations and opportunities. In developing their goals, companies will carefully consider the President's 18% objective as well as Department of Energy sector specific baseline energy-intensity projections that reflect factors external to company operations and which are part of the nation's overall baseline energy-intensity and GHG Intensity projections.
- 100 percent of API oil and gas sector membership will implement cost-effective individual actions from the API Climate Action Challenge. These actions will be reported to API and aggregated in annual progress reports. Actions taken are not limited to those specified below. The listed actions are those that, at this point in time, appear most promising. As information is gained about the most cost-effective opportunities to reduce GHG Intensity, the list of reported actions may well change.
- 100 percent of API oil and gas sector membership will use the *API Compendium of GHG Emission Estimation Methodology* to develop company GHG emission estimates and report those emissions to API for aggregation and public reporting of emissions and GHG Intensities. Additionally, API will provide companies with blinded sector-specific benchmarking reports for internal use in reviewing progress towards implementing their GHG management plan. After the second annual GHG emissions 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 publicly reporting this information.

- The accurate GHG emissions and GHG Intensity data developed through the Compendium, coupled with the actions developed under each member company GHG management plan, will allow API to better predict membership contribution to the President's goal of an 18% reduction in the national GHG Intensity by 2012. Over the next year, we will be developing the tools for measuring our progress toward our refinery energy efficiency goal and how it relates to the President's GHG intensity goal.

### **The API Climate Challenge Programs**

The API Climate Challenge Programs will include members that are engaged in producing crude oil or natural gas, or refining petroleum products. The API Climate Challenge program recognizes the diversity and creativity of API member companies and allows each member to select the combination of actions that best suits their expertise, operations and business situation. As part of this effort, API companies will work with existing and new government programs seeking to advance progress on the President's objective. Some of those programs are noted below. Additionally, a key element in a long-term GHG Intensity reduction strategy is research and development to improve the options for the future. API members will engage in both public and private research initiatives as well.

#### **I. API Climate Action Challenge**

Companies participating in the API Climate Action Challenge pledge to integrate climate and greenhouse gas considerations into their operating and capital equipment decision-making process to impact the trend in the GHG intensity of their operations over 2002-2012.

Specifically, API members can agree to choose from the following initiatives to reduce GHG intensity in a cost-effective manner from both domestic and international industry operations:

1. Reduce methane venting and flaring from oil and gas exploration and production operations.
2. Expand the use of combined heat and power units (CHP or co-generation) at refineries and oil and gas production operations.
3. Reduce methane emissions from the transportation and distribution of natural gas.
4. Reduce CO<sub>2</sub> venting – e.g., amine acid gas separation plants.
5. Expand carbon capture and storage activities, including sequestration.
6. Improve the energy efficiency of their operations while meeting the energy needs of expanding economies. This includes the voluntary commitment by API-member refining companies to, in the aggregate, pursue a 10 percent improvement in energy efficiency between 2002 and 2012.
7. Increase participation in cost-effective voluntary government programs with the ultimate goal of 100% participation in key programs like Natural Gas Star and CHP Challenge.

API members will also expand on voluntary investments in the following activities that mitigate GHG emissions:

- Natural gas operations and natural gas powered distributed energy technologies.
- Gasifying refinery residuals and use in cogeneration.
- Use of alternative technologies.
- Production of alternative and advanced energy and fuel products.

- o Participate in API Voluntary Actions Conferences and other API conferences/workshops designed to identify and illuminate GHG reduction options and to speed sharing of success stories.
- o Participate in Voluntary Government Programs at DOE, EPA, etc.

## **II. API Climate R&D Challenge**

Companies participating in the API Climate R&D Challenge pledge to integrate climate and greenhouse gas considerations into their R&D decision-making process to impact the trend in the GHG Intensity of operations over the long-term.

Specifically, API member companies can agree to support Research & Development efforts in one or more of the following areas:

1. Advanced, energy efficient technologies as part of a long-term, economically viable strategy without government selection of "winners and losers".
2. Alternative energy technologies (e.g., hydrogen, wind, solar, geothermal).
3. Alternative motor fuels and advanced vehicle and engine technologies, in partnership with automobile and engine manufacturers and DOE (e.g., FreedomCar program with a goal of 20% to 40% reductions in FreedomCar new vehicle GHG Intensities by 2012).
4. CO2 capture technologies (e.g., from gas turbine exhaust) and sequestration/utilization (e.g., enhanced oil and gas recovery).

## **III. API Climate Greenhouse Gas Estimation & Reporting Challenge**

Companies participating in the API Climate Greenhouse Gas Estimation and Reporting Challenge pledge to integrate greenhouse gas emissions estimation into their operating procedures to identify and report to API their greenhouse gas emissions and GHG intensity of operations to provide a sound and consistent basis for managing GHG emissions and impacting the long-term trend in emissions.

As part of the API goal of 100% participation, API will encourage member companies to:

1. Utilize the API *Compendium of GHG Emission Estimation Methodology* for their worldwide operations.
2. Participate in an expanded API GHG Benchmarking Program using the API *Compendium of GHG Emission Estimation Methodology*.
3. Report US GHG emissions and activity indicators to API for consolidation and aggregate reporting as well as for blind comparison for company use. API will prepare sector specific reports for participating companies for benchmarking and tracking of progress towards company GHG Management Plans and Intensity goals.

In addition, API members are encouraged to participate in the DOE/EIA voluntary GHG emission and emission reduction-reporting program (1605(b)).

## SAMPLE COMPANY PARTICIPATION FORM -- API CLIMATE CHALLENGE

API member companies can utilize this form to describe elements in their greenhouse gas management plans undertaken in 2002 or earlier and which will be taken in 2003. An activity initiated prior to 2003 can be included in 2003 if the activity will be continued or expanded that year. API will use future iterations of this form to collect data in 2004 and beyond.

Activities in 2002 or earlier	Activities Planned for 2003	
		<b>API Climate Action Challenge</b>
		<ul style="list-style-type: none"> <li>• Establish goal(s) to reduce GHG intensity and/or GHG emissions and/or improve energy efficiency as part of a GHG management plan.</li> </ul>
		<ul style="list-style-type: none"> <li>• Reduce venting and flaring of methane from oil and gas exploration and production operations.</li> </ul>
		<ul style="list-style-type: none"> <li>• Expand the use of combined heat and power units (co-generation) at refineries and oil and gas production operations.</li> </ul>
		<ul style="list-style-type: none"> <li>• Reduce methane emissions from the transportation and distribution of natural gas and participate in the Natural Gas Star Program.</li> </ul>
		<ul style="list-style-type: none"> <li>• Reduce CO2 venting – e.g., amine acid gas separation plants.</li> </ul>
		<ul style="list-style-type: none"> <li>• Expand carbon capture and storage activities, including sequestration.</li> </ul>
		<ul style="list-style-type: none"> <li>• Improve the energy efficiency of their operations while meeting the energy needs of expanding economies.</li> </ul>
		<ul style="list-style-type: none"> <li>• Other voluntary actions mitigating GHG emissions (specify)</li> </ul>
		<b>API Climate R&amp;D Challenge</b>
		<ul style="list-style-type: none"> <li>• Advanced, energy efficient technologies as part of a long-term, low-cost strategy, without government selection of “winners and losers.”</li> </ul>
		<ul style="list-style-type: none"> <li>• Alternative energy technologies (e.g., hydrogen, wind, solar, geothermal).</li> </ul>
		<ul style="list-style-type: none"> <li>• Alternative motor fuels and advanced vehicle and engine technologies, in partnership with automobile and engine manufacturers and DOE (e.g., Freedom Car program).</li> </ul>
		<ul style="list-style-type: none"> <li>• CO2 capture technologies (e.g., from gas turbine exhaust) and sequestration/utilization (e.g., enhanced oil and gas recovery).</li> </ul>
		<b>API Climate GHG Estimation &amp; Reporting Challenge</b>
		<ul style="list-style-type: none"> <li>• Utilize the <i>API Compendium of GHG Emission Estimation Methodology</i> for their worldwide operations.</li> </ul>
		<ul style="list-style-type: none"> <li>• Participate in an expanded API GHG Benchmarking Program using the <i>API Compendium of GHG Emission Estimation Methodology</i>.</li> </ul>
		<ul style="list-style-type: none"> <li>• Report US GHG emissions and activity indicators to API for consolidation and aggregate reporting as well as for blind comparison for company use.</li> </ul>
		<ul style="list-style-type: none"> <li>• Participate in the DOE/EIA voluntary GHG emission and emission reduction-reporting program (1605(b)).</li> </ul>

Note: Company contact information will be added to final form.