Teaming up with the Enemy
Firms and Information Environment of Climate Regime

Dahyun Choi

Department of Politics
Princeton University

International Political Economy Society
October 29, 2022
Sierra Club's Pro-Gas Dilemma
National Group's Stance Angers On-the-Ground Environmentalists in Several States

By Ben Casselman

How the oil industry has spent billions to control the climate change conversation

Answering for Taking a Driller’s Cash

Green NGOs cannot take big business cash and save planet
Why do carbon-intensive firms partner with pro-climate groups?

Some people might think.....

- Green-washing images (Vos 2009; Zingales 1998)
  - Firms such as Exxon Mobil are notoriously known for being a polluter.
  - Citizens tend to be unfamiliar with coalitions/interest groups (Druckman and Lupia 2016).
Why do carbon-intensive firms partner with pro-climate groups?

Some people might think.....

- Green-washing images (Vos 2009; Zingales 1998)
  - Firms such as Exxon Mobil are notoriously known for being a polluter.
  - Citizens tend to be unfamiliar with coalitions/interest groups (Druckman and Lupia 2016).

- Market Competition (Kennard 2020)
  - Why do individual firms join pro-climate groups or form coalitions?
Theory: Communicating via climate groups as effective corporate strategy

1. Motivation: Taking the issue attention away from the most aggressive emission standards (H1)
2. Mechanism: Achieving higher quality of information (H2)
3. Outcome: Exerting influence on policy amendments (H3)
Contribution

- **Theory: Communicating via climate groups as effective corporate strategy**
  1. Motivation: Taking the issue attention away from the most aggressive emission standards (H1)
  2. Mechanism: Achieving higher quality of information (H2)
  3. Outcome: Exerting influence on policy amendments (H3)

- **Data**
  1. A new measure of issue slant towards R&D and technology using machine learning
  2. Quantifying political influence of policy comments on final amendments based on information theory

- **Empirical Findings**
  1. Joint comments are more likely to be slanted to R&D and technology, as opposed to emission.
  2. Joint comments have the closest statistical proximity to final amendments.
Contribution

- **Theory: Communicating via climate groups as effective corporate strategy**
  1. Motivation: Taking the issue attention away from the most aggressive emission standards (H1)
  2. Mechanism: Achieving higher quality of information (H2)
  3. Outcome: Exerting influence on policy amendments (H3)

- **Data**
  1. A new measure of issue slant towards R&D and technology using machine learning
  2. Quantifying political influence of policy comments on final amendments based on information theory
Contribution

- **Theory: Communicating via climate groups as effective corporate strategy**
  1. Motivation: Taking the issue attention away from the most aggressive emission standards (H1)
  2. Mechanism: Achieving higher quality of information (H2)
  3. Outcome: Exerting influence on policy amendments (H3)

- **Data**
  1. A new measure of issue slant towards R&D and technology using machine learning
  2. Quantifying political influence of policy comments on final amendments based on information theory

- **Empirical Findings**
  1. Joint comments are more likely to be slanted to R&D and technology, as opposed to emission.
  2. Joint comments have the closest statistical proximity to final amendments.
Evidence from **rulemaking process**

- Under APA, the Federal Register publishes the proposed rule, and the agency requests comments from the public and other interested parties.
- A unique dataset of comments officially submitted on *Emission Standards for Hazardous Air Pollutants* from 2010 to 2020.
Evidence from rulemaking process

- Under APA, the Federal Register publishes the proposed rule, and the agency requests comments from the public and other interested parties.
- A unique dataset of comments officially submitted on *Emission Standards for Hazardous Air Pollutants* from 2010 to 2020
- Commenter types
  - Joint coalition of environmentalist and business interests
    1. Environmental NGOs that list firms or business associations as partners
    2. Environmental NGOs that received corporate money
    3. Environmental NGOs that seek for business partnership
  - Environmental NGOs
  - Business associations (e.g., trade associations, US Chamber of commerce)
  - Single firm
  - Others (e.g., universities, labor union, government agency)
Examples of joint effort of firms and environment groups

<table>
<thead>
<tr>
<th>Commenter</th>
<th>Descriptions</th>
<th>Affiliated Business Interests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Energy Alliance</td>
<td>Consumer advocacy group</td>
<td>Exxon Mobil, Chevron Corp, ConocoPhillips, BP</td>
</tr>
<tr>
<td>Climate Leadership Council</td>
<td>Nonprofit organization that advocates for a carbon fee</td>
<td>Exxon Mobil, General Motors, ConocoPhillips, Exelon</td>
</tr>
<tr>
<td>Environmental Defense Fund</td>
<td>Nonprofit environmental group</td>
<td>Walmart, Lyft, FedEx</td>
</tr>
<tr>
<td>Sierra Club</td>
<td>Nonprofit environmental group</td>
<td>Chesapeake Energy</td>
</tr>
</tbody>
</table>
Hypotheses

1. H1 (Motivation): Joint comments are more likely to discuss R&D and technology compared to comments submitted by pro-climate groups without a corporation affiliation.

2. H2 (Mechanism): Joint comments achieve a higher quality of information than that of other groups of comments.

3. H3 (Outcome): Joint comments are more likely to influence policy amendments than that of other groups.
A measure of issue slant using word embedding method

- A text embedding method results in a set of vectors where proximity in vector spaces implies similar meaning context-wise.
- The vector difference can be substantively interpreted as a degree to which a comment is leaning toward the issue of R&D, compared to emission cuts.

\[
\overrightarrow{R\&D} - \overrightarrow{Emission} = \sum_{n} \frac{\overrightarrow{R\&D_n}}{|N_{R\&D}|} - \sum_{n} \frac{\overrightarrow{Emission_n}}{|N_{Emission}|}
\]
Figure 1: Schematic illustration of vector projection
## OLS estimating issue slant towards R&D and technology

<table>
<thead>
<tr>
<th>Sample</th>
<th>Environmentalist</th>
<th>Company/Organization Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
</tr>
<tr>
<td><strong>Business Influence</strong></td>
<td><strong>0.027</strong></td>
<td><strong>0.028</strong></td>
</tr>
<tr>
<td></td>
<td>(0.013)</td>
<td>(0.012)</td>
</tr>
<tr>
<td><strong>Environmentalist</strong></td>
<td>−0.008</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.015)</td>
<td></td>
</tr>
<tr>
<td><strong>Business Influence × Environmentalist</strong></td>
<td><strong>0.037</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(0.019)</td>
<td></td>
</tr>
<tr>
<td><strong>Year FE</strong></td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>232</td>
<td>903</td>
</tr>
</tbody>
</table>

*p < .1; **p < .05; ***p < .01
Hypotheses

1. **H1 (Motivation):** Joint comments are more likely to discuss R&D and technology compared to comments submitted by pro-climate groups without a corporation affiliation.

2. **H2 (Mechanism):** Joint comments by business interests and environmentalists contain more informational values than that of other groups.

3. **H3 (Outcome):** Joint comment are more likely to influence policy amendments than other types of comments.
B. Proposed Method for Delineating End of Initial Flowback Period

".........Environmental Commenters support EPA’s proposal to require monitoring of methane concentrations during the initial flowback period, and to require emission controls once methane concentrations approach the lower explosive limit (LEL). We note that recent studies demonstrate that the LEL is a conservative indicator of the feasibility of separating and controlling emissions during a completion. Therefore, we respectfully request that EPA explicitly defines the precise methane concentrations that.............."

Comments by Environmental Defense Fund and Sierra Club

Commenters responded that the EPA apparently had misunderstood earlier discussions regarding use of the LEL detector. They asserted that the detector is used for safety reasons and that although the LEL detector indicates that there may be potential flammability, it does not necessarily indicate that sufficient gas is present for the separator to function. Commenters also asserted that monitoring the gas concentration does not reflect other conditions such as sand and water content and well characteristics that have a bearing on the point where the separator will operate. We also learned that some operators begin to direct the flowback to the separator immediately upon initial flowback, even though it may not maintain a gaseous phase and one or more liquid phases in the separator.

Summary of Significant Changes and Comments by EPA
B. Proposed Method for Delineating End of Initial Flowback Period

"......Environmental Commenters support EPA’s proposal to require monitoring of methane concentrations during the initial flowback period, and to require emission controls once methane concentrations approach the lower explosive limit (LEL). We note that recent studies demonstrate that the LEL is a conservative indicator of the feasibility of separating and controlling emissions during a completion. Therefore, we respectfully request that EPA explicitly defines the precise methane concentrations that............."

Comments by Environmental Defense Fund and Sierra Club

Commenters responded that the EPA apparently had misunderstood earlier discussions regarding use of the LEL detector. They asserted that the detector is used for safety reasons and that although the LEL detector indicates that there may be potential flammability, it does not necessarily indicate that sufficient gas is present for the separator to function. Commenters also asserted that monitoring the gas concentration does not reflect other conditions such as sand and water content and well characteristics that have a bearing on the point where the separator will operate. We also learned that some operators begin to direct the flowback to the separator immediately upon initial flowback, even though it may not maintain a gaseous phase and one or more liquid phases in the separator.

Summary of Significant Changes and Comments by EPA
Statistical distance between policy comments and amendments

**JS divergence score (statistical distance)**

<table>
<thead>
<tr>
<th>Proposed policy</th>
<th>Finalized amendments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business association</td>
<td>Joint coalition</td>
</tr>
<tr>
<td>Joint coalition</td>
<td></td>
</tr>
<tr>
<td>Single firm</td>
<td>Business association</td>
</tr>
<tr>
<td>Environmental groups</td>
<td>Single firm</td>
</tr>
<tr>
<td></td>
<td>Environmental groups</td>
</tr>
</tbody>
</table>

Magnitude: 13 / 15
Wrap Up

- Previous work
  - Green-washing
  - Market competition

- My argument
  - Firms take the issue attention away from emission standards by partnering with environmental groups.
  - Forming a joint coalition with environmental groups has political influence on regulatory outcomes.

- Future tasks
  - Generalizability beyond climate politics?
  - Qualitative analysis on joint effort of firms and environmental groups
If you have any questions or comments: dahyunc@princeton.edu

Thank you!