Climate Education for Action



We do not inherit the earth from our ancestors; we borrow it from our children

-- Chief Seattle







60% South (16-25) is anxious or extremely worried about climate change

$40\% \overset{\circ}{2} \overset{\circ}{2}$

of young adults are choosing not to have kids





Climate Education on YouTube



Why YouTube??

My YouTube Channel Link



made with beautiful.ai

2015 2022 2018 Began studying Earth science and physics at UAH The journey continues Participated in direct climate action in DC, met CLEAN members at AGU START 2017 2019 Teacher assistant for a course on Seriously began producing videos air and water pollution on environmental health, pollution, and climate change, graduated in

December



YouTube's Legacy



Social Platform

• Second most visited website



Watch Time

• 1 billion hours watched by users EVERY DAY



Users

• Approximately **2 billion users** every month



Videos Watched

• 5 billion videos watched DAILY





77%88888

of all climate change related videos are uploaded by news channels (source) Many are alarmist in nature optimized for selling fear

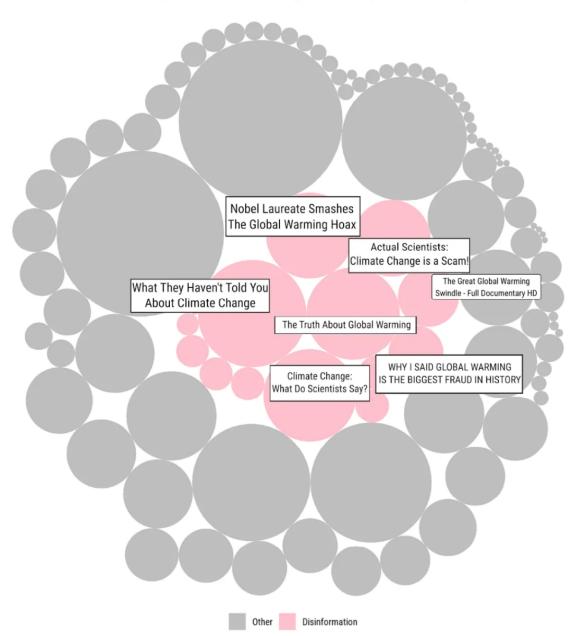
33%

less than 33% of videos attempt describing how to act on climate change



Misinformation videos account for over 20% of views for top 100 related videos for the search term "global warming"

Each circle is a video whose size is equal to number of views, and only videos with more than 500,000 views labeled. Based on the top 100 related videos for global warming related search queries.



Source - Avaaz

Climate Misinformation Stats

Pillar 1

For the search term "global warming, "16% of the top 100 related videos included under the up-next feature had disinformation about climate change (Source -Avaaz)

Pillar 2

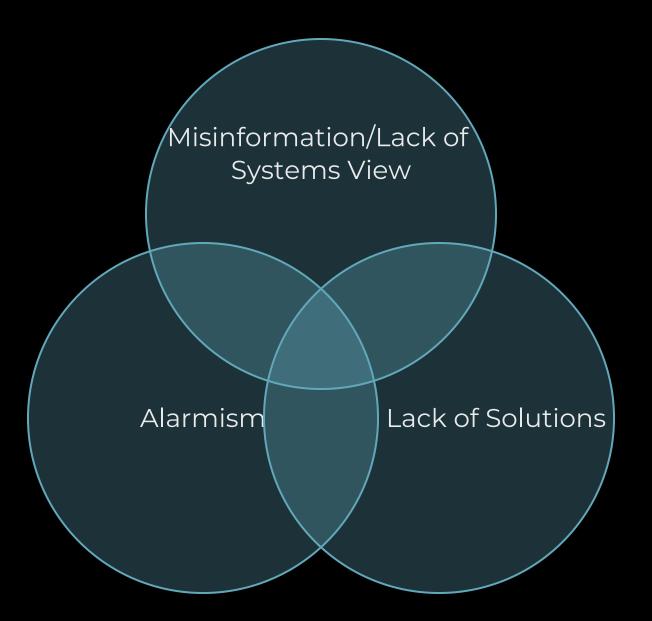
70% of the time users spend on YouTube is driven by the platform's recommendations

Pillar 3

The climate misinformation videos Avaaz reviewed had 21.1 million views collectively.

Search term: Global Warming	Channel	Views
What They Haven't Told You about Climate Change	PragerU, 2.31M subscribers	2,695,102
The truth about global warming	Fox News, 3.5M subscribers	2,000,427
Climate Change: What Do Scientists Say?	PragerU, 2.31M subscribers	1,982,846
Nobel Laureate Smashes the Global Warming	<u>1000frolly PhD, 31.3K subscriber</u> <u>s</u>	1,738,290
ACTUAL SCIENTIST: Climate Change is a Scam!	<u>StevenCrowder, 4.13M subscribe</u> <u>rs</u>	1,371,327
The Great Global Warming Swindle - Full Documentary HD	Wisdom Land, 328K subscribers	859,213
WHY I SAID GLOBAL WARMING IS THE BIGGEST FRAUD IN HISTORY - Dan Pena I London Rea	London Real, 1.07M subscribers	694,352
Fatal Flaw In Climate Change Science	<u>Suspicious0bservers, 426K subs</u> <u>cribers</u>	266,921
Lord Christopher Monckton - Global Warming is a Hoax	Ideacity, 27.8K subscribers	258,563
25 NASA Scientists Question the Sanity of the Global Warmists	<u>1000frolly PhD, 31.3K subscriber</u> <u>s</u>	255,348

Trio of Climate Info on YT



Solutions for YouTube

Data based videos

Actual data based facts need to be presented with references and visualization

Engaging Videos

Engagement and audience retention is difficult to maintain with educational/informative videos. The challenge is to make them entertaining.

Scientific Sources

References to peer-reviewed articles are included in the video description

• Call to Climate Action

Specific resources and practical tips with examples need to be described in the video for various levels of society







Video Focus Points

How to drive action from scientific videos



Specific Climate Action Tips

Instead of vague climate action tips, provide resources and examples of real life action





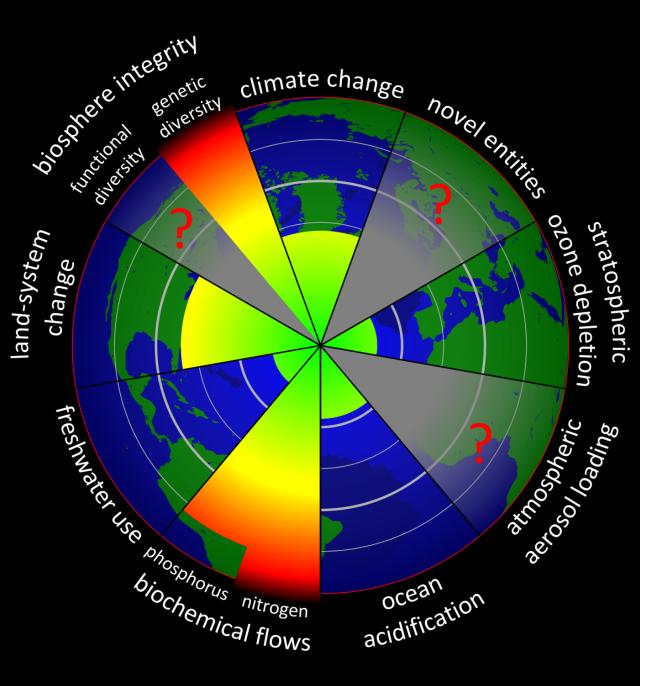
Systems View of Climate Change

Focus on co-benefits of climate action and interconnections with society and Earth systems

Personalize the message

How does climate change affect the viewer and how can they benefit in social or financial ways from climate action?





Planetary Boundaries

Credit: Rockstrom et al., 2009

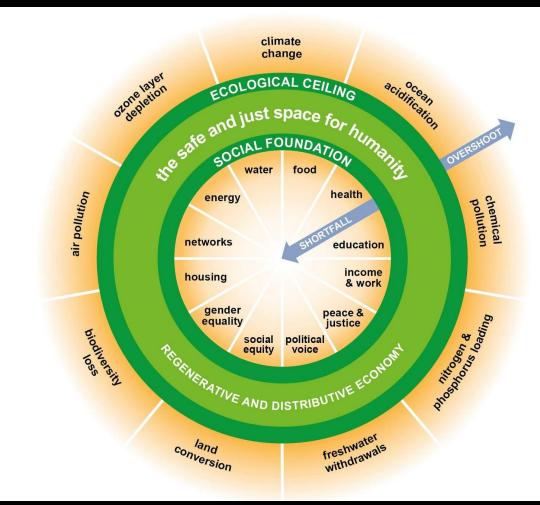
BREAKING BOUNDARIES DOCUMENTARY

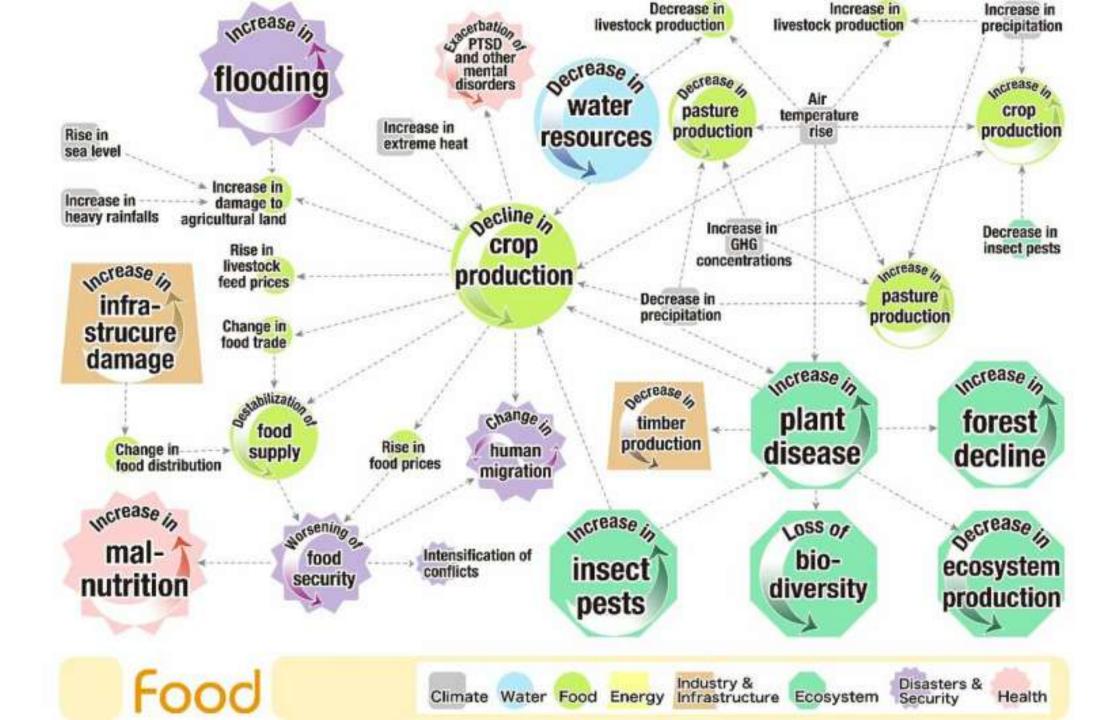
The Doughnut Economy

"Humanity's 21st century challenge is to meet the needs of all within the means of the planet. In other words, to ensure that no one falls short on life's essentials (from food and housing to healthcare and political voice), while ensuring that collectively we do not overshoot our pressure on Earth's lifesupporting systems, on which we fundamentally depend – such as a stable climate, fertile soils, and a protective ozone layer.

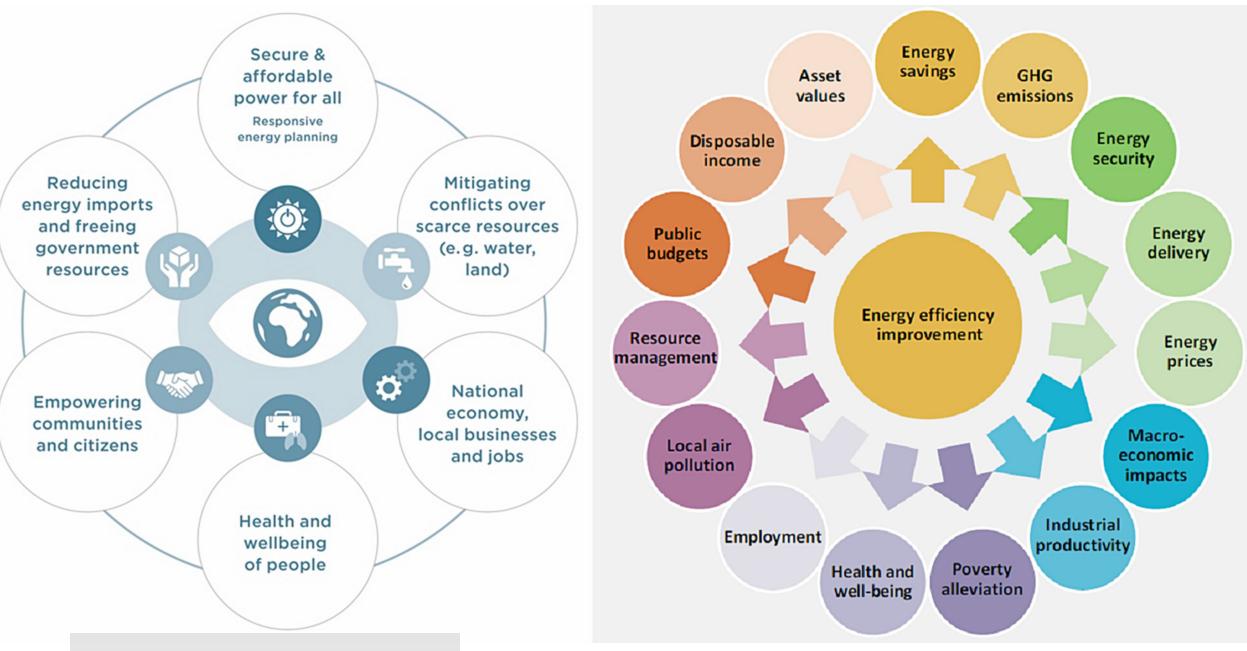
The Doughnut of social and planetary boundaries is a new framing of that challenge, and it acts as a compass for human progress this century."

- Kate Raworth





Climate Action Co-Benefits



Source -Helgenberger et al., 2019

healthmicroplastics Deforestation environment piodiversity action econom extinction species \bigcirc Indigenous policy restoration pollution \bigcirc well-being



Target Audience Avatars

Age Groups

High School - 16-19 College and Early Professionals - 18-25 Young Parents - 26-34

Hobbies

Hiking and Camping Cycling Reading sci-fi and non-fiction Gardening Animal care Volunteering Coding Interests

Sustainability Eco-friendly behaviors Zero waste Science documentaries Sustainable technologies Healthy eating Biomimicry

Professions/College Majors

Earth/Climate science Environmental studies Chemistry/Physics Biology/Ecology Civil engineering Sociology/Psychology/Anthropology Data science

Top geographies

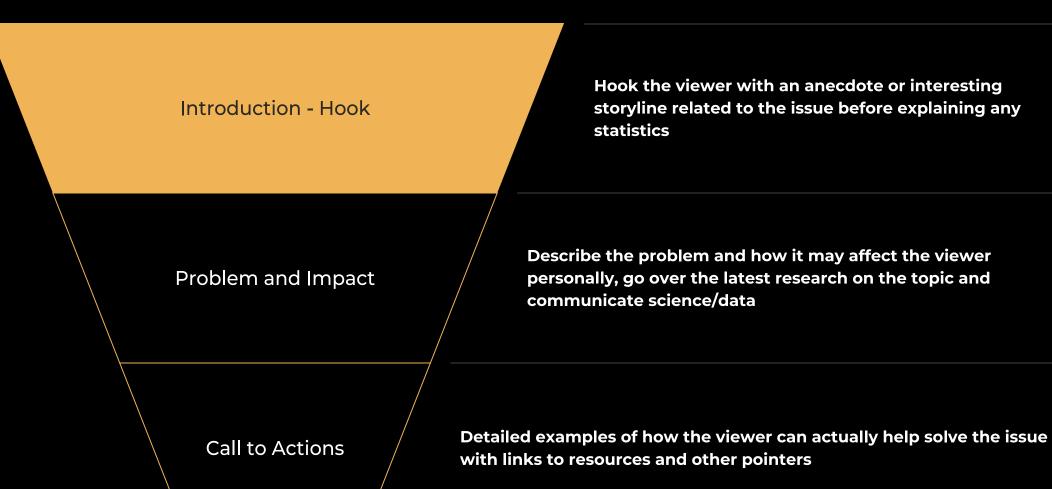
Views · Last 28 days

United States	
Canada	-
India	•
Brazil	•
United Kingdom	•





Video Framework



Levels of Actions to Communicate





Journey of Climate Ed. on YT

Interviews

Conversations with changemakers and scientists on specific topics

Learn and produce

Keep improving with each video and become a better video creator with more detailed info

Showcase

Demonstrate real examples of technologies, communities, and cities which mitigate cc

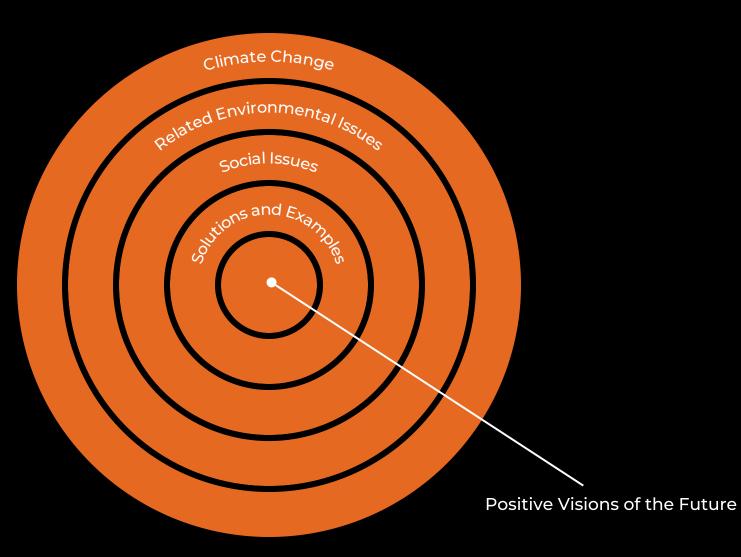
Fundraise

Raise funds and support impactful climate action oriented organizations

Classroom Resources

Have videos a part of curriculum discussions or assignments

Ultimate Goal of Climate Ed. on YT



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Other Climate Education Channels

- Our Changing Climate
- ² ClimateTown
- ³ Beckisphere
- ⁴ Just Have a Think
- 5 ClimateAdam
- ⁶ Engineering with Rosie
- 7 Kurtis Baute
- ⁸ Sustainability Illustrated
- 9 Drgilbz



In order to change an existing paradigm you do not struggle to try and change the problematic model. You create a new model and make the old one **obsolete**.

~Buckminster Fuller