

Press Release – 9 December 2020
Update of Carbon Majors 1965-2018

Climate Accountability Institute is releasing a new dataset quantifying how much each of the largest oil, natural gas, and coal companies has contributed to the climate crisis from 1965 to 2018. We find that the Top Twenty companies have collectively contributed 493 billion tonnes of carbon dioxide and methane, chiefly from the combustion of their products, equivalent to 35% of all fossil fuel and cement emissions worldwide since 1965 (global total of 1.41 trillion tCO₂e). <https://climateaccountability.org/carbonmajors.html>

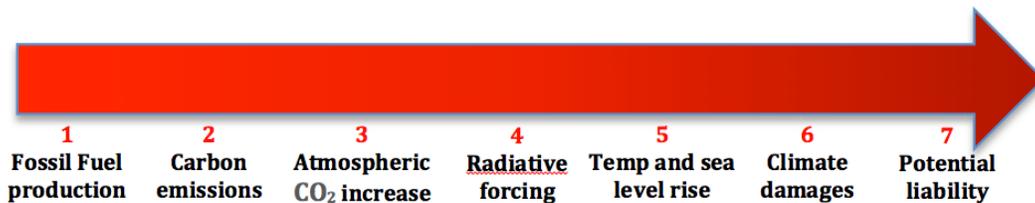
The table sums emissions for the period 1965 to 2018 by Top Twenty investor-owned and state-owned oil, natural gas, and coal producers, and as percent of global fossil fuel emissions (left). Principal US firms or foreign companies with assets, operations, production, or sales in the U.S. (right)

Entity	MtCO ₂ e	% of global 1965-
1. Saudi Aramco, Saudi Arabia	61,143	4.33%
2. Gazprom, Russia	44,757	3.17%
3. Chevron, USA	43,787	3.10%
4. ExxonMobil, USA	42,484	3.01%
5. National Iranian Oil Co.	36,924	2.62%
6. BP, UK	34,564	2.45%
7. Royal Dutch Shell, The Netherlands	32,498	2.30%
8. Coal India, India	24,341	1.73%
9. Pemex, Mexico	23,025	1.63%
10. PetroChina / China Natl Petroleum	16,515	1.17%
11. Petroleos de Venezuela (PDVSA)	16,029	1.14%
12. Peabody Energy, USA	15,783	1.12%
13. ConocoPhillips, USA	15,422	1.09%
14. Abu Dhabi, United Arab Emirates	14,532	1.03%
15. Kuwait Petroleum, Kuwait	13,923	0.99%
16. Iraq National Oil Co., Iraq	13,162	0.93%
17. Total SA, France	12,755	0.90%
18. Sonatrach, Algeria	12,700	0.90%
19. BHP, Australia	10,068	0.71%
20. Petrobras, Brazil	9,061	0.64%
Top Twenty	493,473	34.98%
Global (1965-2018)	1,410,737	100.00%

Company	Approximate Emissions (million tonnes CO ₂ e)
Chevron	43,787
ExxonMobil	42,484
BP	34,564
Shell	32,498
Pemex	23,025
PDVSA	16,029
Peabody	15,783
ConocoPhillips	15,422
Total SA	12,755
BHP	10,068
Petrobras	9,061
ENI	13,162
CONSOL	15,422
Arch Coal	15,783
Rio Tinto	15,422
Equinor	14,532
Lukoil	13,923
Centura	13,162
Anadarko	13,162
Repsol	12,755
Occidental	12,700
Marathon	10,068
Hess	9,061
EnCana	9,061
Murray Coal	9,061

On the theory that fossil fuel producers bear substantial responsibility for the adverse impacts of their products, we quantify how much each company's carbon fuels contribute to rising CO₂ emissions and atmospheric concentration. We estimate direct operational emissions (~12% of their total), which include CO₂ from flaring and venting and own fuel use, and fugitive methane.

The arrow illustrates the arc of CAI's (and our colleagues') work of quantifying and attributing emissions to carbon producers, modeling their impact on global climate — such as temperature and sea level rise — and contributing to efforts to hold companies accountable for climate damages.



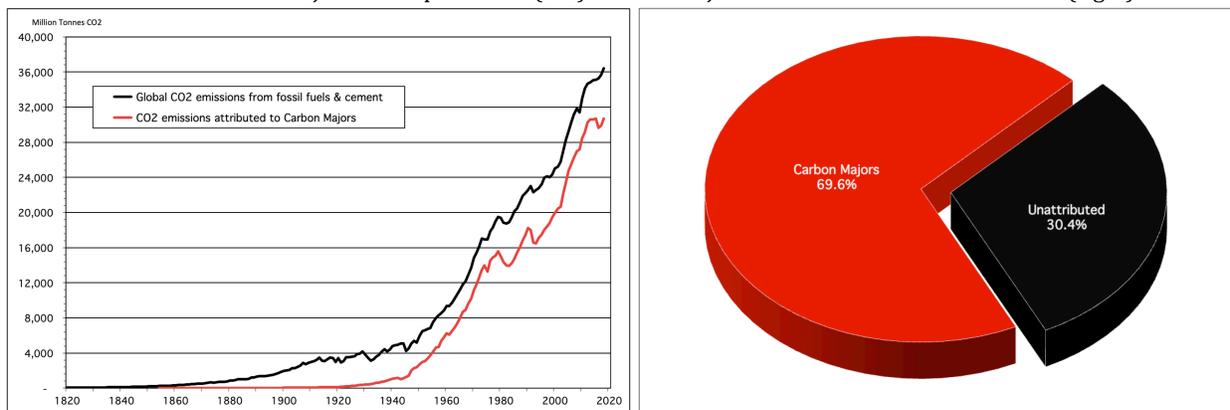
We choose 1965 as the starting point for this new data because recent research has revealed that by mid-1960s the climate impact of fossil fuels was known by industry leaders and politicians. Although global consumers from individuals to corporations are the ultimate emitters of carbon dioxide, we focus on the fossil fuel companies that, in our view, have produced and marketed the carbon fuels to billions of consumers with the knowledge that their use *as intended* will worsen the climate crisis.

Key findings:

- Global fossil fuel and cement emissions from 1965 to 2018 totaled 1,411 billion tonnes of carbon dioxide and energy-related methane (GtCO₂e);

- The twenty largest investor-owned and state-owned fossil fuel companies produced carbon fuels that emitted 35% of the global total (493 GtCO₂e);
- If we look over the entire historical data we find the current database of 108 fossil fuel and cement entities emitted 1,259 GtCO₂e, or 69.6% of global since 1751 (1.81 TtCO₂e); of which the Top Twenty companies are responsible for 539 GtCO₂e, or 30% of all fossil fuel and cement emission since 1751;
- These companies have significant moral, financial, and legal responsibility for the climate crisis, and a commensurate burden to help address the problem;
- Half of all global fossil fuel and cement CO₂ emissions since 1751 have been emitted since 1991;
- The climate crisis is worsening, global emissions are still rising, and they must peak immediately in order to reduce emissions by 45% by 2030 and net zero by mid-century.

Global emissions of carbon dioxide for fossil fuel use and cement production from 1820 to 2018 (black) and the emissions attributed to 108 major carbon producers (red). Carbon Majors and “unattributed” 1751-2018 (right).



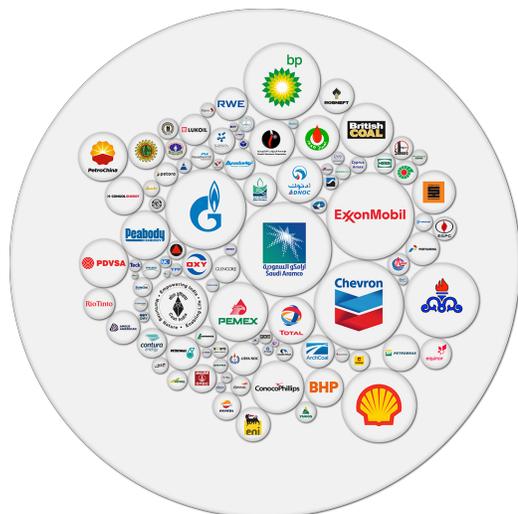
It is incumbent on companies that value their social license to operate to respect climate science, manage corporate risks accordingly, commit to reducing future production of carbon fuels and their emissions in alignment with the Paris Agreement pathway under 1.5°C (net zero by 2050), support the decarbonization of the global economy, and shift their capital investments toward renewables, carbon sequestration, and low-carbon fuels in line with science-based targets. Companies leading this transition will prosper, and laggards will perish.

Link to the Carbon Majors worksheets & results:
<https://climateaccountability/carbonmajors.html>

Respectfully,

Richard Heede

Director, Climate Accountability Institute.



About Climate Accountability Institute

CAI is an independent research institute focusing on anthropogenic climate change, dangerous interference with the climate system, tracing emissions of carbon dioxide to oil, gas, and coal companies' production of carbon fuels, modelling the rise in temperature and sea level rise, risk reduction strategies, and disclosure requirements regarding GHG emissions. CAI gratefully acknowledges financial support from Rockefeller Brothers Fund, Chilean Forests Preservation Fund, and Wiancko Charitable Foundation.