

ATTACHMENT D

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**Proposed Amendments to the California Cap on Greenhouse Gas Emissions and
Market-Based Compliance Mechanisms Regulation**

Post-2020 Natural Gas Supplier Allowance Allocation and Consignment

State of California

AIR RESOURCES BOARD

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Existing Requirements

Greenhouse gas (GHG) emissions from large facilities that burn natural gas have been subject to a compliance obligation under the Cap-and-Trade Program (Program) since the Program's inception in 2013. Starting in 2015, emissions from natural gas burned by smaller customers, including facilities and households, have also been covered by the Program, with the point of regulation being the natural gas supplier. These natural gas suppliers receive allocated allowances from the State based on the amount of gas they sold in 2011 (excluding gas sold to entities covered by the Program). These allowances are allocated to protect their ratepayers, and the value of the allowances must be used consistent with the purposes of Assembly Bill (AB 32) (Nuñez, Statutes of 2006). When allowances are consigned to auction, the costs associated with Program compliance are passed through to customers. Consignment of allocated allowances to auction encourages GHG emissions reductions through end-user conservation and, when combined with non-volumetric rebates, can help to financially protect ratepayers from Program costs.

Since the initiation of natural gas supplier allocation in 2015, natural gas suppliers have been required to consign a minimum percentage of their allocated allowances to auction. These allowances are sold by the State and the proceeds returned to the natural gas suppliers to be used for the benefit of ratepayers and consistent with the goals of AB 32. The minimum required consignment amount began at 25 percent of allocated allowances in 2015 and increases five percent annually to reach 50 percent in 2020. Natural gas suppliers may consign more allowances to auction, but may not consign less than the current required consignment amount. Allocated allowances that remain after consignment are deposited by ARB in the supplier's compliance account, and those allowances can only be retired for compliance with the Cap-and-Trade Regulation (Regulation).

Of the seven natural gas suppliers that are covered entities under the Regulation and receive allowance allocations, four are investor-owned utilities and are therefore regulated by the California Public Utilities Commission (CPUC). The investor-owned natural gas utilities—Pacific Gas and Electric (PG&E), San Diego Gas and Electric, Southern California Gas Company, and Southwest Gas—sell almost all of the natural gas (~99 percent) covered by the Cap-and-Trade Program.¹ In 2015, CPUC adopted decision D-15-10-032 (CPUC 2015) outlining the requirements for natural gas suppliers' use of allocated allowance value. Decision D-15-10-032 affirms that these suppliers must consign the minimum percentage required by ARB, and that they are not required to consign additional allowances to auction. It further directs these suppliers to pass

¹ This value is based on 2015 data reported through the Regulation for the Mandatory Reporting of Greenhouse Gas Emissions (MRR) (ARB 2016A).

through the GHG cost of just these consigned allowances to their customers. Thus, through a combination of the Regulation and CPUC requirements, natural gas customers face a fraction of Program GHG costs that equals the percentage of allowances consigned to auction. For example, in 2016 natural gas purchased by customers that are not covered entities in the Program includes 30 percent of the full Program GHG costs. Decision D-15-10-032 also directs the natural gas utilities to return the resulting proceeds from the sale of their consigned allowances to all residential ratepayers as annual Climate Credits.²

When ARB proposed amendments to the Regulation in 2013, the Initial Statement of Reasons described the long-term goal of 100 percent consignment with partial, but increasing, minimum consignment over time. Requiring only partial consignment for natural gas suppliers was intended to provide “a price signal to end users while allowing them time to convert to lower carbon alternatives” (ARB 2013). This transitional approach is consistent with earlier policy approaches that phased in the GHG cost of the Program gradually, including transition assistance for industrial facilities and not assessing upstream natural gas supply with a compliance obligation in the Program until the third year of the Program (2015).

Like natural gas suppliers, electrical distribution utilities (EDU) are allocated free allowances in order to protect their ratepayers.³ However, unlike natural gas suppliers, investor-owned EDUs have been required to consign 100 percent of their allocated allowances to auction since the inception of the Program. Both types of utilities (EDUs and natural gas utilities) are subject to ratemaking and other oversight by CPUC, which can help ensure that allocated allowances are used to benefit ratepayers consistent with AB 32. As required by Senate Bill 1018 (Chapter 39, Statutes of 2012), and per CPUC direction, investor-owned EDUs fully pass through GHG costs to customers and return the resulting proceeds from the sale of their consigned allowances to residential, small business, and industrial facility customers.

Effects of Current Consignment Requirements on Emissions

Natural gas emissions have come under increasing scrutiny in recent years. Natural gas use results in two types of GHG emissions: carbon dioxide emitted when natural gas is combusted as fuel and methane released when natural gas leaks. Combustion is the primary source of natural gas-associated GHG emissions covered by the Cap-and-Trade Program. However, leaks are also significant because natural gas is primarily methane, a short-lived climate pollutant prioritized for emissions reductions because of its relatively high impacts on the climate. Over 100 years, methane warms the climate 25 times more than the equivalent amount of carbon dioxide, and it has even stronger

² Parts of this Decision have been placed on hold while the Commission considers a petition for reconsideration on the approved distribution of proceeds. Natural gas customers are not expected to see GHG costs or receive Climate Credits until after the proceeds distribution portion of the Decision is finalized.

³ Investor-owned utilities receive more than two-thirds of the allowances allocated to EDUs. The remainder is allocated to publicly owned utilities and cooperatives, which do not currently have a consignment requirement but which *may* consign allocated allowances to auction.

effects in the short term—over 20 years, its impact is 72 times greater than that of carbon dioxide.⁴ As reflected in the Short-Lived Climate Pollutant (SLCP) Reduction Strategy, reducing short-lived climate pollutants, including methane, is a priority for California (ARB 2016B). Currently available technologies could reduce emissions of short-lived climate pollutants, with significant benefits for disadvantaged communities (ARB 2016B). Large and small leaks from natural gas extraction, transportation, storage, and end-use equipment have drawn attention to the climate risks associated with natural gas use. While the Program does not cover fugitive methane emissions with a compliance obligation, the Program can reduce overall methane emissions by incentivizing reduced reliance on fossil natural gas.

Requiring natural gas suppliers to consign all of their allowances to auction, in combination with other ARB, California Energy Commission, and CPUC policies, would create a greater incentive for natural gas consumers to reduce their GHG emissions. Small and large natural gas consumers would face equivalent incentives to reduce emissions, GHG reduction costs would be more equitably shared across sectors, and switching from natural gas to electricity would be appropriately incentivized in proportion to the emissions reductions associated with the switch.⁵

Using information from existing models, we can estimate the GHG reductions that would result from full GHG cost pass-through gained through full consignment. The main information for this estimate comes from the North American Gas-Trade (NAMGas) Model.⁶ This model is used by the California Energy Commission (CEC) to predict natural gas supply and demand in California for the Integrated Energy Policy Report process. The model includes elasticities that describe how much natural gas demand would decrease in response to a price increase.⁷ For residential gas use, at the annual auction reserve price, these elasticities predict that passing through the full GHG costs, rather than 50 percent of GHG costs, in 2021 would decrease the average household's annual emissions by 40 to 50 kg CO₂e. A typical commercial facility just below the Program threshold would reduce its annual emissions by 600-800 metric tons carbon dioxide equivalent (MTCO₂e). Since industrial facilities are more sensitive to price, a typical industrial facility of the same size would reduce its annual emissions by 1,600-2,100 MTCO₂e.⁸

⁴ The 20-year and 100-year global warming potential values come from the Intergovernmental Panel on Climate Change's (IPCC) Fourth Assessment Report (Christensen et al. 2007), which the current MRR amendments propose to use for calculating GHG emissions within the Program starting in 2021. ARB and its current and planned Program partners Québec and Ontario, respectively propose to use the IPCC's Fourth Assessment Report values for GHG accounting in the post-2020 period.

⁵ This is relevant for electricity customers of investor-owned utilities, with the exception of CPUC-identified small businesses.

⁶ The NAMGas model is discussed in Brathwaite et al. 2016.

⁷ Ibid. Long-term elasticities used are -0.53 for the residential and commercial sectors and -1.2 for the industrial sector.

⁸ These estimates assume natural gas prices are within their 2010-2015 range, and calculations are done in real 2015 dollars. Data sources: for California natural gas retail prices by sector, see EIA 2016. For CPI used to adjust these data to 2015 dollars, see BLS 2016. For California average household natural gas use (40.6 MMBtu), see EIA 2009, which is the most recent year for which data are available.

Consigned allowances are the source of value distributed to ratepayers as climate credits. When full GHG costs of natural gas use are passed through to end users, the proceeds from the sale of allocated allowances will be distributed to residential ratepayers (and possibly other customer classes) as equal climate credits given to each household. At the floor price, in 2015 dollars, full cost pass through in the year 2021 would result in \$0.09 per therm in GHG costs and roughly \$50-\$60 in residential Climate Credits.⁹ For the average California household, this would result in net benefits of \$20-\$30/year.¹⁰ If only 50 percent of allowances are consigned, these costs and benefits would be reduced by 50 percent. Partial consignment reduces the effects of both GHG cost pass-through and return of allowance value, effectively providing a greater share of the benefit to the highest users of natural gas and a smaller share of the benefit to the most efficient users and resulting in lower climate credits for all. Full consignment would fully realize both of these effects for allowances allocated to natural gas suppliers, thereby furthering ratepayer benefits and GHG reductions in the natural gas sector.

Under the Cap-and-Trade Program, the costs of reducing emissions are shared across covered entities. Forgoing potential emissions reductions from the natural gas sector places the burden for these reductions on the remaining sectors covered by the Cap-and-Trade Program. So far, natural gas suppliers have been required to consign only a portion of their allocated allowances, which incentivizes fewer GHG emissions reductions from the sector than full GHG cost pass-through gained by full consignment and leaves other sectors to accomplish those reductions. Natural gas suppliers and transportation fuel suppliers also did not have a compliance obligation under the Regulation until 2015. As the Program becomes more stringent after 2020, staff believes it is important to achieve equitable GHG costs between natural gas suppliers, consumers, and other GHG-emitting sectors and entity types.

Under partial consignment, small and large natural gas users that are otherwise comparable face inequitable GHG costs. For example, consider a food processor that emits more than 25,000 metric tons of CO₂e per year. It is covered by the Program and is responsible for the GHG costs associated with all of the emissions from the natural gas it combusts. Another food processor, which emits less than 25,000 metric tons of CO₂e per year, faces a GHG cost as part of its natural gas purchases only insofar as those costs are passed through by the natural gas supplier. Per Decision D-15-10-032, natural gas suppliers will include the consigned portion of GHG costs into natural gas rates after CPUC concludes Proceeding R-14-03-003. As a result, the food processor not directly covered by the Program will pay for less than half of the GHG costs associated with its natural gas use. For 2016, the non-covered food processor would

Additional unit conversions of 1.028 MMBtu/mscf and 0.05302 MTCO₂e/MMBtu are standard defaults used for MRR, as shown in ARB 2012.

⁹ The Climate Credit would apply to customers of investor-owned natural gas suppliers only, and the amount would vary by utility. This analysis uses 2015 data for the number of households and amount of natural gas emissions. See PG&E 2015, SCG 2015, SDG&E 2015, and SWG 2015.

¹⁰ For California average household natural gas use, see EIA 2009.

pay 30 percent of the GHG costs (per unit of natural gas) paid by the covered food processor. This difference means the non-covered food processor would have a lower incentive to reduce its natural gas consumption, and would be at a competitive advantage relative to the covered entity food processor. In short, for natural gas consumers not directly covered by the Program, partial consignment means lower incentives to conserve energy.

Switching from equipment powered by fossil fuels to equipment powered by electricity can play a significant role in California's transition to a lower-emission economy. On average across the State, electricity has lower GHG emissions per unit of energy than natural gas. Therefore, switching from natural gas to electricity typically reduces GHG emissions. However, because partial consignment favors natural gas over electricity, there is the perverse result that the Program encourages an activity with higher GHG emissions at the expense of an activity with lower GHG emissions. This occurs because a user of natural gas—if they are not covered under the Program, including any residential or small commercial user—faces only the cost of the consigned percentage of their natural gas GHG emissions. In contrast, a consumer of electricity faces the full cost of that electricity's GHG emissions as part of their electricity rates.¹¹ For example, a clothes dryer, stove, or industrial boiler that runs on natural gas would incur only a percentage of the GHG costs that an equivalent electric dryer, stove, or boiler would incur when using the same amount of energy.¹² This difference rewards higher-GHG emitting energy and disincentivizes GHG-lowering investments, which is the opposite of the Program's intent.

Current Proposal

The Program is designed to reduce GHG emissions by placing a cap on economy-wide emissions. The limited ability to emit GHGs and the auction reserve price impose a cost on these emissions. If a consumer uses an energy source that emits greenhouse gases, the consumer should face a GHG cost that represents all of the associated emissions. This cost pass-through is necessary in order to incentivize GHG reductions, and full consignment to auction of allowances allocated to natural gas suppliers is important to achieve this effect. Partial consignment dampens this effect and thereby creates inequities among several categories of entities, and it lower benefits for efficient residential natural gas users.

The Initial Statement of Reasons for the current amendments¹³ indicated that staff was evaluating whether to close these gaps by accelerating the rate of increase for the natural gas supplier allowance consignment requirement, noting that 100 percent consignment and the non-volumetric return of allocated allowance value would provide a uniform GHG cost for all users of GHG-emitting energy sources. The current amendments propose a schedule for this acceleration. This schedule was selected

¹¹ This is true if the EDU providing the electricity is an investor-owned utility and the electricity consumer is not a small business.

¹² Ibid.

¹³ <https://www.arb.ca.gov/regact/2016/capandtrade16/isor.pdf>

from options presented at a March 29, 2016 workshop (see ARB 2016C or the ARB website¹⁴). The proposed schedule recognizes some of the priorities identified in comments for and against increasing minimum consignment requirements, particularly providing a transitional period and achieving the environmental benefits and higher climate credits associated with full consignment.

The proposed schedule adopts the first of the three workshop proposals, which combines stability during the third compliance period with the goal of full consignment as soon as possible. Under this approach, the consignment requirement increase under the current Regulation—a five percent annual increase which reaches 50 percent in 2020—would remain unchanged. Full consignment would be required beginning in 2021. This approach maintains the initial regulatory package’s emphasis on reaching full consignment, while postponing changes until after the third compliance period gives affected entities several years to prepare before this regulatory change takes effect.

Full consignment for natural gas suppliers is appropriate for the changing context after 2020. Significant emissions reductions are required in order to meet California’s 2030 emissions target, making it more important than ever to avoid favoring any GHG-producing activities and to fully incentivize all available reductions. The current regulatory proposal includes changes affecting the industrial sector and electrical distribution utility sector that are designed to achieve reductions while treating differing sectors equitably.

The current proposal also continues the use of allocations based on 2011 data and the cap decline factor. The use of a fixed data year provides an incentive for reductions by making allocations independent of consumption. The use of the same cap decline factor that is used for almost all other sectors contributes to equitable treatment of diverse sectors, encouraging each to contribute towards reducing GHG emissions.

The proposed regulatory amendments include cap adjustment factors for 2021 through 2031. These factors constitute a linear decline from the 2020 GHG emissions target to the 2030 GHG emissions target. These cap adjustment factors are proposed for calculating allocations to all entities eligible for allowance allocation, including electrical distribution utilities, industrial facilities, and natural gas suppliers, among other sectors. By reducing allocation in proportion to the annual allowance budget, each affected entity is encouraged to reduce its emissions in concert with statewide reduction goals. In this way, cap adjustment factors contribute to equitably distributing the responsibility for GHG reductions across sectors. To reduce the stringency of the cap adjustment factor for any given sector would be to require that other covered entities cover some of the costs of that sector’s share of emissions reductions.

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