March 7, 2026

Governor Kathy Hochul
Assembly Speaker Carl E. Heastie
Senate Majority Leader Andrea Stewart-Cousins
Senator Pete Harckham
Assemblymember Deborah Glick
Senator Kevin Parker
Assemblymember Didi Barrett

Dear Governor Hochul and Senate and Assembly leaders:

We write to you out of concern that actions may be taken to weaken the Climate Leadership and Community Protection Act (CLCPA) of 2019 based on misinformation. The truth is that the CLCPA's science-based greenhouse gas accounting methodology is not out of line with Intergovernmental Panel on Climate Change (IPCC) standards, is critical to leading the nation to more accurately account for the impacts of burning oil, gas and biofuels on our planet, and should eventually become the federal standard. This is not the time for New York to back down.

If we allow the budget process to relax greenhouse gas accounting for methane to a 100-year time frame, it immediately appears that methane is much less of a problem, and we can move more slowly on our path to a decarbonized economy. This is simply not true. The short-lived greenhouse gases, particularly methane, are the biggest and most important controls we have to turn down the rate at which our planet warms. This is because if we stop allowing them to be released into the atmosphere, then they will be removed by various processes in the next decades – not centuries, as is the case with carbon dioxide (CO_2) – and we will have rapidly slowed the rate of climate change.

A recent NYSERDA memo argues that the greenhouse gas accounting specified by the Act is incompatible with the approach sanctioned by the IPCC. This is highly misleading. Simply stated, there is no IPCC-approved approach for greenhouse gas accounting. At issue is how one compares the climate consequences of methane to those of carbon

dioxide. Both contribute greatly to global warming, but there are several differences between the gases. Methane is a far more powerful greenhouse gas for the time it remains in the atmosphere, but its consequences are largely limited to the first few decades after emission, while the effects of a release of carbon dioxide last for thousands of years. Commonly, methane emissions are converted to CO_2 equivalents based on a defined period of time after a release of methane and calculated according to a "global warming potential" (GWP).

Greenhouse gases contribute to climate change by trapping heat in the atmosphere. To understand their impact, we need to consider two aspects of greenhouse gases: their ability to trap heat and how long the gases remain in the atmosphere. The total heat trapped by a gas is the product of the heat it traps on a daily basis and the period it remains in the atmosphere. Let's consider methane, the primary component of natural gas, as an example of a shorter-lived gas relative to carbon dioxide. At the 100-year timescale, a pound of methane is 29.8 (GWP-100) times more potent than a pound of carbon dioxide, but at the 20-year time scale, that same pound of methane is 82.5 (GWP-20) times more potent than a pound of carbon dioxide at trapping heat. Since the early 1990s, the IPCC has given estimates on different time scales for looking at methane, including GWP-20, GWP-100, and GWP-500.

When governments negotiated the Kyoto Protocol in the early 1990s, they specified GWP-100 for methane. The choice of GWP-100 by the Kyoto negotiators was not based on any specific recommendation from the IPCC. At the time in the early 1990s, the role of methane was under-appreciated by both scientists and policymakers, and negotiators chose the middle value from the early IPCC reports (i.e., GWP-100), in part because at that time, catastrophic climate change was a relatively distant reality and most climate projections were looking out to the year 2100 – about 100 years in the future.

However, over the past 10 to 15 years, the science on methane as a driver of climate disruption has become much stronger, and in the IPCC's 5th Assessment Report, AR5 (2013) synthesis, the IPCC clearly stated that the use of a 100-year time period was "arbitrary." Since 2013, the IPCC has recommended selecting a time frame for methane appropriate to the concern. The latest IPCC AR6 (2022) has this to say: *"Following AR5, this Report does not recommend an emissions metric because the appropriateness of the choice depends on the purposes for which gases or forcing agents are being compared.*

Emissions metrics can facilitate the comparison of effects of emissions in support of policy goals."

In AR6, the IPCC also calls for extremely urgent action to reduce greenhouse gas emissions, and specifies that the next one to two decades are critical. On this time scale, GWP-100 does a terrible job of representing the climatic damage caused by methane. GWP-20, endorsed in the CLCPA for methane, is far preferable. For example, IPCC's AR6 synthesis report states: *"By comparison expressing methane emissions as CO_2 equivalent emissions using GWP-100 overstates the effect of constant methane emissions on global surface temperature by a factor of 3–4 (Lynch et al., 2020, their Figure 5), while understating the effect of any new methane emission source by a factor of 4–5 over the 20 years following the introduction of the new source (Lynch et al., 2020, their Figure 4)."*

Of note, the latest IPCC report states that methane has contributed 0.5 °C (0.9 °F) of all warming and carbon dioxide 0.75 °C (1.4 °F) of all warming since the 1800s. That is, methane's contribution to global warming is equal to 67% of that of carbon dioxide since the start of the Industrial Revolution. If we brought the human-caused methane emissions rate to zero today, in less than 20 years, we would have reduced global warming from methane and CO_2 emissions by 40% – it would take over 100 years to do the same with an equivalent decrease in CO_2 emissions. The use of GWP-100 hugely underestimates this impact and suggests far less urgency to reduce methane emissions. GWP-20 far more effectively represents the historical importance of methane to global warming documented in the IPCC AR6 synthesis. On the significance of methane emissions, AR6 states: *"Over time scales of 10 to 20 years, the global temperature response to a year's worth of current emissions of SLCFs [Short-Lived Climate Forcers] is at least as large as that due to a year's worth of CO_2 emissions (high confidence). Sectors producing the largest SLCF-induced warming are those dominated by methane emissions: fossil fuel production and distribution, agriculture and waste management (high confidence)."* The use of GWP-100 by federal agencies in greenhouse gas accounting is out of touch with current science, which is how the oil, gas and biofuel industries want things to stay. Hopefully, over time, federal policy will catch up with the CLCPA.

The NYSERDA memo also objects to CLCPA's inclusion of upstream methane emissions – the leaks that occur when oil and gas are drilled, processed, and transported to New

York from other states. NYSERDA calls this inconsistent with how the IPCC structures national inventories. But this conflates two different accounting purposes. Jurisdictional inventories track emissions *where they physically occur* – a framework designed for country-level reporting under the Paris Agreement. The CLCPA accounts for emissions attributable to New York's consumption – a consumption-based framework that asks a different question that is more relevant in the context at hand: what warming does New York's energy use actually cause? These upstream emissions are real. They would not occur if New York did not consume those fossil fuels. Excluding them doesn't make them disappear from the atmosphere; it simply removes New York's incentive to reduce them.

Finally, the NYSERDA memo cites the treatment of the "short carbon cycle" by scientists and the IPCC to object to CLCPA's attribution of bioenergy's combustion emissions to it. However, the IPCC does not disregard combustion emissions from bioenergy, either. IPCC reports all CO_2 emissions and removals associated with the harvesting, combustion and growth of biomass in the "Agriculture, Forestry, and Other Land Uses" sector. Therefore, CO_2 emissions from biomass combustion used for energy are only recorded as a memo item in the Energy sector. This approach of not including these emissions in the Energy Sector total is to avoid double counting and should not be interpreted as a conclusion about the sustainability or carbon neutrality of bioenergy. Thus, the IPCC Guidelines do not automatically consider or assume biomass used for energy to be "carbon neutral," even when the biomass is thought to be produced sustainably. The IPCC Task Force on National Greenhouse Gas Inventories clarifies this in their response to Q2-10 in their frequently asked questions (https://www.ipcc-nggip.iges.or.jp/faq/faq.html).

We ask that you actively resist efforts to weaken the CLCPA. Many of us would be pleased to talk with you further about the CLCPA's greenhouse gas accounting methodology. The views we express here are our best professional judgment and are based on a large body of peer-reviewed science. As a group, we represent some of the leading national and international thinkers in climate science and sustainability engineering.

The following individuals endorse and sign-on to this letter. Their Institutional affiliations are listed for identification purposes and should not be construed as endorsements by their institutions.

Robert Howarth
The David R. Atkinson Professor of Ecology & Environmental Biology
Cornell University, Ithaca, NY

Michael E. Mann
Presidential Distinguished Professor
Director of the Center for Science, Sustainability and the Media
University of Pennsylvania, Philadelphia, PA

Anthony Ingraffea
Emeritus Dwight D. Baum Professor of Civil & Environmental Engineering
Cornell University, Ithaca, NY

Edwin A. Cowen
Professor, School of Civil & Environmental Engineering
Cornell University, Ithaca, NY

Mark Z. Jacobson
Professor of Civil and Environmental Engineering
Senior Fellow at Precourt Institute for Energy, Stanford Woods Institute for the Environment
Stanford University, Stanford, CA

Charles Harvey
Professor of Environmental Engineering
Massachusetts Institute of Technology, Cambridge, MA

Colleen Cavanaugh
Edward C. Jeffrey Professor of Biology
Harvard University, Cambridge, MA

David T. Ho
Professor, Department of Oceanography
University of Hawai‘i at Mānoa, Honolulu, HI

Simon Levin
James S. McDonnell Distinguished University Professor
Director, Center for BioComplexity
Princeton University, Princeton, NJ

Kevin Anderson
Professor of Energy and Climate Change, Tydall Center for Climate Change Research
University of Manchester, UK

Dr. Stephan Singer
Senior Advisor, Global Energy Policy
Climate Action Network International, Brussels, Belgium

Benjamin Sovacool
Director, Institute for Global Sustainability and Professor, Earth & Environment
Boston University, Boston, MA
Professor of Energy Policy at the Science Policy Research Unit
University of Sussex Business School, UK

Radley Horton
Professor, Columbia Climate School
Columbia University, New York, NY

Stephen P. Ellner
Horace White Professor of Ecology and Evolutionary Biology Emeritus
Cornell University, Ithaca, NY

Charles T. Driscoll
University and Distinguished Professor, Department of Civil & Environmental Engineering
Syracuse University, Syracuse, NY

Dr. Jonathan Foley
Executive Director
Project Drawdown, St. Paul, MN

James N. Galloway
Sidman P. Poole Professor, Emeritus, Environmental Sciences
University of Virginia, Charlottesville, VA

Donald F. Boesch
Professor Emeritus, Center for Environmental Science
University of Maryland, College Park, MD

Sheila R. Foster
Professor of Climate, Columbia Climate School
Columbia University, New York, NY

Dr. R. Max Holmes
President & CEO
Woodwell Climate Research Center, Falmouth, MA

Pete Diamessis
Professor, School of Civil & Environmental Engineering
Cornell University, Ithaca, NY

Karsten Haustein
Senior Research Associate, Institute of Meteorology
Leipzig University, Germany

Damian Helbling
Professor, School of Civil & Environmental Engineering
Cornell University, Ithaca, NY

Donald Scavia
Professor Emeritus, Ecosystem Science & Management and Geospatial Data Sciences
University of Michigan, Ann Arbor, MI

Gene E. Likens
Founding Director and President Emeritus, Distinguished Senior Scientist Emeritus
Cary Institute of Ecosystem Studies, Millbrook, NY

Amy Townsend-Small
UNESCO Chair in Water and Climate Change
Professor, School of Environment and Sustainability
University of Cincinnati, Cincinnati, OH

Juliette Rooney-Varga
Professor and Director, Climate Change Initiative
Co-Director, Rist Institute for Sustainability and Energy
University of Massachusetts Lowell, Lowell, MA

Nathan G. Phillips
Professor, Department of Earth and Environment
Boston University, Boston, MA

J. David Hughes
President, Global Sustainability Research, Inc.
Whaletown, British Columbia, Canada

Christopher Wright
Professor of Organisational Studies and Deputy Head, the University of Sydney Business School
Former Executive Member and Director, Sydney Environment Institute
University of Sydney, Sydney, Australia

Kevin J. Kircher
Assistant Professor, School of Mechanical Engineering
Purdue University, West Lafayette, IA

Elizabeth Boyer
Professor, Department of Ecosystem Science and Management
Penn State Institute of Energy and the Environment
Penn State University, University Park, PA

Qi Li
Associate Professor, Department of Atmospheric and Oceanic Sciences, School of Physics
Peking University, Beijing, China

William H. Schlesinger
President Emeritus of the Cary Institute of Ecosystem Studies, Millbrook, NY
Professor Emeritus of Biogeochemistry, Former Dean of the Nicholas School of the Environment
Duke University, Durham, NC

Stan Ridley
President, West 2012 Energy Management Inc.
Member, United Nations ECE Group of Experts on Gas
Member, UN Group of Experts on Coal Mine Methane & Just Transition
Vancouver, British Columbia, Canada

Dr. Mary S. Booth
Founder and Director
Partnership for Policy Integrity, Pelham, MA

Eric Davidson
Professor Emeritus, Center for Environmental Science
University of Maryland, College Park, MD

Vasilii Petrenko
Professor, Department of Earth and Environmental Sciences
University of Rochester, Rochester, NY

John F. Stolz
AAAS Fellow and Professor, Department of Biological Sciences and Department of Civil and Environmental Engineering and Science
Duquesne University, Pittsburgh, PA

Karin E. Limburg
SUNY Distinguished Professor
SUNY College of Environmental Science and Forestry, Syracuse, NY

Kate Lajtha
Professor, Agriculture & Life Sciences
Oregon State University, Corvallis, OR

Eban Goodstein
Director, Graduate Programs in Sustainability
Director, Center for Environmental Policy
Bard College, Annandale-on-Hudson, NY

Dr. David Mildrexler
US Director of Science and Policy
Partnership for Policy Integrity, Pelham, MA

Michael Loranty
Professor of Geography and Environmental Studies
Environmental Studies Program Director
Colgate University, Hamilton, NY

Roxanne Marino
Research Professor, Department of Ecology & Evolutionary Biology
Cornell University, Ithaca, NY

Andrei Lapenas
Professor, Director, Biodiversity, Conservation, and Policy Program
Science Director, Institute for Transformational and Ecosystem-based Climate Adaptation
Department of Geography
University at Albany, Albany, NY

Jenifer Wightman
School of Integrative Plant Science, Soil and Crop Sciences
Cornell University, Ithaca, NY

George R. Robinson
Emeritus Professor of Biological Sciences
University at Albany, SUNY, Albany, NY

John M. Duxbury
Professor Emeritus of Soil Science and International Agriculture
Cornell University, Ithaca, NY

Prakash Kashwan
Associate Professor of Environmental Studies
Brandeis University, Waltham, MA

Michale Glennon
Director of Research
Adirondack Watershed Institute, Paul Smith's College, Paul Smiths, NY

Anne Giblin
Senior Scientist and Director, The Ecosystems Center
University of Chicago Marine Biological Laboratory, Woods Hole, MA

Douglas H. Kelley
Professor and Associate Chair of Mechanical Engineering
University of Rochester, Rochester, NY

Peter B. Woodbury
Senior Research Associate, School of Integrative Plant Science, Soil and Crop Sciences Section
Cornell University, Ithaca, NY

Sara Tjossem
Senior Lecturer, School of International and Public Affairs
Columbia University, New York, NY

Vincent DeTuri
Associate Dean, School of Arts and Sciences
SUNY Cortland, Cortland, NY

Marianne Krasny
Professor, Natural Resources and the Environment
Cornell University, Ithaca, NY

Caroline Levine
David and Kathleen Ryan Professor of the Humanities
Cornell University, Ithaca, NY

Christine Costello
Assistant Professor of Agricultural and Biological Engineering
Research Associate in the Rock Ethics Institute
Penn State University, University Park, PA

Jerry Acton
Complex Systems Architect
Clean Energy Transformation, Berkshire, NY

Xiangtao Xu
Associate Professor, Ecology and Evolutionary Biology
Cornell University, Ithaca, NY

Jennifer Phillips
Assistant Professor, Bard Center for Environmental Policy
Bard College, Annandale-on-Hudson, NY

Deborah Sills
Associate Professor of Civil & Environmental Engineering
Bucknell University, Lewisburg, PA

Meredith Holgerson
Associate Professor, Ecology and Evolutionary Biology
Cornell University, Ithaca, NY

Sandra Steingraber
Senior Scientist
Science and Environmental Health Network, Ithaca, NY

Dr. Jason King
Principal Scientist
Procter & Gamble, Cincinnati, OH

Dr. Donald J. Hughes
Adjunct Professor, Department of Chemistry
Le Moyne College, Syracuse, NY