



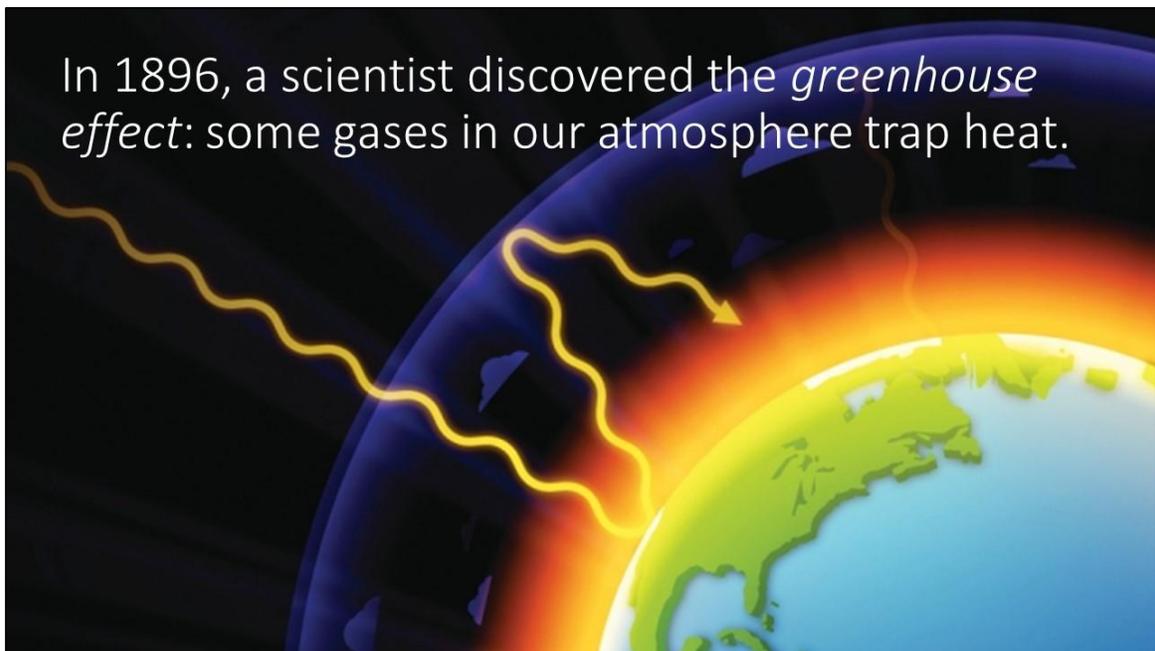
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Video source: Prince Ea, *His Epic Message Will Make You Want to Save the World* | Film4Climate. National Geographic, 2017. <https://www.youtube.com/watch?v=B-nEYsyRIYo>



More info: <https://climate.nasa.gov/causes/>

Source: S. Arrhenius, "On the Influence of Carbonic Acid in the Air upon the Temperature of the Ground," 1896.

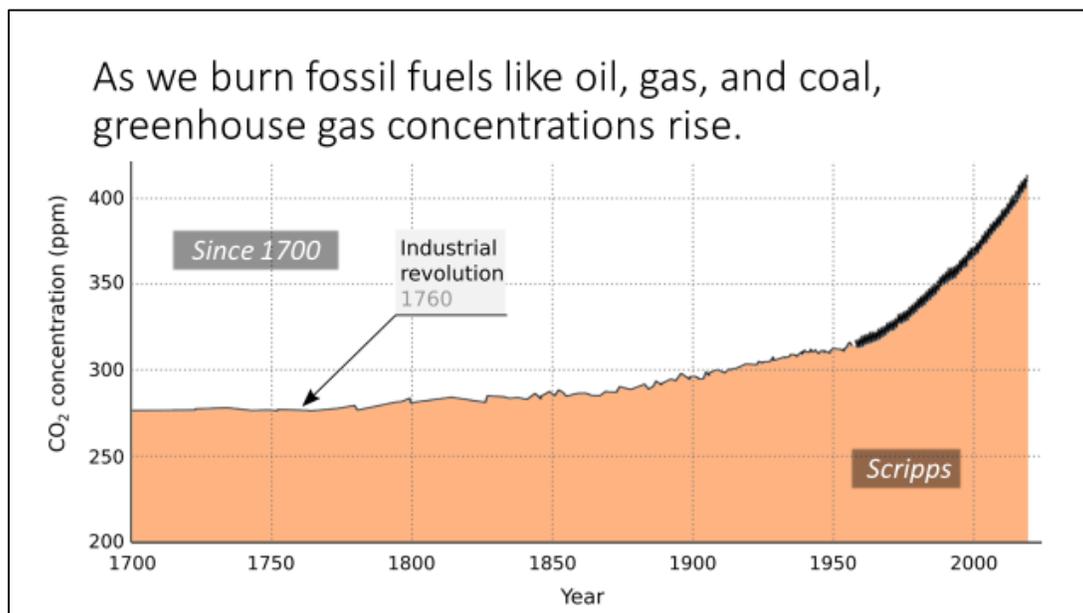
<http://news.mit.edu/2017/explained-greenhouse-gases-0130>

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More info: <https://www.ameslab.gov/ehsa/where-greenhouse-gases-come>

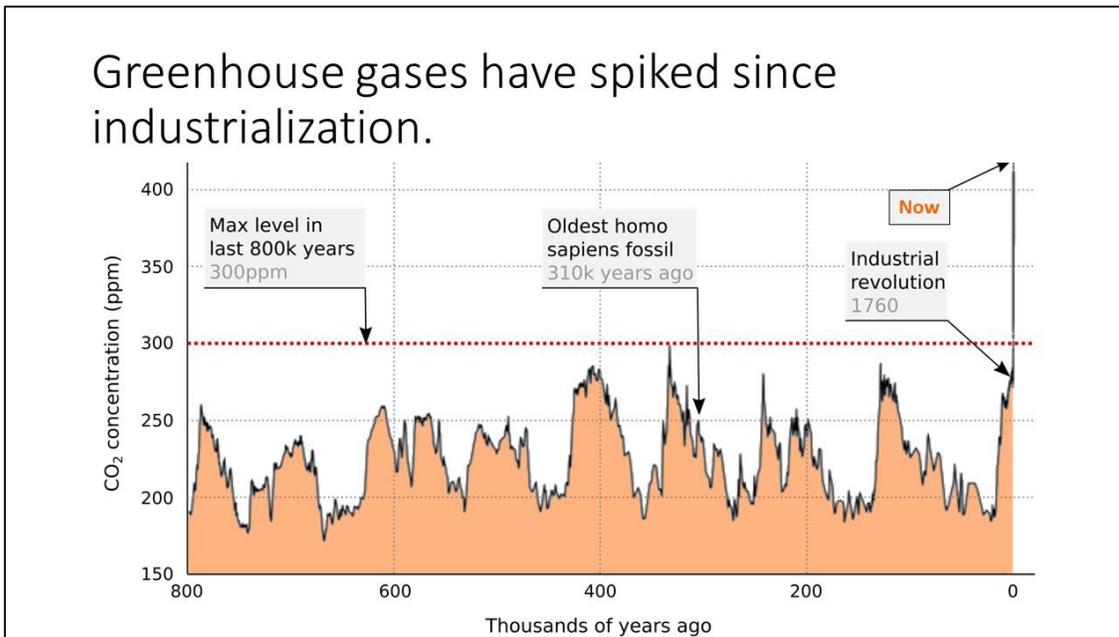
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More info: <https://climate.nasa.gov/vital-signs/carbon-dioxide/>

Data source: Scripps Oceanographic Institute.

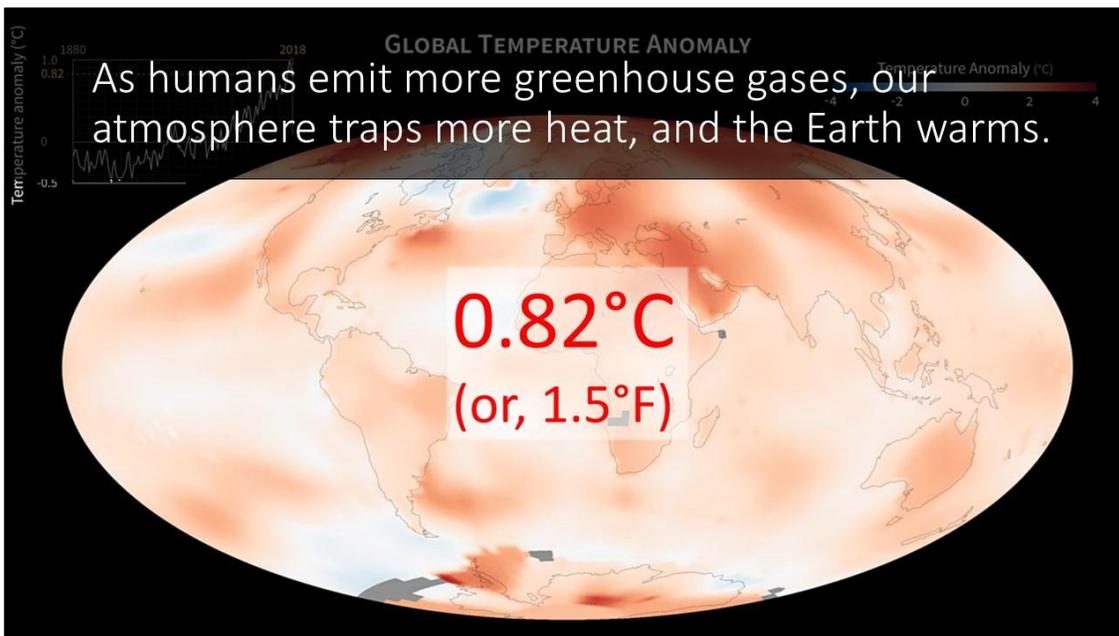
Greenhouse gases have spiked since industrialization.



More info: <https://climate.nasa.gov/vital-signs/carbon-dioxide/> Data source:

Reconstruction from ice cores. Graph courtesy of NASA, based on NOAA data.

Image source: <https://climate.nasa.gov/vital-signs/carbon-dioxide/>



More info: <https://svs.gsfc.nasa.gov/31028>

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More info: <https://nca2018.globalchange.gov/>

Camp fire:

Source: <https://www.nationalgeographic.com/environment/2018/11/climate-change-california-wildfire/>

Image source: <https://earthier.gizmodo.com/the-camp-fire-is-officially-the-most-destructive-in-cal-1830358375>

Midwestern Flooding:

Source: <https://www.wired.com/story/for-the-midwest-epic-flooding-is-the-face-of-climate-change/>

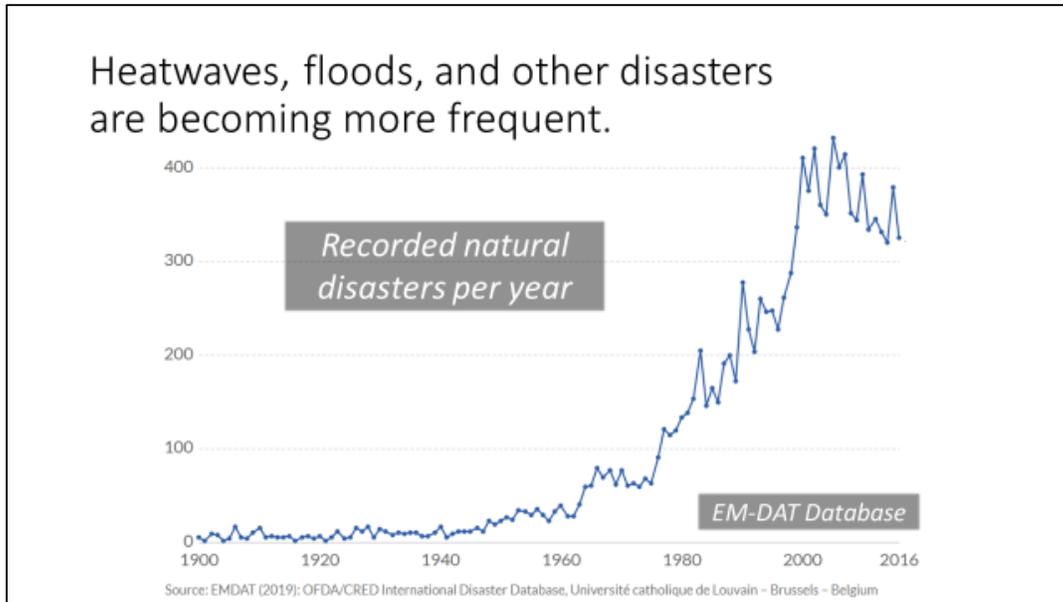
Image source: <https://www.vox.com/2019/3/22/18277244/nebraska-flood-2019>

East coast hurricanes:

Source: <https://www.ucsusa.org/global-warming/science-and-impacts/impacts/hurricanes-and-climate-change.html>

Image source: <https://www.cnn.com/2017/08/27/us/harvey-landfall/index.html>

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More info: <https://climate.nasa.gov/effects/>

Source: EMDAT (2019) OFDA/CRED International Disaster Database, Université Catholique de Louvain. Image source: <https://ourworldindata.org/natural-disasters>. Graph courtesy of Our World In Data. License CC BY.

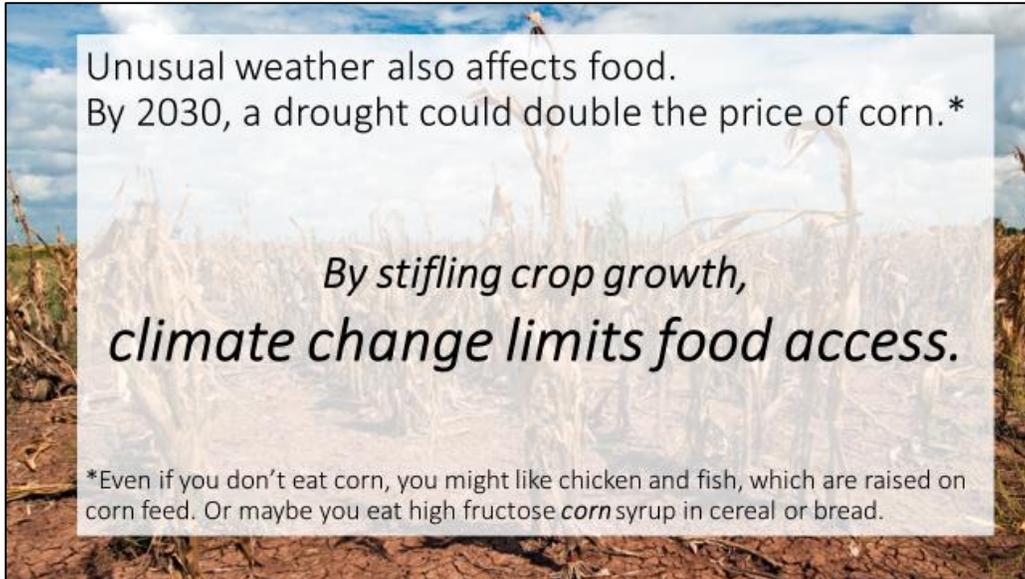


More info: <https://nca2018.globalchange.gov/chapter/18/>

Image sources:

- https://en.wikipedia.org/wiki/Primary_education_in_the_United_States
- <https://www.boston-discovery-guide.com/boston-public-transportation.html>
- <https://www.bostonmagazine.com/health/2019/07/30/boston-hospitals-us-news-world-report/>

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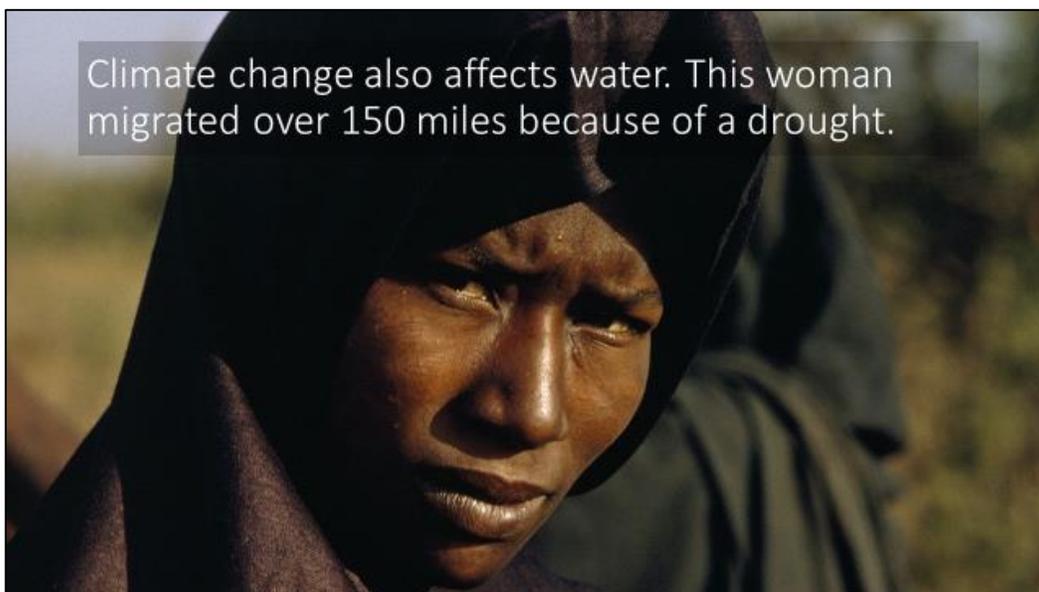


More info: <https://nca2018.globalchange.gov/chapter/10/>

Sources:

- T. Carty, "Extreme Weather, Extreme Prices: The costs of feeding a warming world," 2012. Oxfam.
- T. Moss and L. V. J. Wholey, "Climate change linked to global rise in food prices," *Climate Change / Medill | Northwestern University*. [Online].

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More info: <https://www.unwater.org/water-facts/climate-change/>

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More info: <https://www.iom.int/migration-and-climate-change-0>

Source: "Climate Migrants Might Reach One Billion by 2050," *United Nations University*, 2017. [Online].

Image source: <https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/>

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More info: <https://www.brookings.edu/research/the-climate-crisis-migration-and-refugees/>

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The US military refers to climate change as a **“threat multiplier,”** because it makes every bad situation worse.*



* The Pentagon has released reports about climate change under both Democratic and Republican administrations.

Sources: “Climate Change Adaptation Roadmap,” 2014; “Report on Effects of a Changing Climate,” 2019. US Department of Defense.

Department of Defense seal is in the public domain. No affiliation with the Department of Defense is implied.

The *current* species extinction rate is 1,000 times higher than normal.



United Nations

More info: <https://www.worldwildlife.org/threats/effects-of-climate-change>

Source: E. Chivian, A. Bernstein, Secretariat of the Convention on Biological Diversity., UN Development Programme., UN Environment Programme., and IUCN--The World Conservation Union., *Sustaining life: how human health depends on biodiversity*. Oxford University Press, 2008.

Image source: <https://geneticliteracyproject.org/2016/05/18/science-news-release-media-miss-bee-extinction-reports/>



More info: <https://www.worldwildlife.org/threats/effects-of-climate-change>

Video source: *The Last Northern White Rhinos | Years of Living Dangerously*. National Geographic, 2017. https://www.youtube.com/watch?v=x3gRU_SAN18 © National Geographic Society. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.



More info: <https://www.khanacademy.org/economics-finance-domain/ap-microeconomics/ap-consumer-producer-surplus/public-and-private-goods/v/tragedy-of-the-commons>

Source: G. Hardin, "The tragedy of the commons," *Science*, vol. 162, no. 3859, pp. 1243–8, Dec. 1968.

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Earth is a commons.



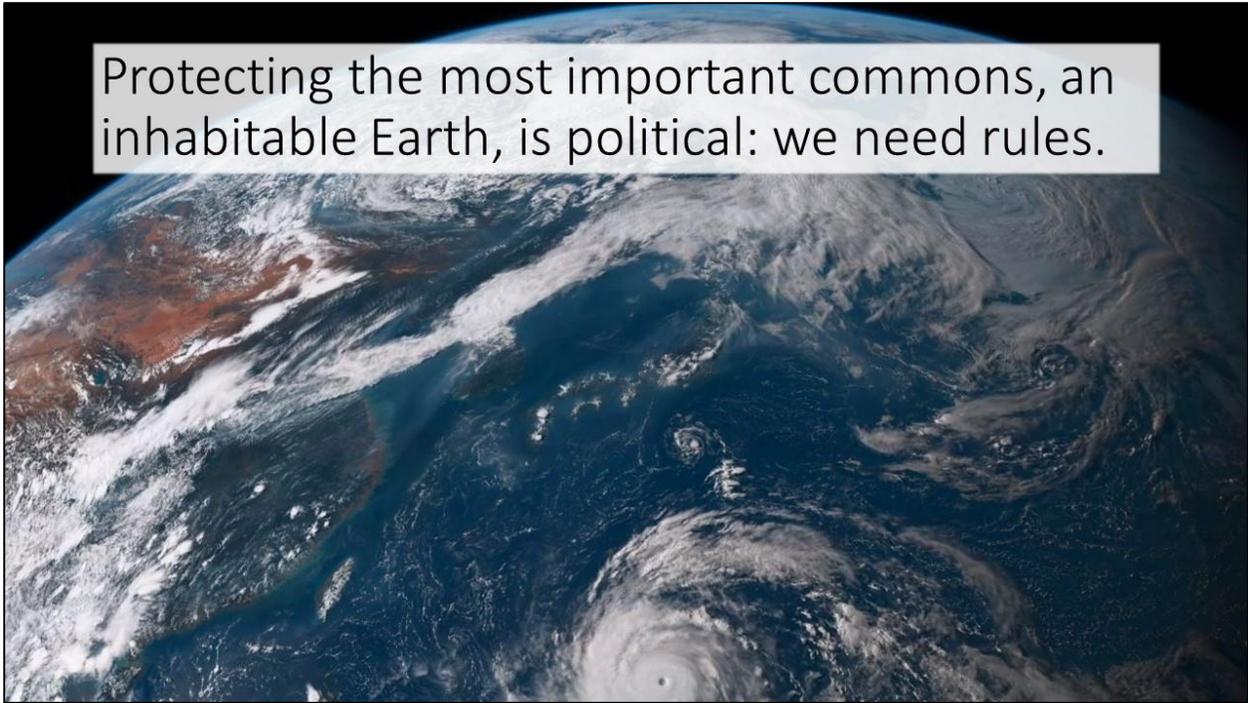
Image source: <https://visibleearth.nasa.gov/view.php?id=57723> This image is in the public domain.

To resolve commons problems,
we must set rules. This is called *politics*.

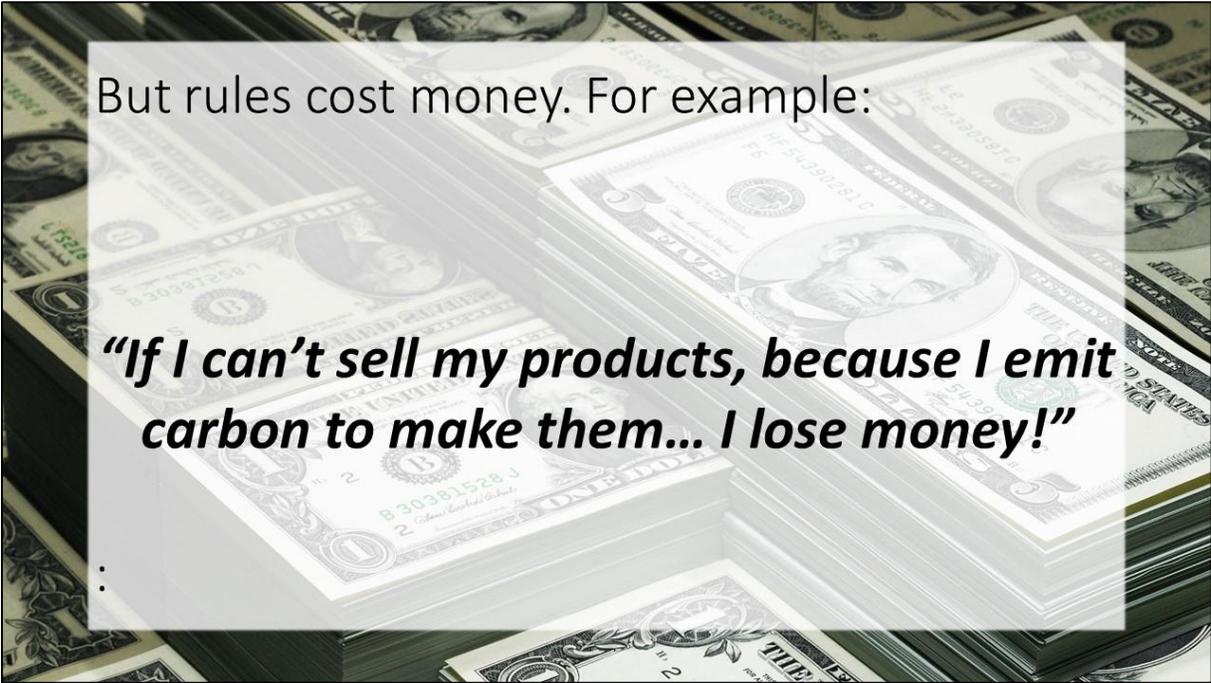


Image source: <https://www.vox.com/policy-and-politics/2016/11/1/13351284/america-polarization>

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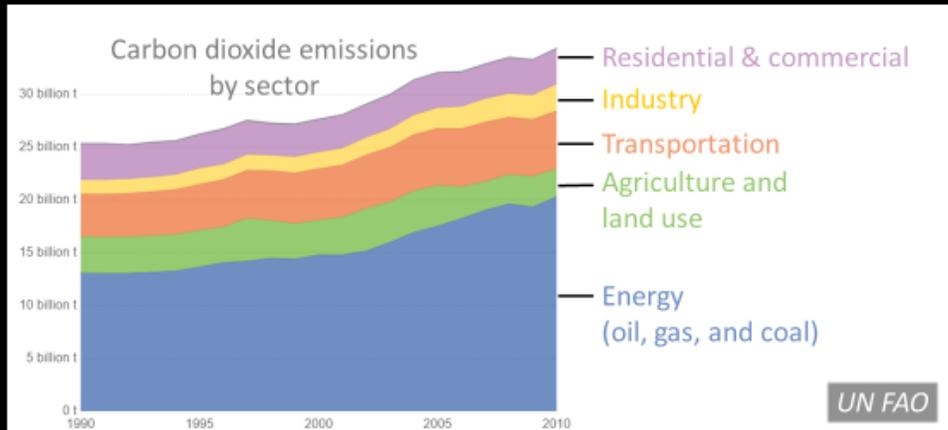
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More info: <https://www.wri.org/blog/2016/03/carbon-tax-vs-cap-and-trade-what-s-better-policy-cut-emissions>

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No one wants rules limiting carbon. But especially not fossil fuel groups, who emit more than anyone.



More info: <https://e360.yale.edu/digest/fossil-fuel-interests-have-outspent-environmental-advocates-101-on-climate-lobbying>

Data source: UN Food and Agricultural Organization

Graph courtesy of Our World In Data. License CC BY.
<https://ourworldindata.org/grapher/greenhouse-gas-emissions-by-sector>

The fossil fuel industry has known about climate change for decades.



James F. Black
Exxon Senior Scientist
1978

“Present thinking holds that man has a time window of five to ten years before the need for hard decisions regarding changes in energy strategies might become critical.”

More info: <https://exxonknew.org/>

Source: N. Oreskes and E. M. Conway, *Merchants of Doubt*, 1st ed. New York: Bloomsbury Press, 2010. Image

source: <https://insideclimatenews.org/content/exxon-science-vs-misinformation>. © Inside Climate News. All

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More info: <https://skepticalscience.com/argument.php>,
<https://www.pbs.org/wgbh/frontline/article/climate-change-skeptic-group-seeks-to-influence-200000-teachers/>

Source: <https://climate.nasa.gov/scientific-consensus/>

Video source: *Climate Denial in the Classroom*. The Years Project, 2018.
<https://www.youtube.com/watch?v=HXoAz6jNEG8> © The Years Project. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.

Brulle, 2014

*From 2003 to 2010, Koch Family Foundations
and other fossil fuel groups gave*

558 million dollars

*to climate denial organizations.**

**I wish I could share more financial data, but these groups are secretive and hard to study.*

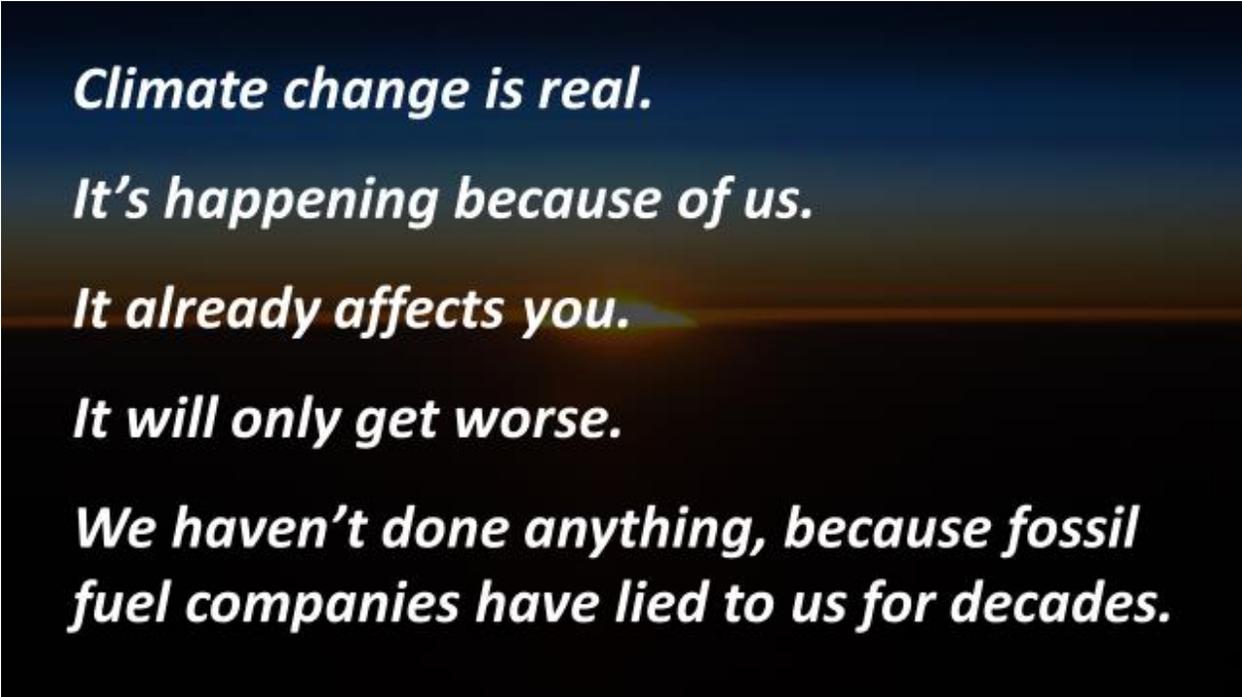
More info: <https://insideclimatenews.org/content/Exxon-The-Road-Not-Taken>

Source: R. J. Brulle, "Institutionalizing delay: foundation funding and the creation of U.S. climate change counter-movement organizations," *Clim. Change*, vol. 122, no. 4, pp. 681–694, Feb. 2014.



***Fossil fuel companies know rules will hurt profits,
so they spread myths about climate change.***

More info: <https://skepticalscience.com/misinformers.php>
Photo courtesy of Rajesh Misra.



***Climate change is real.
It's happening because of us.
It already affects you.
It will only get worse.
We haven't done anything, because fossil
fuel companies have lied to us for decades.***

Public domain photo courtesy of NASA.

We need to cut carbon emissions and use natural climate solutions.



Children like me are giving up their education to protest.

More info: <https://www.drawdown.org/>

Video source: *Greta Thunberg and George Monbiot on natural climate solutions.* #NatureNow, 2019. <https://www.youtube.com/watch?v=TL2swGjau8w> © #NatureNow. All rights reserved. This content is excluded from our Creative Commons license. For more information, see <https://ocw.mit.edu/help/faq-fair-use/>.



Words give life to ideas. Ideas lead to change.

Your words matter.

Image courtesy of Pixabay.



More info: <https://www.nature.org/en-us/what-we-do/our-priorities/tackle-climate-change/climate-change-stories/how-to-have-a-connected-conversation-about-climate-change/>

Source: D. F. Lawson, et al., "Children can foster climate change concern among their parents," *Nat. Clim. Chang.*, vol. 9, no. 6, pp. 458–462, Jun. 2019.

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It's not too late to keep our paradise.
But we can't do it without you.



Image source: Prince Ea, *His Epic Message Will Make You Want to Save the World* | *Film4Climate*. National Geographic, 2017. <https://www.youtube.com/watch?v=B-nEYsyRIYo>

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