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California Air Resources Board
1001 I St.
Sacramento, CA 95814

RE: 3Degrees Comments in Response to April 23, 2024 Workshop: Potential Amendments to the Cap-and-Trade Regulation

Dear Air Resources Board (ARB) and Staff,

Thank you for the opportunity to provide comments in response to the April 23, 2024 workshop regarding potential changes to the Cap-and-Trade program.

3Degrees Group Inc. (3Degrees) is a global climate and clean energy solutions provider. We deliver a full suite of clean energy and decarbonization solutions to help global Fortune 500 companies, utilities, and other organizations achieve their climate goals and address emissions in the fight against climate change. The 3Degrees team provides expertise on global environmental commodities, renewable energy and carbon project development, transportation decarbonization, as well as electric and gas utility voluntary programs. We are also a leading offset project developer, working with dozens of domestic livestock offset projects to issue credits into ARB's Cap-and-Trade program.

The following comments outline our recommendations for the Cap-and-Trade program with an emphasis on maintaining the operability, integrity, and effectiveness of the program.

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Slides 29-38 - Compliance offsets are a critical compliance mechanism and should have a definitive role in post-2030 program design.

3Degrees continues to strongly recommend that ARB continue to allow offsets to play a role in post-2030 compliance obligations. As stated in our October 2023 comments, offsets directly reflect a slew of environmental benefits and their sale provides a key market signal on the value of GHG reduction projects across many sectors. Offset revenue incentivizes the development of emissions reduction projects, especially where maintenance of such projects is otherwise cost-prohibitive for their owners. For covered entities, offsets have the potential to significantly reduce compliance costs for covered entities as the price of allowances increases. This cost savings will have an impact on California rate-payers.

Slide 40 - We recommend that ARB not implement the proposed addition of provisions that require that all members of the verification team must differ between the two verifications.

In line with comments submitted by the Verified Emission Reduction Association (VERA), we agree that requiring a completely new verification team when verification body rotations occur is infeasible. The impracticality of such a requirement is exacerbated by the fact that there are a limited number of accredited verifiers and limited opportunities for new verifiers to become certified.

We agree with VERA's suggestion that a more reasonable requirement would be that just the lead verifier must be different upon firm rotation. Though it would be beneficial to the sector regardless, should ARB proceed to implement a requirement for full turnover of verification teams, it is imperative that the agency increase certification opportunities.

Slide 34 - We urge ARB to pursue updating the Compliance Offset Protocol for Livestock Projects ("Livestock Offset Protocol") and ask that Staff consider our suggestions for technical improvements.

The Livestock Offset Protocol has not been updated in almost 10 years, so we feel that the upcoming rulemaking for this program presents the perfect opportunity to revisit this methodology. We have outlined some section-by-section recommendations in the attached *Appendix: Specific Recommendations for Livestock Protocol Updates by Section*.

3Degrees would also like to reinforce our comments that were provided in response to the Compliance Offsets Protocol Task Force Initial Draft Recommendations on October 7, 2020 regarding advanced solid separation and other forms of alternative manure management. We request that ARB consider expanding the scope of the Livestock Protocol to include methane avoidance projects characterized by the CDFA as "AMMP" or Alternative Manure Methane Program.

As previously stated in our July 14, 2021 comments in response to the ARB Research Division's "Draft Analysis of Progress toward Achieving the 2030 Dairy and Livestock Sector Methane Emission Target," AMMP projects carry significant potential to realize emission reductions with direct environmental benefits to the state. California must seize all opportunities for methane reduction, and the scale of the potential methane avoidance from AMMP projects could be vital to moving the state toward achieving its 2030 goals. Enabling AMMP projects to generate compliance offsets will help scale this sector quickly while enabling the viability of methane avoidance projects at many of the smaller dairies in the state. By making only some minor changes, this existing protocol could also be tailored to apply to a variety of AMMP practices, opening the door for more emission reductions projects at dairy farms that simply cannot finance the large capital expense required for installation of a digester.

3Degrees appreciates this opportunity to provide feedback and we look forward to continuing to work with ARB on the success of the Cap-and-Trade program. Please reach out with any questions or for further discussion.

Sincerely,

/s/ Helen Kemp

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Appendix: Specific Recommendations for Livestock Protocol Updates by Section

- **6.2(a)(2)**

  This section states, "all gas flow meters and continuous methane analyzers must be [...] field checked by a trained professional for calibration accuracy with the percent drift documented, using either a portable instrument (such as a pitot tube), a permanent fixture or manufacturer specifications, at the end of but no more than two months prior to the end date of the reporting period." We recommend this language be updated to account for temporary meters put in place while the primary meters are removed for their end-of-year field checks and/or factory calibrations, often resulting in a short 1-2 month use of the temporary meters . In these instances, the temporary meters are typically calibrated prior to their installation near the end of the reporting period and thus should not fall under the "all gas flow meters and continuous methane analyzers" requirement. Additionally, we recommend extending the overall field check requirement to two months prior to or after the end date of the reporting period.

- **6.2(a)(3)**

  Requiring manufacturer calibration service at least every 5 years is an arbitrary threshold and in some cases intentionally not recommended by the manufacturer. It is sufficient to follow the manufacturer guidance on calibration requirements. For example, some devices like flow meters built into the pipe and some continuous methane analyzers do not benefit by being removed from service and shipped across the country (or even internationally) for servicing because the manufacturer has engineered methods for the equipment user to perform these same steps on site. We recommend the ARB not override the manufacturer's recommended calibration routines and schedules with this backstop requirement.

- **6.2(d)**

  Portable instrument calibrations need not be calibrated "once during each reporting period" so long as the device was verified to maintain calibration accuracy (per manufacturer specification) during its use as project data.

- **Appendix A, Emission Factor Tables**

  Accuracy would be improved if the protocol allowed for more frequent updates to the emission factor tables as new data sources become available, rather than waiting for open rulemaking opportunities for methodology revision. New, scientifically approved versions of data sets used in the 2014 LOP have been released since the methodology was written; for example, the IPCC 2006 MCF by Manure Management System (Table A.5) was refined in 2019; the EPA Inventory of U.S. Greenhouse Sources and Sinks now includes data from 1990-2021; and the electricity and GWP emission factors have been revised as well.

- **Appendix A, Tables A.2**

  Accuracy would be improved if the protocol allowed for site-specific rations to calculate site-specific maximum methane generation potential (B_o) values. Table A.2 of the methodology is based on 2012 table data for maximum methane generation potential available in the EPA Climate Leaders GHG Inventory Protocol. While the methodology pulls the high roughage diet values for dairy cows, the data source gives the maximum methane generation rate based on high and low roughage. Dairies precisely track not only their herd counts but also their feed ratios. Using the same data source, we recommend CARB allow for site-specific B_o for facilities that can document their high and low roughage diet ratios, using the formula B_o = 0.24 x (ratio of high roughage) + 0.35 x (ratio of low roughage) from Table IIa. Animal Waste Characteristics of the EPA Climate Leaders GHG Inventory Protocol

- **Appendix A, Table A.6**

  For site-specific biogas destruction efficiency, Table A.6 does not include all common types of biogas destruction. We propose that the term "Boiler" be expanded to read "Boiler, dryer, or other devices that combust gas for the purpose of generating heat."

- **Appendix B, Data Substitution Table B.1**

  The required substitution methodology is too conservative when missing data for greater than one week, to the point of being punitive. When one parameter (i.e. biogas flow) is missing for greater than one week but the project developer can demonstrate venting was not occurring through evidence of the operational activity, projects should not be required to treat the gas as having been vented (i.e. take a zero BDE). This is not a venting event and should not be treated as such. We have observed that missing flow data for a few weeks can begin to have an outsized impact on the emission reduction calculations if treated as venting (if assigned zero BDE), when compared to simply zeroing-out the credit generation for that period.