

Research Brief

# California’s methane super-emitters

Four companies with 26.8% of all methane from California facilities **had a warming effect equal to 725,000+ cars on the road each year**

Jan. 15, 2020

**Methane is a greenhouse gas more potent than CO<sub>2</sub> over the 20 and 100-year periods**

While CO<sub>2</sub> emissions are a main focus for policymakers, less prolific but more powerful greenhouse gas methane is an important lever for avoiding a hotter, inhospitable planet for humans and companies alike. That’s because methane is 84x better at trapping heat over a 20-year timeframe<sup>1</sup>, per the Environmental Defense Fund. More details on page 4.

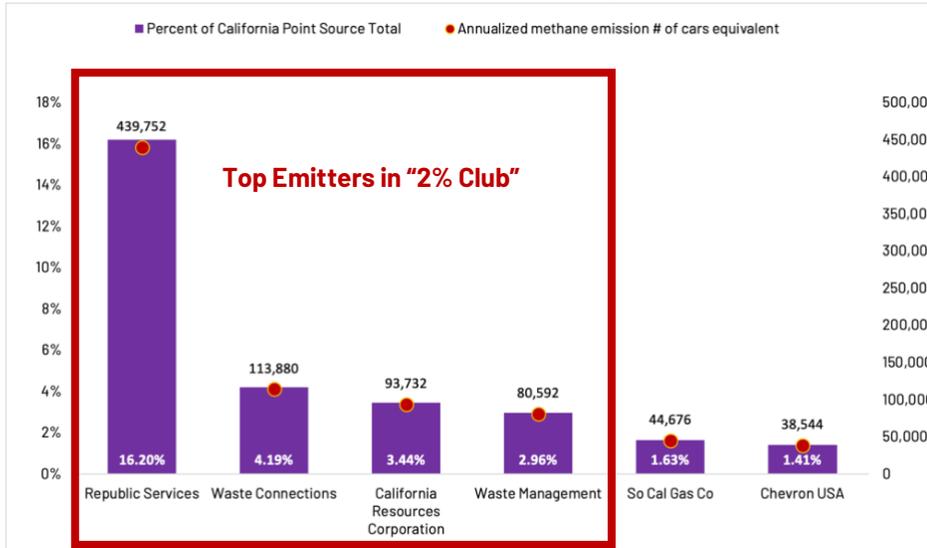
**NASA study finds that within “usual suspect” industries – Waste Management, Dairy, and Oil & Gas – a subset of sites are super-emitters, leaking unusual rates of methane**

In November 2019, scientists from NASA’s Jet Propulsion Laboratory (JPL) released a major study in the journal *Nature*. From 2016-2018, with support from the California Air Resources Board, they flew over 272,000 pieces of infrastructure in California and surveyed methane emissions. Across every sector NASA found that the worst performers emitted the majority of methane for the whole sector: “10 percent of point sources contributing roughly 60 percent of point-source emissions.”<sup>2</sup> Point sources are individual discrete sites, not large areas.

**NASA data allows individual companies’ methane footprints to be analyzed: Series of Research Briefs will examine risks and opportunities for these firms**

Methane from point sources can be easier to mitigate than CO<sub>2</sub>, which is hard to cut from industries covered in prior briefs, like [steel](#) or [air travel](#). Methane from single sites can be reduced with existing technologies. Some companies did just that in response to NASA sharing its data (more on that on page 2). Truvalue Labs ESG behavioral data, paired with NASA’s study, can help reveal risk and opportunity for California’s top methane emitters.

**These 4 companies each represented >2% of all methane from individual sites in California: Republic Services, Waste Connections, CRC, Waste Management**



Source: Data analysis based on “California’s Methane Super-emitters,” *Nature*. Nov. 2019. [Supplementary Tables 4 & 5](#)

<sup>1</sup> “The climate impacts of methane emissions,” [Environmental Defense Fund report](#). April 2012.  
<sup>2</sup> “California’s Methane super-emitters,” [Nature](#). Nov. 6, 2019.

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*Research Briefs highlight material events that move Truvalue Labs scores and may shape future company valuation.*

# Evidence

## 725,000+ more cars: Why methane “super-emitters” matter



Image credit: Oran Viriyincy/Flickr (CC BY 2.0)

NASA, with funding from the [California Air Resources Board](#), flew over California in 2016, 2017, and 2018, and found that 0.2% of all infrastructure – 564 individual sites – stood out as strong methane emitters (not to be confused with the 2% Club on page 1). California is a significant example for the rest of the country because of its diversified and massive economy (ranked as the world’s 5<sup>th</sup> largest national economy).

Of that 0.2% of infrastructure, an even smaller group of sites emitted far more than peers, for every type of site. Just three refineries ranked in the the Top 100 methane sources, out of more than a dozen in the state. Of 30 landfills on the NASA list, a Truvalue Labs analysis shows that the top five represented 47%, nearly half, of all landfill methane emissions.

Further analysis by Truvalue Labs finds that the four individual companies in NASA’s data appear to be responsible for more than a quarter of all the site-based emissions the space agency found while flying over the state of California.

Put together, those four companies – *Republic Services, Waste Connections, California Resources Corporation, and Waste Management* – released enough methane from 29 sites to equal the warming effect of more than 725,000 internal combustion engine (ICE) passenger vehicles added to the road.<sup>3</sup>

As it flew, NASA reached out to emitters, and in some cases they responded, study author Riley Duren told Truvalue Labs. For instance, he said that Republic Services made changes at its Sunshine Canyon Landfill in Los Angeles County.

“You can see both the methane point sources in the landfill reducing over time, over a three-year period, and you can see the bigger impact on the San Fernando Valley, because it’s the biggest emitter in the San Fernando Valley,” Duren said. “You can see the regional emissions coming down as they fixed things.”

Beyond Republic, Duren said his team reached out to SoCalGas and PG&E, who made repairs, and oil and gas exploration and production firms like Chevron and California Resources Corporation, with whom they had less of a continued dialogue.

“California Resources Corporation, they operate Elk Hills and some of the other big oil production facilities in the southern San Joaquin Valley,” Duren said. “We did share the data and I know that in some cases they went out and sent people in the field. We didn’t have as much interaction on if they used our data to fix things.”

All companies identified in these briefs as sources of methane emissions in NASA data were given the opportunity to confirm, deny, and comment on broader methane matters (see

Put together, four companies –

**Republic Services, Waste Connections, California Resources Corporation, and Waste Management**

– had enough methane releases from 29 sites to equal the warming effect of more than 725,000 internal combustion engine (ICE) passenger vehicles added to the road.

<sup>3</sup> That calculation comes from the US EPA’s [Greenhouse Gas Equivalencies Calculator](#), which uses a conservative conversion from CO<sub>2</sub> to Methane – 25x – based on the [IPCC’s 4<sup>th</sup> report](#) – rather than the newer and [widely-accepted 28x-36x 100-year warming equivalent impact](#), or the 84x 20-year warming equivalent impact.

Appendix 3: Company Requests for Comment).

It is easy to blame top emitters. But as the NASA study authors point out: “Many of these methane super-emitters appear to be highly intermittent and due to random malfunctions or leaks spanning the energy, waste and agriculture sectors.” With that said, the authors [write](#) the top emitting landfills “exhibit persistent anomalous activity.”

In other words, the implications of the study are not that these companies are set in stone as the worst methane polluters. It means they have recently been the biggest sources, during the study period, but that going forward, methane is a key issue for the whole industry, and competitors who may take a turn of their own as top emitters. Many companies in the industry may need to reduce their emissions to protect their standing with regulators and the public (see Social License to Operate section on page 6).

“Many of these methane super-emitters appear to be highly intermittent and due to random malfunctions or leaks spanning the energy, waste and agriculture sectors,” NASA JPL study authors write.

With that said, the authors also say that the top-emitting landfills “exhibit persistent anomalous activity.”

## “Nobody can hide”: Methane super-emitters and company outlooks

“Very soon nobody is going to be able to hide from methane leakage (because of satellites and other detection technologies).” – Chevron CEO Mike Wirth, Sept. 2019, speaking to an industry group. Reported by *Bloomberg*, captured by Truvalue Labs in a *Rigzone* article.

Methane is on the radar of many of the companies that top the list of super-emitters in California. An example of that is the quote above from Chevron CEO Mike Wirth, captured by Truvalue Labs and scored in the category “GHG Emissions,” which is considered financially material for Chevron and peers by the Sustainability Accounting Standards Board (SASB). While not in the 2% Club, Chevron is a Top 6 emitter, as seen in the chart on page 1.

In coming months, a series of briefs will explore the fundamental outlook for top methane-emitting companies and industries in California. They will include timely ESG performance captured by Truvalue Labs related to GHG emissions, and to methane.

ESG-related news items such as methane emissions from a company are not buy or sell signals in a vacuum. The context of the company’s performance and behavior makes all the difference in helping asset owners and managers to assess that emerging data point in order to identify risk and opportunity.

## Key points: How the NASA data was analyzed

There are some important qualifications to NASA’s work in the *Nature* study: The methane leaks detected were only from “point sources,” which means individual discrete sites, not more diffuse area sources. The study authors estimate that point sources contribute “34–46 per cent of the state’s methane inventory” for 2016.<sup>4</sup> NASA adjusted the data for “persistence” – i.e., how regularly emissions were found – and generated estimated rates of kilograms of methane emitted per hour.

Truvalue Labs examined the top 200 out of 564 sites and identified them with company facilities when possible. Landfills were usually labeled clearly, while oil and gas operations were sometimes less clearly identified, in which case positive identifications were made when only one company’s facilities were near the source of emissions.

The combined emissions from each company’s Top 200 sites was summed for a total (minor sites in the final 364 sites on the list could raise their totals somewhat). All metrics were summed initially in the reporting format of kilograms / hour of methane (kg/hr), and then converted to CO<sub>2</sub> and “cars on the road” equivalencies using a [greenhouse gas conversion calculator](#) provided by the US EPA, and annualizing the hourly rate.

<sup>4</sup> Ibid

As noted in the footnote on page 1, that calculator uses a conservative conversion from CO<sub>2</sub> to Methane: 25x as powerful over 100 years, based on the Intergovernmental Panel on Climate Change (IPCC)'s 4<sup>th</sup> Assessment Report. The IPCC's newer 5<sup>th</sup> report, along with the US EPA's other calculations, cite an even more potent equivalency of 28x-34x for methane's [100-year warming equivalent impact](#).

Most organizations agree on a much more powerful 20-year warming equivalent of 84x that is cited by the EDF. The reason for the difference between 20-year and 100-year warming effects is that CO<sub>2</sub> is very stable, while methane degrades more quickly, losing influence. It starts out 84x more powerful than CO<sub>2</sub> over the first 20 years, but after 100 years, has degraded and lost some of its warming effect.

For full details on the methodology used for this analysis, see [Appendix 1](#) at the end of this brief. For full details on the methane warming effect calculations, see [Appendix 2](#).

### Methane as a key lever in the fight against global warming

The US EPA has a succinct summary of methane's importance: "Methane is the second most abundant anthropogenic GHG after carbon dioxide (CO<sub>2</sub>), accounting for about 20 percent of global emissions. ...Over the last two centuries, methane concentrations in the atmosphere have more than doubled, largely due to human-related activities."

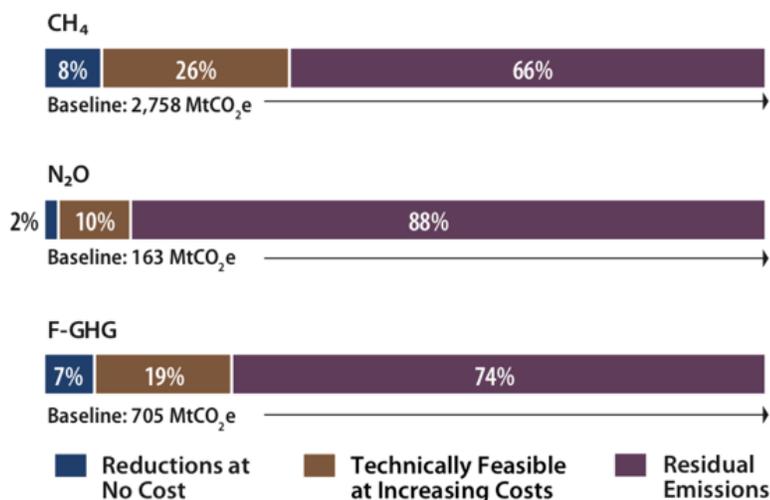
Methane is important because it is often due to leaks from equipment intended to contain or capture the gas – pipes, gas compressors, digesters, etc. That contrasts with CO<sub>2</sub>, which can be captured from some smokestack emissions at great cost, but is often an unaddressed byproduct of ICE activity, be it from cars, trains, airplanes, or steelmaking.

Because methane is more short-lived than CO<sub>2</sub>, cutting output can have a major near-term impact on global warming—the EDF [estimates](#) methane is responsible for 25% of human-produced global warming seen today.

Methane reduction from point sources may be the most cost-effective, feasible way to reduce warming in the near term. That is for two reasons: First, methane is the highest-volume man-made greenhouse gas besides CO<sub>2</sub>, with a more powerful near-term effect. Secondly, according to the US EPA, methane is more economically mitigated than other non-CO<sub>2</sub> potent greenhouse gases (see chart above).

### Methane (CH<sub>4</sub>) as the most cost-effective greenhouse gas to mitigate

Mitigation Potential and Residual Emissions by Gas, 2030



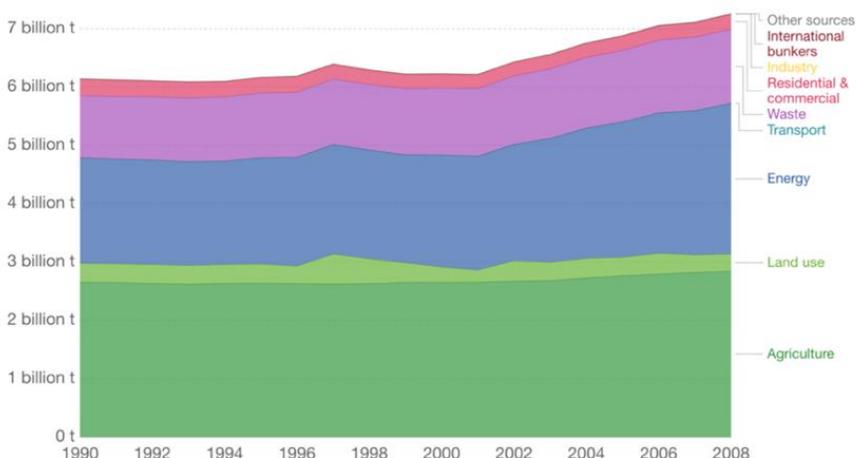
Source: "Global Non-CO<sub>2</sub> Greenhouse Gas Emission Projections & Mitigation, 2015-2050." US [EPA, Sept. 2019](#).

## Comparing top methane-emitting sectors globally

### Methane emissions by sector

Breakdown of total global methane (CH<sub>4</sub>) emissions by sector, measured in tonnes of carbon-dioxide equivalents (CO<sub>2</sub>e). Carbon dioxide equivalents measures the total greenhouse gas potential of the full combination of gases, weighted by their relative warming impacts.

Our World in Data



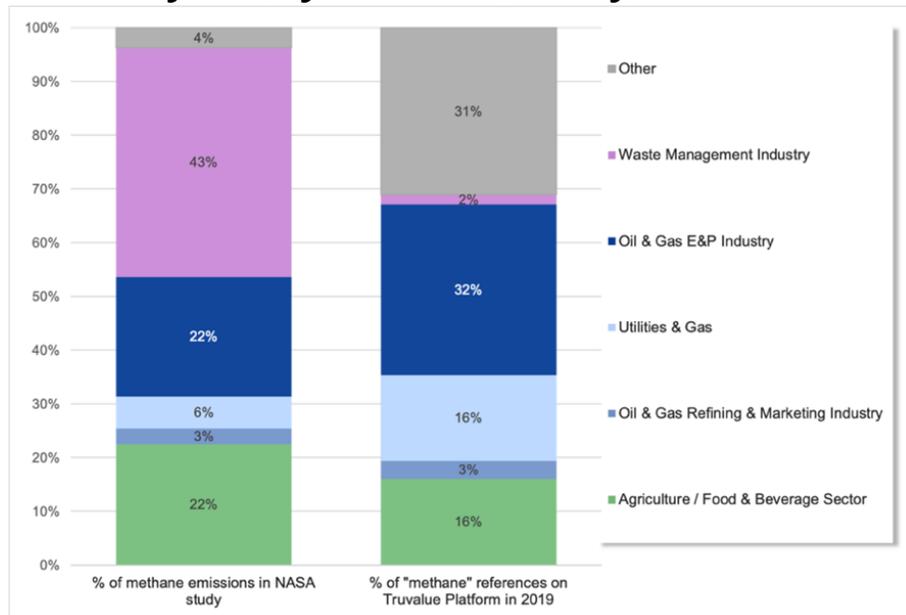
Source: UN Food and Agricultural Organization (FAO)  
OurWorldInData.org/co2-and-other-greenhouse-gas-emissions/ · CC BY

Source: [Our World in Data](#)

Nine-tenths of methane emissions from human activity can be attributed to three sectors: Waste (17%), Energy (34%), and Agriculture (40%), as shown in the chart above from [Our World in Data](#), a site published by University of Oxford economist Max Roser.

The sector and industry breakdown in NASA's point source emissions data was Waste 43%, Energy 31%, Agriculture 22%, as the chart below shows. For investors considering risk, it is interesting to put those numbers beside Truvalue Labs data which captures third-party mentions of company ESG behavior. In Truvalue's data, the Energy sector has an outsized share of mentions with the word "methane" (identified in Truvalue Platform's Thematic Search). The Waste Management industry, in contrast, has to a large extent avoided scrutiny for its methane footprint. That may change with NASA's work and rising activist attention.

### Comparing visibility of the top-emitting industries from the NASA study: Waste Management, Ag, Oil & Gas E&P, Refining, Utilities



Source: Truvalue Labs analysis of NASA JPL *Nature* study, using methane source kg/hr rate  
Truvalue Platform results for Thematic Search for term "methane" used to talk about different companies

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## Methane regulation: Trump Administration rolled back US EPA rules in 2019

For years, methane emissions have been loosely or not at all regulated, with some nascent requirements introduced by the Obama Administration's US EPA for oil and gas firms. In August 2019, the Trump Administration announced a plan to roll back those proposals.

As the Wall Street Journal reported [then](#): "The proposed plan would do away with Obama-era requirements for the industry to install technologies that monitor and limit leaks from new wells, tanks and pipeline networks and to more frequently inspect for leaks. It would also forestall legal requirements that would have forced the EPA to set rules on emissions from thousands of pre-existing wells and industry sites."

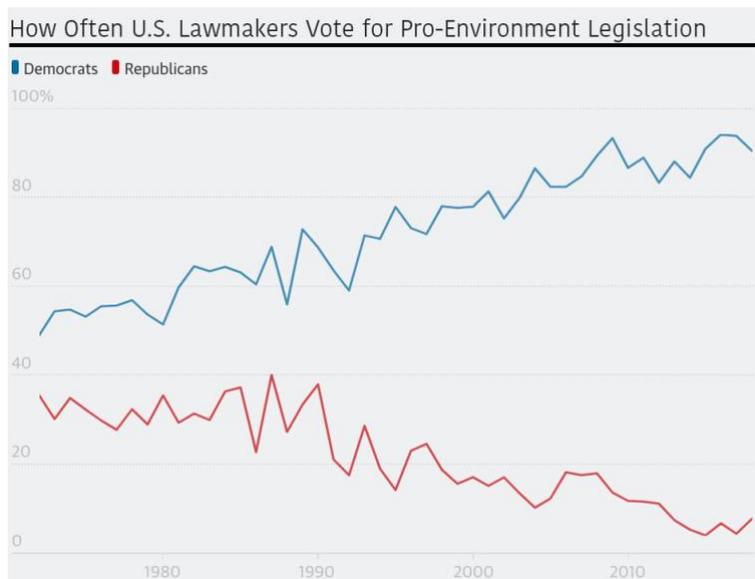
At the time, investors who collectively managed more than \$5 trillion in assets [called on oil and gas companies to support continued federal regulation of methane](#). Signatories included CalSTRS, Harvard University Endowment, Legal & General Investment Management, the New York City Comptroller's Office, and Walden Asset Management/ Boston Trust.

This faltering regulatory landscape is hardly an imminent threat to compel methane capture by emitters, but long-term political trends make the Trump administration look like an outlier in its disregard for climate change policy.

## Methane, partisan politics, and Social License to Operate (SLO)

Social License to Operate is a fairly simple concept: Companies must earn social approval to do business, and if a business model relies on practices that public opinion opposes, it exposes that company or industry to negative reputational consequences, difficulties recruiting talented employees, and adverse regulations. Those regulations can be combatted with lobbying, but lobbying against the public interest can in turn, expose the company to negative sentiment and a cataclysmic regulatory break curtailing business as usual.

Data from the Guardian cited by [Yale Environment 360](#) and seen in the chart below shows that in the past 20 years, Republican lawmakers have become ever less inclined to vote for environmental initiatives.



At the same time, Republican voters are growing more concerned with clean energy, per Pew [polling](#) in October 2019. Pew asked which is more important of an energy priority: Developing alternative energy or Expanding fossil fuels. Among those who were Republican or lean Republican, Boomers and older adults preferred developing alternative energy 53 / 45; among Gen X, that increased to 61 / 39; among Millennials, the split was 78 / 22.

The data indicates a growing split between Republican constituents who favor alternative energy over fossil fuels, and the representatives resolutely voting against environmental legislation. That gap could resolve in favor of a more pro-environmental Republican party, or it may mean less enthusiasm or less GOP party identification as new generations of voters become a bigger part of the electorate.

Even more unfavorable is the outlook if a Democrat wins the presidency, as most Democratic candidates are vocal about climate change, from Biden, to Sanders, to Warren, to Bloomberg.

It's a risky long-term picture for industries that rely on a do-nothing regulatory stance.

## **The California Air Resources Board is considering regular use of a low-orbit satellite array following this NASA study**

The NASA study described in this brief is part of a regulatory agenda in California; the research took place [with funding from the California Air Resources Board](#), as previously mentioned. That funding comes from state legislation to use multiple levels of surveillance of methane emitters, including via satellite. The board has a mandate to regulate point sources [because it is overseen by the US EPA](#).

The board was impressed by the high resolution and granularity of the NASA study, and the conclusion that the bulk of emissions were from a relatively small number of large emitters, and were in many cases temporary leaks, according to Director of Communications Stanley Young, who spoke with Truvalue Labs January 2.

"That was the major finding here that led us to consider the need for a low-orbit constellation of satellites that would sort of keep an eye on California and detect these intermittent super-emitters on a regular basis, within, say, 24 hours," Young said. "(Satellite) data would provide us with the kind of monitoring that we would need that could then be supported by regulatory action."

California's current regulations concerning methane vary by industry, with some requirements for equipment and monitoring for [landfills](#) and [oil and gas](#). There is also a [developing conversation](#) around dairy regulation with an aim to produce regulations by 2023.

The NASA study is providing new evidence and tools that could pave the way for new oversight, Young told Truvalue Labs.

"We've known anecdotally there were large sources, what we didn't know was how many there were, where they were, how they were clustered, or where it was coming from," Young said. "What's measured is managed, and in many cases there are no regulations in place for some of these emissions that were detected, but this particular study is certainly the basis of an effort to look at what kind of regulations might be in place for unexpected or intermittent emissions."

Just as California's [fuel economy standards for passenger vehicles](#) have paved the way for raising national standards, methane regulation at the state level may serve as a precursor to national policy, forcing changes in how top methane-emitting companies operate.

## **Asset owners and managers can engage with methane super-emitters using Truvalue Labs timely ESG data**

As described below in the Outlook section, each of the companies in the "2% Club" of California super-emitters of methane has a different outlook dependent on its industry, its fundamentals, and its current stance on greenhouse gas emissions. In some cases, heightened regulatory scrutiny may show these are irregular breaches, and different companies within the industry may take turns experiencing leaks, and regulatory scrutiny.

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California Air Resources Board  
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But the good news is, the technology exists for these companies to deeply cut methane emissions, and the “2% Club” companies have institutional shareholders who should be sympathetic to engaging with the companies, encouraging them to reduce emissions, and proposing and supporting shareholder proposals in a proactive way.

The table that follows shows the ranks of Top 10 shareholders for each of these leading methane super-emitter companies. Green boxes mark a company that is either a signatory of the United Nations Principles for Responsible Investment (PRI), a member of the Climate Action 100, or is in the corporate family of such an organization.

### Top 10 shareholders for the leading methane super-emitter companies

	Republic Services	Waste Management	CRC	Waste Connections
1	Cascade Investment, LLC	The Vanguard Group, Inc.	The Vanguard Group, Inc.	The Vanguard Group, Inc.
2	The Vanguard Group	BlackRock	State Street Global Advisors (SSGA)	T. Rowe Price
3	BlackRock	State Street Global Advisors (SSGA)	BlackRock	Capital International Investors
4	State Street Global Advisors (SSGA)	Bill & Melinda Gates Foundation	Cyrus Capital Partners, L.P.	Capital Research Global Investors
5	UBS Financial Services, Inc.	Cascade Investment, LLC	Chevron Corp	JP Morgan Asset Management
6	Wells Capital Management	Macquarie Asset Management	Encompass Capital Advisors, LLC	BMO Asset Management Inc.
7	American Century Investment Management, Inc.	Geode Capital Holdings LLC	Masters Capital Management, LLC	Fidelity Management & Research Company
8	Invesco Ltd	Parnassus Investments	Citadel LLC	Norges Bank Investment Management (NBIM)
9	Dimensional Fund Advisors	ClearBridge Investments	RBC Capital Markets Wealth Management	RBC Global Asset Management
10	Geode Capital Holdings	Wells Fargo Asset Management	Millennium Management LLC	Wellington Management Company LLP

Source: Refinitiv data; Green boxes mark a company that is either a PRI signatory, a member of the Climate Action 100, or is affiliated with one such organization.

As previously referenced, Chevron CEO Mike Wirth’s view that methane emissions will increasingly be public knowledge is prescient. Besides NASA, the [New York Times](#) and others are increasingly studying methane emissions from the air.

The new data is a tool to help asset owners and managers who own shares of methane-producing companies.

Pushing for reforms and reduced emissions through shareholder engagement will do more than help fight global warming. A first-mover advantage on the public communication front can mean outside returns of goodwill for companies that take the bull by the horns and reduce methane proactively, before they are named as polluters and fined by regulators.

# Outlook

California's survey of methane emissions in partnership with NASA is unprecedented, and its expressed desire to use a low-orbit satellite array to continuously monitor methane indicates a new normal is on its way for methane-intensive industries like dairy, waste, and energy.

On the federal level, there is no clarity on when the pent-up public support for a policy response to global warming will break through, although two possibilities both make the case for a proactive stance. One is a changing of federal policy (a progressive Democrat president) and the other is boiling-frog changes (a greening GOP electorate).

In any case, global warming remains the world's biggest policy problem in the 2020s.

Companies that are proactive and own an identity as an improving emitter / part of the solution will be positioned to outperform lagging competitors on SLO factors mentioned previously: reputational consequences, recruiting talented employees, and adverse or favorable regulation.

But those benefits may not accrue evenly to all comers: Company management, and investors, would be wise to consider the early-mover advantage for companies that make gains before peers, including SLO benefits to recruiting, regulatory relationships, and more.

Here are previews of the briefs that will be published in coming weeks on the "2% Club" super-emitters NASA identified in California, and outlooks for their industries.

## **Republic Services, Waste Connections & the Waste Management industry**

The waste management industry presents an interesting example of methane emissions and the challenges of reducing them. Many waste management companies are already capturing methane for use in power plants and even to power fleets of renewable natural gas (RNG) trucks. But the leaks found by NASA show uneven application of best practices—some of which were addressed, NASA said, as in the case of Republic Services and Sunshine Canyon. Truvalue Labs spoke with the former head of Republic Services' renewable energy program about the top-emitting landfills, and the challenges of capturing methane at those sites.

## **California Resources Corporation, SoCalGas / Sempra Energy, Chevron USA & the Energy sector**

The energy sector is widely known as a top methane emitter, and not just in California. NASA's data shows that in California, there are various areas of the sector that contribute, including the most-commonly referenced, oil and gas exploration and production, but also including oil refineries, and utilities, which operate large networks of natural gas pipes which can leak methane. SoCalGas is a bellwether for the sector, as methane leaks have already led to court action against it by its neighbors due to the Aliso Canyon leak in 2015. This brief will look at cooperation between NASA, CRC, SoCalGas, and also at the potential for methane-related lawsuits from neighbors to energy companies, and increasingly litigious climate activists.

## **The Agriculture sector & the Dairy business**

California's cows are mostly dairy cows, not beef. While the dairy business is just one niche in the broader agriculture sector, the well-known flatulent qualities of cows (enteric fermentation) make them a major methane emissions source. Concentrated Animal Feeding Operations (CAFOs) in California represent some of the largest point sources of methane emissions in the state. While costly equipment might seem difficult for the already-struggling dairy industry, the California Air Resources Board is offering subsidies for methane digest projects for manure lagoons, and for enteric fermentation, [science may have a trick up its sleeve](#) in the form of a different feedstock for cows.

## Appendix 1: Interpreting NASA JPL study data

1. To perform this analysis, we converted NASA's Methane source list from [Supplementary Table 5](#) to a spreadsheet format, then sorted by Q source (the amount of emissions found).
2. We analyzed the Top 200 sites out of 564 total; those top 200 represent 85% of the methane emissions from the study (49630.2kg/hour out of 58,387.1 kg/hour total).
3. For each of the Top 200 sites, we then examined the [NASA JPL Methane Source Finder map](#), which allows for search by Latitude & Longitude (values in Table 5). Those points also include an industry designation.
4. When zoomed in on the emissions source, clicking the tab "Infrastructure" shows nearby company facilities.
5. Where company facilities were the only labeled site for the source's industry near the emissions, the emissions were attributed to the company. In cases where multiple companies' infrastructure were present in close proximity to one another, the emissions were left out of Truvalue Labs calculations.
6. The dairy industry is an exception, as NASA's scientists chose not to provide as much identifying information for dairy operations. Likewise we did not seek to identify these businesses, which are often small, non-public companies.

## Appendix 2: Calculating equivalent methane warming effect compared to cars on the road

- 15,643.9 kilograms / hour of methane (CH<sub>4</sub>):  
Rate of methane emissions from 29 sites that NASA mapping identifies and/or displays at the same latitude and longitude as top methane emissions sources
- 391 metric tons of CO<sub>2</sub> (per hour) equivalent, per [US EPA calculator](#)
- 83 Passenger vehicles driven for one year, according to same calculator
- Multiply 83 passenger vehicle value by 8,760, the number of hours in a year, since the methane source number is a rate of kg/hr, and car warming effect is annualized, not an hourly rate. Produces 727,080 passenger vehicles driven for one year.

## Appendix 3: Company Requests for Comment

- **NOTE: Several companies were reached for initial phone conversations explaining the topic of the research brief, but no interviews were ultimately scheduled, or comments provided, prior to publication.**
- **Ameresco** – Dec. 11 email request, Jan. 2 email request
- **California Resources Corporation** – Dec. 11 external affairs website request, Jan. 2 website request, Jan. 9 phone & email request
- **Chevron USA** – Dec. 11 external affairs website request, Jan. 2 website request
- **Republic Services** – Dec. 11 email request, Jan. 2 email request, Jan. 9 phone request
- **SoCalGas, A Sempra Energy utility** – Dec. 11 call and email request, Jan. 2 email request
- **Waste Connections** – Dec. 11 email request, Jan. 2 email request, Jan. 9 phone request
- **Waste Management** – Dec. 11 email request, Jan. 2 email request, Jan. 9 phone request
- **California Dairy Industry via Dairy Institute of California** – A non-profit trade association that represents milk and dairy processors on legislative and regulatory matters at the state and federal levels – Dec. 11 email request, Jan. 2 website request

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# About Truvalue Labs

Truvalue Labs is the first company to apply AI to uncover timely ESG data on a variety of asset classes. The company's mission is to deliver increased transparency to investment professionals by providing data and analytics that go beyond traditional fundamentals.

Visit [www.truvaluelabs.com](http://www.truvaluelabs.com) to learn more about the SaaS and API products.

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