Submitted Via WRI Proposal Template

Comments of the American Gas Association (AGA)
Responses to WRI GHG Protocol – Summary of Responses Submitted via Online Surveys on Market-Based Accounting and Corporate Value Chain Scope 3 Emissions

March 14, 2023

The American Gas Association ("AGA") appreciates the opportunity to respond to the World Resources Institute (WRI) Greenhouse Gas (GHG) Protocol survey questions. AGA submitted responses on March 13, 2023, via the required WRI GHG Protocol Market-Based Accounting Survey and Scope 3 Survey. This comment letter collects our responses in a single document for convenience. We also provide additional background information about AGA and its members, as well as citations and web links to additional studies and resources that did not fit within the answer blocks for some of the survey form questions.

AGA, founded in 1918, represents more than 200 local energy companies that deliver clean natural gas throughout the United States. There are more than 77 million residential, commercial, and industrial natural gas customers in the U.S., of which 95 percent — more than 73 million customers — receive their gas from AGA members. AGA is an advocate for natural gas utility companies and their customers and provides a broad range of programs and services for member natural gas pipelines, marketers, gatherers, international natural gas companies, and industry associates. Today, natural gas meets more than one third of the United States' energy needs.[1]

AGA and Its Member Gas Utilities Are U.S. Leaders in GHG Disclosures and Emission Reductions

Most AGA member gas utilities exceed the reporting threshold size and report their GHG emissions to the U.S. EPA under the mandatory GHG Reporting Program. In addition, many collect and voluntarily disclose additional GHG data. To provide enhanced investor-focused voluntary disclosures that go a step beyond EPA's reporting rules, in 2018, AGA and EEI[2], working with member company subject matter experts and a broad investor working group, developed

[1] For more information, please visit www.aga.org.
[2] It should be noted that most of EEI's U.S. utility members are combined gas and electric utilities that are also members of AGA.

the first-ever voluntary ESG reporting template designed to help gas and electric utility companies to provide the financial sector with more uniform and consistent ESG and sustainability data and information. The template includes GHG emissions data that gas and electric utilities report annually to EPA. For gas utilities, the template calculates a methane intensity metric for delivered natural gas equal to the methane emissions reported to EPA under Subpart W of the GHG Reporting Rules[3] as a percentage of the methane in natural gas throughput for the relevant segment, such as gas distribution. The EEI-AGA ESG Template has been updated twice since 2018, most recently in May 2021. Participating utilities post their Template data on their websites.

By sharing and deploying best practices and technologies for emissions detection and reduction, gas distribution utilities in the U.S. have reduced their direct methane emissions by 69% since 1990, down to just 0.1 percent of annual produced natural gas, as shown in an October 2022 analysis of data in the U.S. EPA's Inventory of GHG Emissions and Sinks in the United States (1990-2020) (published in April 2020).[4]

I. Responses to Market-Based Accounting Survey

WRI Market-Based Accounting (MBA) Survey Questions 11 & 12 – AGA Response: No, *the current GHG inventory accounting approach for scope 1 and scope 3 is not effective in producing an accurate, complete, consistent, relevant, and transparent account of a company's GHG emissions and removals associated with its operations and value chain. It should clearly allow market-based accounting, for the reasons that follow.*

> AGA's responses to this survey are focused on gaseous fuels, including natural gas produced with reduced methane emissions intensity, hydrogen, biogas or biomethane, and renewable natural gas (RNG) which is biogas that has been purified to pipeline quality. While we focus on decarbonized gaseous fuels, the same concepts apply to renewable electricity. Abolition of market-based accounting, as the WRI GHG Protocol seems to contemplate, would have negative impacts on renewable electricity as well as renewable and decarbonized gaseous fuels. It should be noted that the underlying natural gas and electricity markets are themselves book and claim systems. They are well developed and documented. If such systems are not allowed for renewable fuels and renewable electricity, this would call into question nearly all fuel and energy accounting.

[4] See AGA's Oct. 2022 analysis in Understanding Greenhouse Gas Emissions from Natural Gas (EPA Inventory), p. 1, https://www.aga.org/wp-content/uploads/2022/12/ghg-report-10.04.22_updated-1.pdf.

WRI's background information on this topic states that "The GHG Protocol Corporate Standard and Scope 3 Standard are based on inventory accounting methods using a physical or average-based accounting approach for scope 1 and scope 3 emissions. Market-based accounting approaches are not included for scope 1 or scope 3 accounting." However, as the RNG Coalition notes in their comments, WRI published guidance in 2015 within the GHG Protocol Scope 2 Guidance, Annex B which clearly stated that market-based accounting should be used for biogas, which would include raw biogas purified to pipeline quality Renewable Natural Gas (RNG) as well as hydrogen derived from biogas:

> *"If a company has a contractual instrument specifying its gas supply as "biogas" or "biogenic," the company should report using the market-based method and refer to the Scope 2 Quality Criteria to evaluate whether its gas use should be reported as scope 1 natural gas using a standard emission factor, or as biogenic CO2 emissions reported separately from the scopes. This evaluation requires some interpretation, since the Scope 2 Quality Criteria are specific to electricity and their guidance must be translated for use with gas. For instance, criterion 1 in relation to GHG emission rate claims should be also interpreted to include the emission rate specific to the biogenic fuel origin. The CO2 emissions will be influenced by the heat rate / efficiency of the equipment used to consume the gas."*

Producers and buyers of clean fuels have developed entire markets based on the use of market-based instruments, supported by this version of the Scope 2 Guidance, including all major regulatory and voluntary procurement programs. Those operating in such markets are generally confused by, and disagree with, WRI GHG Protocol's statement that scope 1 only allows average-based reporting. AGA does not take issue with the use of average-based reporting, as long as WRI also recognizes market-based reporting for biomethane, RNG, and other resources. Additional clear guidance should be provided for market-based reporting of biogas when applicable to Scopes 1 and 3.

While the guidance was revised in 2020 and this language was removed, other reporting guidance that helps organizations report in line with GHG Protocol, such as The Climate Registry and Climate Disclosure Project (CDP), retained language allowing organizations to use RNG certificates. This is based on the rationale that GHG Protocol provided in its revision note (https://ghgprotocol.org/sites/default/files/standards_supporting/List%20of%20Corrections%20to%20the%20Scope%202%20Guidance_0.pdf) and the expectation that the GHG Protocol does not revise its standard without ample stakeholder consultation and structured, transparent decision-making.

MBA Survey Questions 13 & 14 – AGA Response: Yes, AGA thinks *there is a need for market-based accounting approaches related to scope 1 GHG reporting, for the reasons that follow.*

The ability to reflect market-based procurement of pipeline-injected clean fuels -- such as RNG and hydrogen -- in scope 1 is critically important to achieve net zero goals in the most feasible and affordable manner -- by using existing gas infrastructure. AGA's GHG Net Zero Pathways Study prepared by ICF International and released in 2021 demonstrates the value of combining a flexible mix of energy efficiency, hydrogen, renewable natural gas (RNG), other renewable energy sources, leak detection and repairs, system upgrades and innovative technologies to achieve society's net zero goals affordably and reliably. See Pathways to Net-Zero - American Gas Association (aga.org), https://www.aga.org/research-policy/pathways-to-net-zero/, p. 38.

AGA's Study on the Implications of Residential Electrification shows it would be significantly more expensive to attempt to achieve net zero GHG goals by electrifying all energy needs including winter heat. Gas utilities serve a winter peak demand that is double the summer air conditioning peak demand on the U.S. electric grid. Converting that heat load to electricity could require significantly expanding the infrastructure for electric power generation, electric long distance transmission lines and local electric distribution lines in addition to requiring customers to replace appliances and equipment. The cumulative cost of achieving net zero goals through electrification alone would fall on consumers and would be far greater than using existing gas infrastructure to deliver decarbonized fuels as a companion to partial electrification. See https://www.aga.org/wp-content/uploads/2018/07/aga_study_on_residential_electrification.pdf. In addition to this AGA study on the cost of residential electrification, see the following resources:

- An economy-wide study by Low Carbon Resources Initiative (LCRI) of several net zero scenarios concluded that "Natural gas infrastructure plays a crucial role in all scenarios." The scenarios with more natural gas system usage, including in buildings, showed much lower carbon abatement costs. https://lcri-netzero.epri.com
- This analysis for the state of Massachusetts in the U.S. modeled eight pathways that achieve 90% gross GHG reductions and net zero GHGs by 2050. Scenarios that utilize the gas system are lower cost. The highest costs are associated with the lowest gas system usage. https://thefutureofgas.com/content/downloads/2022-03-21/3.18.22%20-%20Independent%20Consultant%20Report%20-%20Decarbonization%20Pathways.pdf

- This study for four utilities in the states of Illinois, Georgia, Virginia, and Tennessee in the U.S. modeled steep emissions reductions by 2050 and found that "the natural gas pathways are projected to be more cost-effective than the modeled mandatory electrification scenarios." https://assets.ctfassets.net/ncgri9n8y2w0/ZjIVEo0e4Nl5kLtY640ff/4ae22fe434ba7102b8f624ffc0fb1036/ICF-GAS-Report.pdf

- This study for Baltimore found that "Pathways that rely on an Integrated Energy System carry a lower overall cost and level of challenge." Integrated Energy System means strategic use of the gas system. https://ethree.com/wp-content/uploads/2022/10/BGE-Integrated-Decarbonization-White-Paper_2022-11-04.pdf

WRI's GHG Protocol should help make it possible to achieve net zero goals cost effectively by allowing market-based accounting for biofuels, RNG and hydrogen.

In addition, AGA agrees with the Coalition for Renewable Natural Gas that allowing market-based procurement of pipeline-injected clean fuels is crucial to (1) grow markets for pipeline-injected clean fuels and (2) achieve alignment with regulatory programs which promote the procurement of such fuels in this manner. Clean fuels which are produced and used within a discrete system (i.e., a connected gas pipeline system) rely on the use of market-based instruments for procurement and supply-side growth. This type of market allows end-users who are willing to pay for the development of these fuels (for sustainability purposes) to do so. If entities are not able to purchase pipeline-injected clean fuels via market-based instruments there will not be enough incentive to drive development of renewable gas to the point where it is a meaningful share of the gas pipeline system. Disabling the use of market-based instruments may also cause end-users with sustainability goals to locate their operations in places with higher portions of legacy renewable energy throughput, foregoing opportunities for new investment in broader geographic decarbonization. In some cases this would lead to inefficient siting of resources. Furthermore, given that some gaseous end-uses are expected to be electrified, it is important that long-term end-uses (e.g., high-heat thermal processes) have access to procure in the near-term via mass balance through what is likely to become a high-blend pipeline in the long term. This will help allocate the limited supply of renewable gases to their highest and best uses. A good example of this can be found in the sustainable aviation fuel (SAF) sector, where the ability to procure RNG in the near-term is essential to the buildout of production capacity. Disallowing the use of market-based instruments will have an immediate effect on the development of biomethane, clean hydrogen, and SAF which are currently reliant on similar market structures to achieve scale.

We acknowledge that it may be appropriate to adjust the protocol to restrict or eliminate the use of market-based instruments in this sector once clean fuel reaches a

certain blend level of penetration. However, even when high penetration is reached, there may be value to maintaining the certificate infrastructure to differentiate between fuel types or other attributes. Regardless of their long-term role, market-based instruments should be used in the near-term to increase the amount of pipeline-injected renewable gases (RNG and H_2) even as the demand for conventional gas declines, eventually leading to a more targeted, 100% clean fuel system. This is the strategy envisioned by governmental policymakers who have analyzed the near- and long-term role of renewable gas, including Denmark, California, New York, among others.

Importantly, the current markets for biomethane, renewable hydrogen, sustainable aviation fuel, and other adjacent resources have been developed to operate on the premise of market-based instruments. Although WRI is typically regarded as a voluntary standard, clean fuels purchased under compliance programs are also accounted for within companies' GHG inventories. Withholding the eligibility of market-based instruments creates a direct contradiction between the Protocol and such programs, and would lead to incongruence within jurisdiction-level GHG inventory accounting (e.g., biomethane purchases by actors in regulatory programs pioneered by states leading U.S. climate action, such as California and Oregon), company level inventories (e.g., those who purchase biomethane or RNG for use in their operations), and corporate inventories which may be required to report using WRI guidelines in the future. For example, it is likely that WRI's GHG Protocol will be explicitly or implicitly included as a required reporting framework under the U.S. Securities and Exchange Commission's emission disclosure requirements, and there is currently active legislation which would require reporting using the GHGP in California and New York. Guidance which eliminates the ability to procure renewable gases using market-based instruments in a manner that runs contrary to existing practice would, at minimum, cause additional confusion as organizations are working to understand these already complex new requirements.

Ineligibility of market-based instruments in scope 1 would limit renewable gas use claims to situations where (1) the fuel is delivered through a dedicated pipeline or (2) where the fuel can be measured and reported as a portion of gas throughput received by a given end-use. While these are important pathways for biomethane and hydrogen use, such a direct delivery requirement would incentivize redundant pipeline infrastructure and/or on-road gas transport. Both of these outcomes would increase GHG emissions and the non-climate environmental impact of renewable gas procurement. Simply put, this new treatment would both incentive a worse environmental outcome for RNG delivery, or more likely, disincentivize RNG development and procurement overall.

WRI should also be aware that by making the decision to explicitly prevent the use of market-based instruments in this manner, our member gas utilities and their industrial and commercial customers would be put in a difficult position, requiring them to consider using other options for GHG accounting guidance, including other standards

which would support their purchases in a manner that is consistent with existing market practices and leading government programs motivating clean fuel procurement and achieving net zero goals.

MBA Survey Question *15 – AGA Response - AGA describes below the purpose or objective(s) for incorporating market-based accounting approaches in scope 1 GHG emission reporting.*

Renewable gases, including renewable natural gas (RNG or biomethane) and clean hydrogen, are an important decarbonization strategy for all applications which currently utilize geologic natural gas, and, in the long-term, renewable gas use will be particularly necessary in applications that have certain reliability requirements, those which are not well-suited to electrification, and as a feedstock for chemicals and fuels (including hydrogen and SAF. RNG is one of the few energy sources that can directly substitute for geologic natural gas and thus eliminate the release of fossil CO_2 at the point of combustion. RNG is recognized as a net zero fuel, because it captures methane that would otherwise be emitted by landfills, manure, food waste, and sewage treatment plants. Clean fuels derived from organic waste resources are a primary immediate strategy for reducing methane emissions. As noted above, RNG and clean hydrogen (blended at up to 20 percent of throughput currently) can be delivered utilizing existing gas infrastructure, reducing the cost to achieve net zero goals. Upgrades to existing infrastructure can facilitate delivery of pure clean hydrogen (derived from biogas or from "power to gas" using renewable electricity when excess to grid needs to power hydrolysis).

The need to target methane emissions immediately and the long-term need for clean fuels as part of any GHG reduction strategy is substantiated by leading organizations focused on climate change mitigation. This includes the Intergovernmental Panel on Climate Change, United States Environmental Protection Agency (EPA), European Union; individual countries such as Denmark which currently has around 40% RNG in its gas system and expects to reach 100% by 2034, as well as climate and energy experts at the California Air Resources Board (CARB), WRI (https://static1.squarespace.com/static/53a09c47e4b050b5ad5bf4f5/t/6333 4f4d5229570c3f422d23/1664307023243/WRI+renewable-natural-gas-climate-strategy+2020.pdf), International Energy Agency, and Columbia University's School of International and Public Affairs Center on Global Energy Policy. Similarly, there is widespread recognition that clean hydrogen and SAF must be scaled as quickly as possible to do their share in abating hard-to-decarbonize sectors of the economy. The Inflation Reduction Act (IRA) passed by the U.S. Congress and signed into law by President Biden in August 2022 has provisions to support the development and use of RNG, hydrogen, and SAF.

MBA Survey *Questions 16 & 17 AGA Response – Yes, AGA thinks there is a need for market-based accounting approaches related to scope 3 reporting, for the following reasons.*

If a company procures clean energy via market-based instruments to lower their and/or scope 2 purchased energy emissions, the supplying gas utility should be allowed to recognize that reduction in its downstream customer scope 3 emissions. It is not clear whether WRI supports this methodology under the current framework.

MBA Survey Question 18 Response – AGA describes the purpose or objective(s) for incorporating market-based accounting approaches in scope 3 GHG emission reporting as follows.

Recognizing such claims would allow associated upstream and downstream companies to achieve parity in their reporting across GHG inventories. Doing so is important because it values clean energy purchases appropriately (i.e., clients will be incentivized to contract with companies who procure clean energy). Doing so would also help to simplify the currently difficult process of obtaining data from a contractual partner when counting scope 3 emissions.

Furthermore, market-based accounting is a necessity to transparently show emission reductions for those utilities who have net-zero Scope 3 goals/targets.

MBA Survey *Questions 19 & 20 – AGA Response – Yes, for the following reasons, AGA thinks that market-based accounting approaches ensure that emission reductions reported in a company's GHG inventory correspond to a reduction in emissions to the atmosphere.*

There are two primary emission reductions that occur based on the use of common forms of renewable gases. First, all forms of biomethane and clean hydrogen can be used as a substitute where geologic natural gas is currently used by blending these fuels in existing infrastructure, resulting in displacement of geologic CO_2 emissions (with biogenic CO_2 from recent carbon sinks in the case of biomethane or RNG). Furthermore, biomethane, hydrogen, and other fuels created using waste methane serve as a leading strategy for reducing methane emissions. This concept is substantiated by the U.S. Department of Energy (U.S. DOE) Argonne Laboratory's GREET model, which provides a calculation of avoided methane emissions, leading some production pathways to have highly carbon negative (i.e., better than carbon neutral) greenhouse gas performance (based on methane avoidance). Entities such as the state of California have identified biomethane/ RNG production from anaerobic digestion as a primary pathway for reducing waste methane emissions from agriculture, food waste, and other sectors. Furthermore, even where some methane capture is required (e.g., most US landfills), biomethane facilities provide an impetus to install larger and more efficient capture systems, leading to additional benefit.

According to WRI's analysis (https://www.wri.org/research/renewable-natural-gas-climate-strategy-guidance-state-policymakers) , existing organic waste streams in the United States could yield energy equivalent to approximately 7% of present-day natural gas consumption if converted to RNG (or more depending on assumptions regarding feedstock availability).

AGA's recent analysis indicates RNG potential supply in the U.S. is much larger. AGA's Pathways to Net Zero Study (pp. 97-100 and figure 35) shows that there is a significant potential supply of biomethane /RNG in the United States that could produce more than 6,000 trillion Btu by 2050 and could serve all of the existing gas heat load in the U.S.

More needs to be done to encourage the development of this important resource. Biomethane currently makes up less than 1% of U.S. natural gas supply, despite major industry expansion in the last decade following the implementation of regulatory programs which allow procurement via the use of market-based instruments. In the case of biomethane, clean hydrogen, and other related, nascent clean fuel markets, it can be assumed that volumes procured via market-based instruments are additional, and that these markets allow the leading innovative customers willing to pay for these emerging fuels with the small (and relatively expensive) initial supply.

We appreciate that WRI seeks to make decisions on this topic using sound, empirical information, and that some stakeholders in this process have raised concerns about additionality. It is important to understand that the buildout of biomethane supply to-date can largely be attributed to the value of tradeable credits in transportation decarbonization compliance markets. Facility data obtained from the Coalition for Renewable Natural Gas illustrates that the number of biomethane production facilities in North America grew 33.5 percent throughout 2021 (from 313 in December 2020 to 418 by the close of 2021). This growth has increased production capacity 24 percent since 2020. Overall, this amounts to a 3-fold increase in production facilities between 2019 and 2023. The overwhelming majority of this significant new growth can be directly traced to the market-based accounting systems (sometimes called mass-balance, delivery by displacement, or book and claim) employed by EPA's Renewable Fuel Standard and California's Low Carbon Fuel Standard and the inclusion of biomethane as qualifying resource under each program in 2014 and 2011, respectively. Based on this and other similarly successful frameworks, many additional renewable gas procurement programs have been implemented which are based on use of market-based instruments to track generation and delivery.

For these reasons, it is clear that increasing market-based procurement of renewable gas is a significant way to drive emission reductions from increased clean fuel production, especially through pathways that involve methane capture. Disallowing the use of market-based instruments would stifle investment in GHG reductions, especially in critically needed methane-reducing activities.

MBA Survey *Question 21 – AGA Response – AGA describes below how market-based accounting principles ensure consistency between company and global emission reductions? You may enter brief comments here or submit a more detailed proposal using the proposal template.*

The best way for WRI to ensure consistency between company and global (or jurisdiction-level) reporting requirements is to align the GHG Protocol with existing, overarching energy procurement and GHG accounting concepts. This includes allowing for the use of market-based instruments as a means of reducing GHG emissions via the purchase of clean fuels and energy.

As previously discussed, disallowing the use of market-based instruments would cause an immediate discrepancy between GHG inventories, particularly in jurisdictions which have employed policies that use market-based mechanisms to drive GHG reductions and record those reductions within their GHG inventories. One example of this is the state of Washington in the U.S., under which biomethane procurement is allowed to reduce compliance obligations under the Cap & Invest program. Many other examples of similar interactions can be found in other jurisdictions.

MBA Survey *Questions 22 & 23 – AGA Response – Yes, as described below, market-based approaches can be designed to ensure that emission reductions reported in a company's GHG inventory correspond to a reduction in emissions to the atmosphere.*

Market-based instruments are a proven tool for achieving emission reductions when used to increase the amount of a low-carbon product (e.g., biomethane) within a discreet system (e.g., a gas transmission or local distribution pipeline network). This is the case for renewable gas and other related clean fuels.

With this in mind, we understand that WRI may be looking to incentivize broader emissions reductions through electrification in cases where the WRI assumes certain end-uses may not use gaseous fuels in the long term. We question whether such a goal is appropriate for what is supposed to be a neutral accounting system. In addition, AGA challenges the underlying assumption for the reasons stated in AGA's Pathways to Net Zero Study.

There simply is no need to pit electrification against renewable gases. Leading jurisdictions have realized this and published climate mitigation strategies that rely on rapid electrification of many end uses, yet still envision a long-term role for a renewable gas in all full decarbonization scenarios. WRI summarized various examples of such studies in its 2020 working paper entitled *Renewable Natural Gas as a Climate Strategy: Guidance for State Policymakers* and found that "RNG can therefore play a significant complementary role by displacing fossil fuel use in sectors that are otherwise difficult to

decarbonize or electrify, whether due to high energy density requirements, the cost of retrofits, or other technological and economic hurdles (https://www.wri.org/research/renewable-natural-gas-climate-strategy-guidance-state-policymakers; pg. 37).

Simply put, as gas demand is reduced through electrification, renewable supply can be simultaneously increased so that the (potentially smaller) remaining gas demands can be fully served by renewable gases. Eliminating the use of market-based instruments at this time would limit the buildout of these important resources, foregoing significant near- and long-term benefits and undermining a key decarbonization tool that needs to rapidly scale.

If WRI's desire is to allow users of the Protocol to fairly examine tradeoffs between electrification and renewable gas use, we recommend providing crosswalks between Scope accounting and the full lifecycle GHG accounting tools available for various energy carriers in common end uses. Transparent lifecycle carbon intensity frameworks such as the GREET model are already widely used and accepted by the scientific and regulatory communities. Applying this type of model provides transparency as to the total GHG impact of a fuel or action (across all of the Protocol's scopes), allowing consuming firms to intentionally choose the lowest-carbon resources (e.g., choose biomethane which supports significant upstream methane capture, avoid pathways with significant methane leakage during upgrading or delivery, etc.) and avoid purchasing higher-carbon resources. This type of lifecycle carbon intensity scoring also allows for proper comparison between renewable gas and electrification options (inclusive of consideration of the source of both power and gas). This will prevent the unintended outcome of incenting resources which have poor GHG performance.

MBA Survey *Questions 24 – AGA Response – Below, AGA discusses how market-based approaches could be designed to ensure that emission reductions reported in a company's GHG inventory correspond to a reduction in emissions to the atmosphere. AGA's response follows below.*

AGA's interest is in the availability of market-based approaches for our member local gas utilities to deliver pipeline quality RNG and renewable hydrogen to their customers via the existing gas system. WRI should develop the described approach for biomethane, renewable hydrogen, pipeline-based feedstocks to sustainable aviation fuel, and other similar products.

In the case of renewable gas, many government programs and voluntary procurement frameworks now include associated tools to ensure no double claims of biomethane volumes. For example, the Midwestern Renewable Energy Tracking System (M-RETS) now provides a registry to track the ownership of environmental attributes associated with renewable gases (which covers voluntary transactions and many compliance

transactions). These tools are designed to incorporate the use of lifecycle carbon intensity scoring to ensure that the customer can make purchase decisions based on full lifecycle GHG performance. The Green-e Renewable Fuels framework is also available in the voluntary market for buyers who wish to layer on additional sustainability criteria (beyond solely GHG performance).

MBA Survey *Questions 25 – AGA Response – If market-based accounting approaches are used, the following accounting methodologies should be used to account for them.*

WRI should employ a combination of both inventory and project/intervention accounting methods. Specifically, we believe the following generally aligns with current practices under the GHG Protocol:

Scope 1 – Includes a separate line item for biogenic CO_2. This allows for biogenic CO_2 from recent carbon sinks to be treated as carbon neutral, other non-CO_2 emissions that occur during combustion (CH_4, N_2O) should continue to be assessed using CO_2-equivalent values.
Scope 2 – N/A for purchased fuels. Note that emissions from purchased electricity derived from pipeline-injected renewable gas should account for purchased renewable gas volumes accordingly.

Scope 3 – Includes upstream emissions from processing, transport, and use. Also includes impact of any avoided methane emissions using an intervention accounting method, as well as any carbon sequestration at the production facility. Intervention accounting method also needs to intersect with and/or be applied to the inventory method – transparently – so that achievement of net-zero goals/targets can be clearly disclosed. It could be useful to develop a combination or hybrid of the two current methodologies.

AGA notes that in the United States, it may be possible to enter bilateral contracts to procure geologic natural gas that has been certified as having been produced and/or transported using best practices to reduce methane emissions, but most gas supply is obtained through the market hubs where gas from many producers is combined. Methods for tracking the attributes of gas produced with lower methane emissions and sold via market hub are still in development. WRI should recognize that the methodologies for estimating scope 3 indirect upstream supplier emissions (or downstream, customer emissions) produce only rough estimates that are not an appropriate basis for mandatory reporting.

WRI should also develop a framework which prioritizes such reductions over conventional offsets (which are given the same treatment) and requires standard-setting organizations to include in inventory calculations. Unlike conventional offsets, such reductions are directly related to an organization's fuel procurement. Buyers have

a strong ability to shape how well RNG projects perform with respect to these factors (total methane capture, use of CCS, etc.) and upstream information about GHG performance is a valuable tool for decision making for renewable gas buyers.

WRI should also publish clear guidance on how common lifecycle GHG accounting tools for alternative fuels should be mapped across the Scopes.

MBA Survey ***Questions 26 & 27 – AGA Response – Yes, if market-based accounting approaches are quantified using project/intervention methods relative to counterfactual baseline scenarios, yes, they can be integrated into GHG inventory methods to calculate scope 1 and scope 3 emissions, as discussed below.***

There is a clear connection between energy purchasing, fossil fuel displacement, and methane avoidance associated with RNG production. WRI's current protocol would have such upstream methane reductions treated as an offset for those who procure biomethane. We believe that this treatment conflates an in-value-chain reduction (within the value chain once the fuel is purchased) with those that are outside of a company's value chain (offset, from sources unrelated to the company's activities). For this reason, upstream methane reductions should be included in scope 3, alongside other upstream impacts (many of which are negative, e.g., methane leakage post capture) of renewable gases. We believe such treatment would be consistent with treatment of other actions that fall within a company's Scope 3. Companies that procure biomethane can choose between different biomethane resources that have a wide range of carbon intensity scores, based on methane avoidance, methane releases post capture, source of energy used for gas upgrading, distance of transport, future deployment of carbon capture, utilization and sequestration (CCUS). The ability to use purchasing power to influence the upstream performance of these projects means that these properties fall squarely within the company's value chain, and should be included within scope 3.

If WRI chooses to include avoided methane emissions and carbon sequestration outside of the scopes, it must also develop a framework which prioritizes such reductions over conventional offsets (which are given the same treatment) and requires standard-setting organizations (e.g., SBTi) to include in inventory calculations. Unlike conventional offsets, such reductions are directly related to an organization's fuel use and are a valuable tool for decision making.

MBA Survey *Question 29 – AGA Response – WRI asks how these methods can be integrated into the reporting of a GHG inventory.*

AGA does not oppose a dual reporting framework where both market-based instruments and default values are included (as is currently employed for scope 2 electricity procurement) for transparency purposes.

MBA Survey Question 31 – AGA Response – Purchases of offset credits should be accounted for as follows:

- ☑ Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
- ☑ Used to calculate scope 1 emissions
- ☑ Used to calculate scope 3 emissions

MBA Survey Question 32 – AGA Response – Explanation:

Offsets can play a strong role in a company's ability to reach net-zero targets for Scope 3 emissions or Scope 1 emission, subject to appropriate accounting and verification.

MBA Survey Questions 33 & 34 – AGA Response – Yes, purchases of inset credits should be used in corporate GHG inventory reporting to calculate scope 3 emissions. Our answer is explained below.

Scope 3 is designed to capture emissions from actions within a company's supply chain, so it naturally makes sense to account for insets in this category.

This is not to downplay the important role of offsets, which can still play a strong role in utilities' ability to reach net-zero targets for Scope 3 emissions. Offsets still provide value as they are linked to an economy-wide (or global) emissions reduction and there is no reason that they should be valued higher if only utilized within a specific business sector or valued lower if purchased from outside one's value chain.

MBA Survey Questions 35 & 36 – AGA Response –

Supply shed/value chain interventions *should be (1) reported **i***n a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s); and (2) used to calculate scope 3 emissions.

Supply shed/value chain interventions should be included in the same manner as an inset in scope 3. Other accounting methodologies would conflate insets with offsets, not reflecting the full impact of a given purchasing decision.

If WRI chooses to include avoided methane emissions and carbon sequestration outside of the scopes, it must also develop a framework which prioritizes such reductions over conventional offsets (which are given the same treatment) and requires standard-setting organizations (e.g., SBTi) to include in inventory calculations. Unlike conventional offsets, such reductions are directly related to an organization's fuel use and are a valuable tool for decision making.

MBA Survey Questions 37 & 38 – AGA Response –

AGA believes the following options best represent how we think mass-balance certification approaches should be accounted for within corporate GHG inventory reporting.

- Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
- Used to calculate scope 1 emissions.
- Used to calculate scope 3 emissions.

Market-based instruments should be eligible for use in some scope 1 situations (e.g., where a product such as renewable gas is procured within a discreet system such as the North American gas pipeline network). A company's scope 1 reductions based on the use of market-based instruments should be reflected in an associated company's scope 3.

If WRI chooses to include avoided methane emissions and carbon sequestration outside of the scopes, it must also develop a framework which prioritizes such reductions over conventional offsets (which are given the same treatment) and requires standard-setting organizations (e.g., SBTi) to include in inventory calculations. Unlike conventional offsets, such reductions are directly related to an organization's fuel use and are a valuable tool for decision making.

MBA Survey Questions 39 & 40 – AGA Response –

AGA believes book and trade accounting should be used as follows:

- Reported in a GHG inventory report, separately from scope 1 and/or scope 3 emissions, which could potentially be used to contribute to achieving a company's GHG target(s)
- Used to calculate scope 1 emissions (for displacement of fossil CO_2 with recent biogenic CO_2)
- Used to calculate scope 3 emissions (for other sources and sinks in the lifecycle of a purchased renewable gas)

Market-based instruments should be eligible for use in some scope 1 situations (e.g., where a product such as renewable gas is procured within a discreet system such as the North American gas pipeline network). A company's scope 1 reductions based on the use of market-based instruments should be reflected in an associated company's scope 3.

If WRI chooses to include avoided methane emissions and carbon sequestration outside of the scopes, it must also develop a framework which prioritizes such reductions over conventional offsets (which are given the same treatment) and requires standard-setting organizations to include in inventory calculations. Unlike conventional offsets, such reductions are directly related to an organization's fuel use and are a valuable tool for decision making.

MBA Survey Question 45 – AGA Response – Sectors where market-based instruments are appropriate –

Market-based instruments should be eligible for use in some scope 1 situations (e.g., where a product such as renewable gas is procured within a discreet system such as the North American gas pipeline network). A company's scope 1 reductions based on the use of market-based instruments should be reflected in an associated company's scope 3.

If WRI chooses to include avoided methane emissions and carbon sequestration outside of the scopes, it must also develop a framework which prioritizes such reductions over conventional offsets (which are given the same treatment) and requires standard-setting organizations (e.g., SBTi) to include in inventory calculations. Unlike conventional offsets, such reductions are directly related to an organization's fuel use and are a valuable tool for decision making.

MBA Survey Questions 46 & 47 – AGA Response regarding whether and what entity or entities should be engaged in administration, verification, rule setting, and enforcement of market-based approaches:

The WRI GHG Protocol is a private entity and should not be engaged in those actions. Instead, any mandatory, enforceable requirements should be developed under a statutory framework enacted by a legislative body elected in free and fair democratic elections, implemented through rules adopted using a process for public notice and opportunity for comment and judicial review such as the process prescribed in the U.S. Administrative Procedures Act, and enforced pursuant to laws of due process.

Robust systems are already in place in both voluntary and compliance markets to assess and transparently report the carbon intensity of clean fuel and electricity sources; generate, verify, track, and retire certificates; and prevent double counting. These programs have been designed to enable the effective use of market-based instruments in voluntary and compliance markets. WRI must seek to align its reporting framework with existing mandatory policies to avoid issues in reporting between compliance markets, voluntary markets, and those who may be required to report all purchases under the GHGP. The option to leave market-based reporting methods in the hands of reduction program managers and regulatory bodies without accounting for such mechanisms within the WRI protocol simply does not exist if WRI wishes to remain a widely used GHG accounting standard.

It is well-established that biomethane and RNG can be contracted and delivered to individual customers on a common pipeline. However, GHG Protocol's draft proposal for the Land Sector and Removals guidance would invalidate the associated emissions claim for the vast majority of current and planned purchases of biomethane, including where compliance markets overlap with voluntary or institutional GHG reporting. The use of market-based instruments within a system that utilizes mass-balance or book and claim accounting can be seen in Renewable Gas Standard and Clean Heat Standard policies in California, Colorado, Minnesota, New Hampshire, Oregon, British Columbia, and Quebec. The same concepts are employed under Low-Carbon Fuel Standard programs in California, Oregon, Washington, British Columbia, and Canada on the federal level, as well as EPA's Renewable Fuel Standard. Furthermore, other voluntary renewable energy procurement frameworks from Climate Disclosure Project, The Climate Registry, RE100, and Airport Carbon Accreditation allow for the purchase of biomethane certificates to qualify in this manner.

For transactions in both compliance markets and the voluntary renewable energy procurement space, renewable gas tracking systems, such as M-RETS for North America and ERGaR in Europe—the latter supported by national registries such as GreenGas UK—are in place to support procurement in a way that provides transparency for buyers and prevents double-counting. Indeed, the European Union's Renewable Energy Directive (RED II), Article 28 calls upon Member States to work in tandem with the Commission to

strengthen tracking systems on the national and voluntary level for renewable fuels, including through the creation of an EU-run database (https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.L_.2018.328.01.0082.01.ENG&toc=OJ:L:2018:328:TOC). These tracking systems issue a unique, traceable, digital certificate (known as a Renewable Thermal Certificate guaranteeing the origin of biomethane from projects across jurisdictions. The Center for Resource Solutions has created a Green-e standard to certify the environmental attributes of biomethane, with plans to incorporate renewable hydrogen—a guarantee of sustainability intended to complement the M-RETS tracking system. These certificates allow consumers to purchase biomethane and renewable hydrogen, which in turn helps support biomethane.

MBA Survey Question 48 – AGA's Response regarding Other Feedback:

Transparency & Further Opportunities for Stakeholder Engagement:

AGA has heard from some members that WRI needs to provide better transparency when it updates guidance and other key documents. A version number and date should be on the cover of each document. This is a key best practice for transparently assuring that individuals using WRI's GHG Protocol guidance know how to identify the most current version.

AGA also urges WRI to provide an opportunity for transparent stakeholder discussion and engagement following this round of surveys. This could take the form of a series of stakeholder webinars, similar to those provided by the U.S. EPS for its updates to methodologies for use in the annual national GHG inventory.

II. Corporate Value Chain Scope 3 Standard and Scope 3 Calculation Guidance Survey

Scope 3 Value Chain Survey Questions 13 & 14 – AGA Response –

The scope 3 standard should be updated to provide guidelines for the inclusion of intervention-based actions within scope 3. For example, this would cover the impact of upstream methane emissions performance or biogenic carbon capture related to purchased fuels.

Scope 3 Value Chain Survey Question 15 – AGA Response -

Biomethane and other waste-derived renewable energy sources face the challenge of including upstream methane emissions performance due to biomethane production, and based on procurement decisions among different carbon intensity options, within scope 3. Otherwise, such reductions appear as an offset which does not properly represent the direct influence the purchaser has on such projects and provides less value to purchase fuel with strong lifecycle greenhouse gas performance.

Scope 3 Value Chain Survey Question 16 – AGA Response -

This guidance should apply to any industry or product where emissions are being captured in the process of creating a new product. This would include upstream methane reductions (using intervention accounting) or biogenic carbon capture.

Scope 3 Value Chain Survey Questions 17 & 18 – AGA Response -

WRI should clarify that the use of market-based instruments in one company's scope 1 or scope 2 inventory should transfer to another company's Scope 3 (i.e., purchases of renewable energy credits).

Scope 3 Value Chain Survey Questions 21 & 22 – AGA Response -

The scope 3 calculation guidance should be updated to reflect the impact of energy-related insets (see previous responses for questions 14-18). WRI may also wish to clarify which inputs from energy production and transport should be included in a purchaser's scope 3 inventory as it relates to a wider array of energy resources, including biomethane and hydrogen.

Scope 3 Value Chain Survey Question 28 – AGA Response -
Regarding resources, tools, or databases to support companies in applying the Scope 3 Standard --

> AGA agrees with the Coalition for Renewable Natural Gas that there is a significant lack of knowledge regarding scope accounting for the use of energy resources which are assessed using a lifecycle carbon intensity score. For example, the GREET model is a widely used model for analyzing all emissions and reductions related to biomethane and other biofuels. It is clear that, based on current practices, emissions related to the production and transport of purchased fuels should be included within scope 3. Such interactions are currently included within the GREET model framework, however, it is not always clear from a buyer's perspective what values should be extracted from a GREET analysis for inclusion or how a lifecycle carbon intensity score for purchased energy can be translated into the scopes. WRI should reference GREET given that it is the primary lifecycle carbon intensity scoring model (due to its widespread use in US federal tax credits, the RFS and state-level CFS), and WRI should also consider referencing additional models.

Scope 3 Value Chain Survey Question 29 – AGA Response – Other feedback and suggestions --

AGA is concerned that the WRI GHP Protocol suggested in announcing this series of surveys that it may wish to align with the Science Based Targets Initiative (SBTi). AGA strongly opposes any such alignment as it would eliminate the most cost effective pathways to achieving net zero goals and would undermine the usefulness of the GHG Protocol. This is because SBTi has announced it is declining to validate science-based net zero or GHG targets for companies in the natural gas sector, including natural gas utilities. The SBTi apparently assumes that there is no pathway to net zero for natural gas utilities and their infrastructure. This is a false assumption. AGA's GHG Net Zero Pathways for Gas Utilities Study prepared by ICF International and released in 2021 demonstrates that "through the use of a variety of technologies and approaches, gas utilities can achieve net-zero targets and contribute to economy-wide net-zero emissions goals."[5]

The Net Zero study evaluates four illustrative pathways using different GHG reduction strategies that gas utilities can deploy to achieve net-zero goals.[6] These strategies include energy efficiency, innovative technology, methane emissions reductions, and net zero gaseous fuels such as renewable natural gas (RNG) and clean hydrogen – which may be used to reduce GHGs from a gas utility's scope 1 emissions as well as scope 3 emissions from upstream gas suppliers and downstream customer equipment and appliances. The approach taken by each gas utility will

[5] Net-Zero Emissions Opportunities for Gas Utilities, https://www.aga.org/wp-content/uploads/2022/02/aga-net-zero-emissions, AGA Comments Appendix B, p, 5.
[6] Id., see p. 9, Exhibit E.s.3.

likely vary depending on factors such as differing geography, structure, facilities, state regulatory oversight and customer base. However, while different company plans will vary as to the degree to which they deploy specific strategies, all will likely include some combination of strategies from all four categories – including technologies and procedures for reducing the gas utility's scope 1 direct methane emissions. The study demonstrates that gas utilities can set valid net zero targets, and many have done so. The WRI should not align its GHG Protocols with an SBTi policy that does not recognize these valid, science-based pathways for natural gas distribution utilities to achieve net zero goals through both scope 1 and 3 emissions. This is particularly important given that using existing gas infrastructure to transport RNG, hydrogen and other decarbonized fuels, in conjunction with targeted electrification, can help achieve societal net zero goals more affordably and with less economic disruption.

AGA appreciates the opportunity to comment, and we look forward to further stakeholder engagement as the WRI considers next steps.

Respectfully Submitted,

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