A New Harvard Initiative: Reducing Global Methane Emissions

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Reducing Global Methane Emissions: Imperatives, Opportunities, & Challenges

Salata Institute for Climate and Sustainability at Harvard University – Harvard Project on Climate Agreements – Foundation Environment Law Society

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Why a New Initiative on Reducing Global Methane Emissions?

- **Methane has *very high global warming potential* but *short atmospheric lifetime*, compared with CO_2**
  - So, although absolute quantities of human-caused methane emissions are *much less* than those of CO_2, …
  - … methane-emissions abatement can significantly reduce GHG concentrations, temperature, and damages, …
  - … particularly in the *short term*!

- **This can give the world time to:**
  - *"bend the curve"* on CO_2 emissions
  - conduct *research* on carbon mitigation and removal
  - *implement* longer-term strategies to mitigate and adapt to climate change
- **A broad-based *multidisciplinary* approach can foster new knowledge and meaningful action**
  - With the recent creation of the university-wide Salata Institute for Climate and Sustainability at Harvard, …
  - … this has been an *opportune time* to launch a *Harvard-wide methane research and engagement initiative*

Harvard Initiative on Reducing Global Methane Emissions

- **Goal: Achieve *meaningful and sustained* progress in methane emissions reductions …**
  - … through *research and effective engagement* with key stakeholders
  - In particular, deliver information to facilitate *design and implementation* of new and existing methane-emission-reduction *policies and programs*

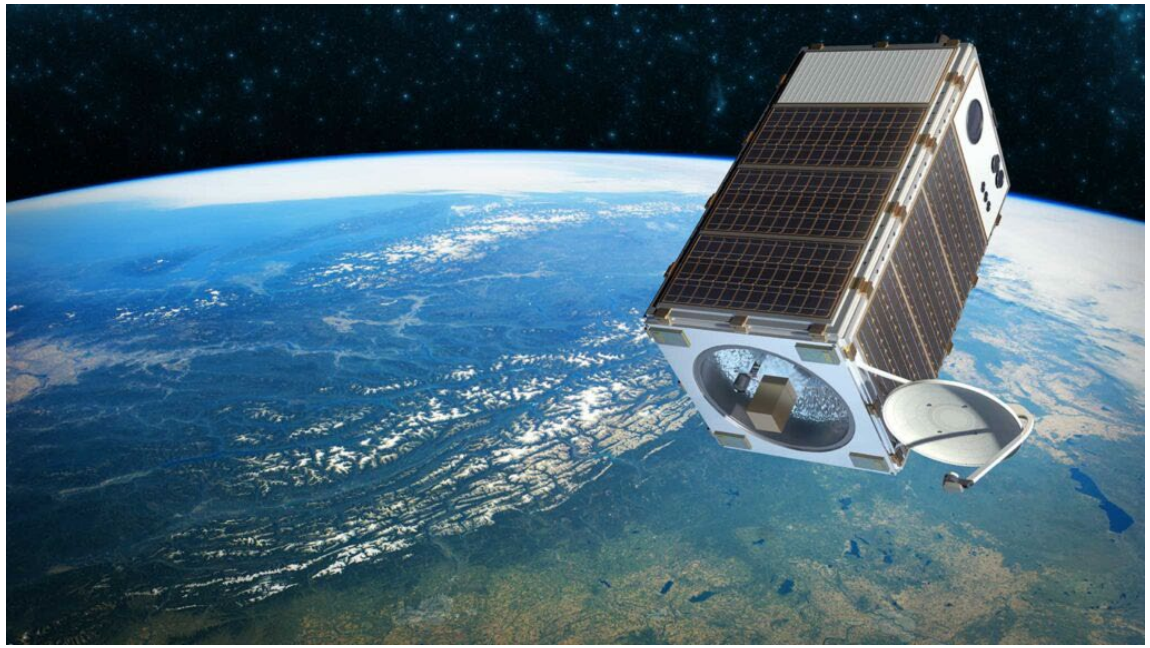
- **Initiative conducts research, policy outreach, and public engagement along *eight tracks*:**
  - Building on *satellite-based* measurement and attribution of emissions
  - Identifying *technologies* that can best reduce emissions
  - Carrying out *economic and decision science* research to design policies
  - Identifying *legal and regulatory opportunities* for and constraints to methane emissions reduction
  - Defining and addressing *key political issues* constraining attempts to reduce methane emissions
  - Defining roles that *business* can play in reducing methane emissions
  - Identifying key *international and multilateral opportunities* for and constraints to reducing methane emissions
  - Undertaking a *historical examination* of economic activities that result in methane emissions.

Harvard Initiative on Reducing Global Methane Emissions (continued)

- **In addition to carrying out research, our team seeks to *translate* science into *action***
  - Engaging in *two-way communication* with government, business, NGOs, and international organizations
  - This includes governments and stakeholders at the international, regional, national, and sub-national levels
- **Faculty are also working on translating their research into *useful* materials**
  - Written briefs and videos
  - Targeted work with *business leaders* to inform emissions reduction practices in key sectors
- **Brings together *seventeen* different research groups from across Harvard University**
  - *Four departments* in Faculty of Arts & Sciences: Earth & Planetary Science, Economics, Government, and History
  - *Five professional schools*: Business, Engineering, Government, Law, and Public Health
  - *Disciplines*: physics, chemistry, engineering, economics, political science, law, business, and history
  - By collaborating across research teams, *the whole can be greater than sum of its parts*: frequent interaction among researchers; building on synergies; advancing cross-disciplinary understanding; catalyzing action.

Eight Research Projects in First Year (of 3-year Initiative) – *Example: Satellite Observations of Atmospheric Methane for U.S. Reporting Needs*

- **Goal:**
  - Increase *value of satellite observations* of atmospheric methane for reporting & regulation of methane emissions in the United States
- **Specifically:**
  - Develop a *near-real-time satellite-based monitoring system* for verification of emission reductions and quantification of methane intensities
  - Improve *reporting* of methane emissions from landfills under U.S. EPA's Greenhouse Gas Reporting Program
- **Leaders:**
  - *Daniel Jacob* – Vasco McCoy Family Professor of Atmospheric Chemistry and Environmental Engineering, Harvard John A. Paulson School of Engineering and Applied Science, and Department of Earth and Planetary Sciences
  - *Carrie Jenks* – Executive Director, Environmental and Energy Law Program, Harvard Law School



For More Information

Harvard Project on Climate Agreements
www.belfercenter.org/climate

Harvard Environmental Economics Program
www.hks.harvard.edu/m-rcbg/heep

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