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March 13, 2017

U.S. Environmental Protection Agency, Climate Change Division (6207A)
1200 Pennsylvania Ave., NW
Washington, DC 20460
GHGInventory@epa.gov

Agency Number: FRL-9959-29-OAR
Document Number: 2017-03070

Re: [Public Review of EPA's Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2015](#)

Dear EPA,

The American Petroleum Institute (API) appreciates the opportunity to provide comments on Public Review Draft of the 1990-2015 U.S. Greenhouse Gas Inventory (GHGI) announced in the Federal Register (FR) Vol. 82, No. 30, 10767 on Monday, February 15, 2017.

API represents more than 500 oil and natural gas companies, leaders of a technology-driven industry that supplies most of America's energy, supports 9.2 million U.S. jobs and 7.7 percent of the U.S. economy, and delivers more than \$86 million a day in revenue to our government. Most of our members conduct oil and gas development and production operations and, thus, will be directly impacted by the way emissions from their operations are depicted in the national GHGI.

API continues to compile and analyze greenhouse gas (GHG) emissions data for natural gas and petroleum operations and is committed to working with EPA in the future on utilizing data provided through EPA's mandatory GHG reporting program (GHGRP). API has participated in EPA's expert review process and provided comments and recommendations to the U.S. EPA on methodology updates, followed by comments on the draft Natural Gas Systems and Petroleum Systems sections of the national inventory since 2002.

During 2016 API engaged with EPA in multiple conference calls and webinars, which were followed by a set of API technical memos outlining API's analysis and recommendations to improve the emissions estimation methodologies, with specific focus on well counts and the Gas Processing segment.

For this public review of the draft reporting year (RY) 2015 national GHGI, API's comments are primarily general, although one specific recommendation is provided for revision to the draft GHGI. More detailed, extensive comments on the emission estimation methodologies for the petroleum and natural gas systems were provided earlier in separate letters in response to EPA's memos on proposed methodology updates for the natural gas systems and petroleum systems *production* emissions in a letter of 1/27/2017, and natural gas systems *processing* segment emissions in a letter of 2/13/2017.

API's comments contained in Attachment 1 of this document are based on our long term engagement in reviewing and providing information for the GHGI. API's observations and recommendations continue to emphasize the need for careful QA/QC of data extracted from the mandatory GHGRP to ensure the validity and representativeness of data used for the GHGI. API recognizes that emerging data from recent field studies have raised concerns about measurement uncertainty, and recognizes the need for a thorough discussion of means of improving the methodology for the collection of robust measurement data. We reiterate our recommendation for EPA to form a multi-stakeholder workgroup to discuss how to update the national GHGI, to incorporate information from recent measurement study results, and use industry data provided under Subpart W requirements.

API appreciates the opportunity to provide comments on the public review draft of the GHGI and welcomes EPA's willingness to work with industry to improve the data used for the national inventory. API encourages EPA to continue these collaborative discussions and is available to work with EPA to make best use of the information available under the GHGRP to improve the national emission inventory. We look forward to continuing our collaborative work in the GHGI development process.

Sincerely,

A handwritten signature in black ink, appearing to read 'Karin Ritter', with a long horizontal flourish extending to the right.

Karin Ritter

cc: Melissa Weitz, weitz.melissa@epa.gov
Mark DeFigueiredo, DeFigueiredo.Mark@epa.gov
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Attachment 1.

Specific Correction for Petroleum Systems Data

In Tables 3-36 and 3-37, the numbers presented do not sum to the total for Production Field Operations. In the previous national inventory, EPA included a line item for miscellaneous venting and flaring to include the sum of all other sources not listed. This line should be added to both tables for the final report.

General Comments

Transparency:

The Annex Tables 3.5 and 3.6 provide the emission factors, activity data, and resulting CH₄ emissions for every source across the full time series (1990-2015). This level of detail has not been provided previously. API supports these tables as an addition to the information previously provided in the inventory annex sections for petroleum systems and natural gas systems. Specifically, API requests that EPA maintain the detail provided in the annexes from previous GHGI reports in addition to the new tables. API also requests that numeric tables be provided to stakeholders in Excel format.

Annex Tables 3.5 and 3.6 also provide considerable abbreviated descriptions of the data sources for the emission factors and activity data. More detail is needed for some sources to fully understand how EPA developed the final data that is used for the emissions calculations. For example, the Petroleum Systems annex notes that counts of storage tanks in the Production segment for 2011-2015 are based on 2015 GHGRP Subpart W data. However, there is neither discussion of how these counts were extrapolated from the Subpart W reports to a national level nor any discussion of how the 2015 data were used to apply to the years 2011-2014. API requests additional transparency for emission sources where multiple steps are used to derive either the activity data or the emission factor.

Well Counts:

API has addressed EPA's update to well counts in its letter of 1/27/2017 as part of the expert review of EPA's proposed methodology updates for Natural Gas and Petroleum Systems Production emissions. API continues to support the proposed revised methodology and has indicated that the well counts described in the agency's memo result in EPA's revised well count aligning with, and becoming far more comparable to, other data sources (such as Energy Information Administration, World Oil, Independent Petroleum Association of America, and API's queries of DI Desktop). API welcomes EPA's indication that it received feedback where other stakeholders generally support the revised well counts and agree that it introduces more consistency with recently published well count estimates. API is looking forward to the results of EPA's further comparison of current estimates with stakeholders' well counts also derived from DrillingInfo, investigation of differences, and establishing revised well counts in the final Inventory. API understands that this may potentially result in additional changes to calculated emissions from sources that rely on oil well counts for activity data (e.g., pneumatic controllers, equipment leaks, and storage tanks).

A large number of the national equipment counts used in both petroleum systems and natural gas systems production are based on scaling well counts from the GHGRP. Based on API’s review of the public review draft of the GHGI, it appears that EPA derives the GHGRP 2015 well counts from the major equipment count reported for Equipment Leaks (file EF_W_EQUIP_LEAKS_ONSHORE). However, API notes that these counts differ from the well data reported under 98.236(aa) (File EF_W_INTRODUCTION_SUMM), as shown in Table 1 below. EPA needs to resolve the differences between these two numbers reported through the GHGRP. API contends that the well counts reported under the sector summary information are more reliable.

Table 1. Comparison of Well Counts

GHGRP File Name	Oil Wells	Gas Wells
EF_W_EQUIP_LEAKS_ONSHORE	Wellheads for crude oil production equipment = 219,433	Wellheads for Natural Gas Production Equipment = 307,737
EF-W_INTRODUCTION_SUMM	Well producing for Oil formations = 213,890	Wells producing for Gas formations = 277,327
	Wells Acquired for Oil formations = 4,510	Wells Acquired for Gas formations = 11,633
	Wells Divested for Oil formations = 3,230	Wells Divested for Gas formations = 6,525
	Wells completed for Oil formations = 10,432	Wells completed for Gas formations = 4,911
	Wells removed from service for Oil formations = 4,523	Wells removed from service for Gas formations = 2,326

Data Quality

API reiterates that the EPA should carefully analyze and screen Subpart W reported data in order to improve the validity of data used in the national GHGI. EPA should have an established procedure for identifying obvious data errors and/or outliers, and for correcting or excluding those outliers to prevent disproportionately impacting the derivation of emission factors (EFs) or extrapolation of potentially erroneous information for inclusion in the national GHGI.

In addition, as EPA is evaluating data available from new studies, it is important to understand the applicability of these studies for a national inventory. API reiterates the need to vet new studies and data through a multi-stakeholder group prior to updating the GHGI. API proposes that such a working group be convened following the completion of the 2017 GHGI to provide a structured framework, and agreed upon timeline, for consultation and review of GHGI updates. An **early** start (April 2017) and frequent meetings (every 1-2 months) would provide sufficient time to review and consolidate “developing” information in an informed process for updating the 2018 GHGI and beyond.

Associated Gas Venting and Flaring

Significant changes have been made to estimating emissions from associated gas venting and flaring in the RY 2015 inventory compared to previous years which addressed only stripper

wells. This is an area that requires further study because operational practices that result in either venting or flaring are linked to the availability of appropriate infrastructure to capture and use associated gas, rather than vent or flare it. This is a dynamic situation that varies from year to year and from region to region, and requires further analysis of information available through the GHGRP.

Gas Processing Compressors

API's analysis for gas processing compressor's average emission factors was previously presented to EPA in a letter of 2/13/2017 (including attachments and technical memoranda). API recommends that emission factors be derived based on average GHGRP data from 2013 through 2015 to account for the variability in measured components and the use of controls. Furthermore, API recommends that going forward it may be appropriate to use the GHGRP data reported for compressor emissions each year, or on a rolling three year average, depending on data variability in future years.

Abandoned Wells

EPA indicates that it is seeking emission factors and national activity data available to calculate emissions from abandoned wells. API contends that this is an area that requires further study and determining a national count of abandoned wells will be challenging. API cautions EPA that current studies (Townsend-Small et al. 2016 and Kang et al. 2016) are limited in scope and should not be extrapolated broadly.

GasSTAR Reductions

API agrees that many emissions sources in the GHGI are now calculated using net emissions approaches, with technology-specific activity data and emission factors, and annual data from the GHGRP. For these emission sources it may not be necessary to adjust for Natural Gas Star reductions, which may result in double-counting of reductions. Removing the Natural Gas Star reductions from these sources would improve transparency of the results and methods by relying on direct net emission calculations. However, where applicable, EPA should continue to apply the Natural Gas Star reductions for those specific sources for which only potential emission data is available.