From the Director

It has already been an exciting start to the New Year with several key partnerships coming together, a flurry of events, and cutting-edge research. We are actively developing our ten key initiatives ranging from the Future of Oil and Gas, to the Mineral Foundation of the Energy Transition. We welcome your ongoing engagement in any of these areas, which have already been providing world-class insights for decisionmakers globally.

If you missed an event, most are being recorded, and we are starting to produce an Energy Future podcast series!

At any time, you can view the latest news and information at the Payne Institute website https://payneinstitute.mines.edu/. Also, please feel free to contact us for media queries, speaking engagements, or expert views.

Morgan Bazilian
Director, Payne Institute and Professor of Public Policy

New Partnership - Crestone Peak Resources - The Canary Project

The Payne Institute announces a partnership with Crestone Peak Resources for real-time well site air quality monitoring. The Canary Project is a large-scale test of real-time continuous air quality monitoring at Crestone Peak Resources oil
New Partnership - COMET

COMET (the Coalition on Materials Emissions Transparency) is an alliance between Payne Institute for Public Policy, MIT’s Sustainable Supply Chains initiative, the Columbia Center for Sustainable Investment, and the Rocky Mountain Institute. The goal is to create a universal greenhouse gas (GHG) calculation framework for mineral and industrial supply chains.  

Podcast - Energy Future

The Payne Institute is proud to announce our first foray into podcasts: The Payne Institute - Energy Future podcast will feature interviews and other useful
Research - The geopolitics of Renewables: New Board, New Game

This policy perspective sums up the main input of four members of the Research Panel for IRENA's Global Commission on the Geopolitics of the Energy Transformation. The geographic and technical characteristics of renewable energy systems are fundamentally different from those of coal, oil, and natural gas. This has implications for interstate energy relations and will require early attention if states are to exploit opportunities and address challenges. We point to six clusters of renewables' geopolitical implications that will manifest themselves over different time horizons. Overall, a generally positive disruption is foreseen, but also one that raises new energy security challenges. [Link to complete article.]

Research - Partisanship and Proximity Predict Opposition to Fracking in Colorado

Oil and gas development has grown rapidly in recent years in the United States, generating substantial debate over its risks and benefits. A large body of research has surveyed individuals living in and around producing regions to
drawing from precinct-level results of a 2018 election in Colorado that included a vote on Proposition 112, which would have set very large setback requirements on new oil and gas activity. Link to complete article.

Faculty Fellow in Action

The Payne Institute Faculty Fellow Jessica Smith has several papers that address the key issue of social license to operate in the oil and gas sector. One titled Fracking Controversies: Enhancing Public Trust in Local Government through Energy Justice on Memorandums of Understanding (MOUs) that are a policy tool for local governments to gain more control over unconventional oil and gas development. The second one, Key Characteristics Influencing Risk Perceptions of Unconventional Energy Development assesses the sustainability of energy systems that must include attention to the local social and environmental impacts of such energy production, though these do not always easily align with more regional and global concerns.

Link to the complete articles-
Key characteristics influencing risk perceptions of unconventional energy development
Fracking Controversies: Enhancing Public Trust in Local Government through Energy Justice
Fellow in Action

Payne Institute Fellow Carolyn Kissane writes a timely piece titled Coronavirus and the Unexpected Risk to Oil Demand. The geopolitical security premium is waning under the increasing uncertainty of what's happening in China. [Link to complete article.](#)

![Image of oil wells](image)

Payne Student in Action

Trashy Data, and Examination of Organic Compost Diverted from Municipal Solid Waste Streams

Payne Institute student John Massale comments about the recycling policy regarding Municipal Solid Waste (MSW) varies by region, county, and city. This research examined the type of policy that leads to the largest diversion of compostable materials from landfills. The data was gathered by performing small case studies of a handful of US cities that have established voluntary, mandatory, or incentivized composting programs. [Link to complete article.](#)

![Bar chart of Single-Family Yearly Landfill Diversion](chart)

<table>
<thead>
<tr>
<th>City</th>
<th>Compost Diversion</th>
<th>Total Diversion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seattle</td>
<td>33</td>
<td>64</td>
</tr>
<tr>
<td>Denver</td>
<td>9</td>
<td>22</td>
</tr>
<tr>
<td>Minneapolis</td>
<td>15</td>
<td>37</td>
</tr>
<tr>
<td>Austin</td>
<td>21</td>
<td>43</td>
</tr>
</tbody>
</table>
Post-Doctoral Researcher sought for full-time position at the Payne Institute for Public Policy at the Colorado School of Mines. The research will focus on multi-dimensional aspects of the increasing demand for minerals and metals due to the global transition to more renewable energy. How this changing demand affects markets, trade, security, geopolitics, prices, and technology development are key questions that will be the focus of further research. [Link for complete job listing.]

Earth Observation Group

[Payne Institute Earth Observation Group] is now offering a subscription service for their VIIRS Boat Detection (VBD) Product. Subscription services give near-real time access that can be for global data or for a smaller area of interest. Alert services can be added to a subscription. Planned efforts include:

- Adapt VBD algorithm to handle the different scan geometry for the second VIIRS instrument on NOAA-20. Current algorithm is only run on SNPP VIIRS.
- Reduce false positives and false negatives associated with the South Atlantic Anomaly, lunar glint zones, and glow from lights under thin clouds. the supply and reliability of electric power worldwide.
- Add a cloud mask and a cloud optical thickness layer to the nightly product suite.

[Link to complete product.]
Upcoming Payne Institute Events

- Morgan Bazilian will present on the Energy Transition during the UT Energy Week 2020, in Austin, TX. February 17-21, 2020.
- Payne Institute Earth Observation Group's Chris Elvidge will present Satellite Data at Mines in Green Center – Metals Hall at the CO School of Mines. March 10, 2020.
- Morgan Bazilian will present on The Changing Geopolitical Landscape for Minerals and Metals in the Energy Transition and the EV Battery Supply Chain: Scale, geography and recycling at CERAWEK in Houston, TX. March 9-13, 2020.
For media or interview inquiries for any of the Payne Institute leadership, please contact Greg Clough at (303)384-2218 or gclough@mines.edu.