

Final Strategy Memo: Data Analytics & Metrics

Anthony Leiserowitz, Ph.D., Director, Yale Program on Climate Change Communication
Subject: Data Analysis Consultation

Dear Dr. Leiserowitz,

It is my honor to present to you the findings of the data consultation inclusive of a review of the status of the program, a hypothesis, future recommendations, and a set of decisions for your team to consider. I am including information based on my discoveries that should help your team conduct actionable next steps.

Current Background and Overview

The Yale Program on Climate Change Communication's (Yale) mission since 2005 has been "to advance the science of climate change communication, help leaders communicate more effectively, and increase the public's understanding of climate risks and opportunities". The program has conducted scientific research studies sharing solutions with the all audiences through public-private partnerships and to inform strategies and decisions regarding the attitude towards climate change. Specific projects have entailed Yale Opinion Maps, collaboration with *Yale Climate Connections* radio program, and other surveying studies that have resulted in global reach.

Hypothesis

Our hypothesis for Yale is that the population in Texas would benefit significantly from education on climate change and renewable energy. Yale's network of relationships would allow them to create an educational understanding and minimize climate change risk perceptions. Key partnerships range among demographic audiences inclusive of NGOs, nonprofits, and for profits agencies to deliver the best solutions. As the population becomes more diverse, Yale has an opportunity to inform, educate, and motivate young people in Texas about global warming and increase their support to

fund renewables and rebates. Specifically, data shows that young people in growing urban areas may be the easiest demographic to educate and inform.

Alternative Perspectives and Challenges

1. Other states that align with similar population sizes as Texas should be considered and polled for similar education awareness (Fig 1).
2. The two main metrics of opposition to renewable energy research and opposition to rebates must be mission and data driven and could be subject to change over time due to seismic population density and survey error.
3. The favorability data on funding research is further explored when comparing Texas to the USA Average (Fig 2). Many states are already favorable towards funding renewable energy research and rebates, it could be ideal to further educate those populations who are already well informed creating a broader focus for expansion than an individualized state approach.
4. Not only is Texas the second most populated states, but it is the largest producer of the fossil fuel industry with many enforced policy and media pressures.
5. The Texas population has an average age of 35 with 66% consisting of those under 19 who are non-white. This demographic change could determine how voters rank climate change as a policy issue nationwide versus just statewide. Currently, 60% of young voters view this issue as a major threat to society.

Key Performance Indicators

The ideal end state solution includes three major KPIs and recommendations. All these options include researching audiences, crafting differentiating renewable energy messaging for these audiences, targeting audiences that could distribute educational content, and measurable objectives for evaluation to eventually expand this campaign

to from Texas to all 50 states. Criteria for these chosen KPIs includes local community beliefs, demographic information, percentage change for other outlier opposed states, media perceptions, the type of converged media utilized, career parameters, educational curriculum, and more. Demographic metrics are the best solution to determine communication, awareness, and climate change education deliverables as representative of these SMART KPIs.

KPI #1 Population reach through media, partnerships, and social media.

Recommendation: Implement educational appeals to reach target audiences

promoting awareness. 3 million deliverables/year or 250,000/quarter – specific and measurable. Owned, paid, and earned media with create goal of converged media.

Pros: Education deliverables will provide measurable data. Creates a consistent awareness campaign across all mediums. Partnership appeals in tandem with local, state, and federal organizations and government organizations seem to be the most fruitful way to reach the diverse population.

Cons: Deliverables could be too extensive for Texas constituents to comprehend. Appeals could be ignored. Before the population can be reached, Yale needs to determine how various population demographics use social media and interact with other types of marketing appeals – relevance. Social media campaigns could be construed differently as positive or negative based on policy and risk perceptions along with the emergency of fake news, so this KPI must be watched carefully.

KPI #2 Decrease Texas opposition from rebates from 19.8% to 17% in three years.

Recommendation: This rebate opposition will bring Texas equal to the current national average of opposition. It can be measured by comparing percentages of those opposed to rebates from 2020 to 2021 to see if education strategies are working.

Pros: Gradual decrease can be shown through an analysis of year by year. This method allows for the perfect data-driven case study of other opposed states versus national average metrics.

Cons: Opposition decrease over a 1-year period from 2020 to 2021 may not represent accurate time-based metrics. As our programming is based on a 3-year scale with annual input data, the decrease should be 2018 to 2021 to provide varied samples.

KPI #3 Decrease Texas opposition from renewables from 16.8% to 14% in three years.

Recommendation: This renewable energy opposition will bring Texas below the current national average. Similarly, percentages can be measured from 2020 to 2021.

Pros: Greatest opportunity for impact as Texas is the 2nd largest populated state which will lead to greatest expansion. With the population set to double in Texas, Yale points out that “shifts in public opinion at the subnational level since 2014” are based not only statistics, but demographics demonstrating changes in opinion overtime at a state level.

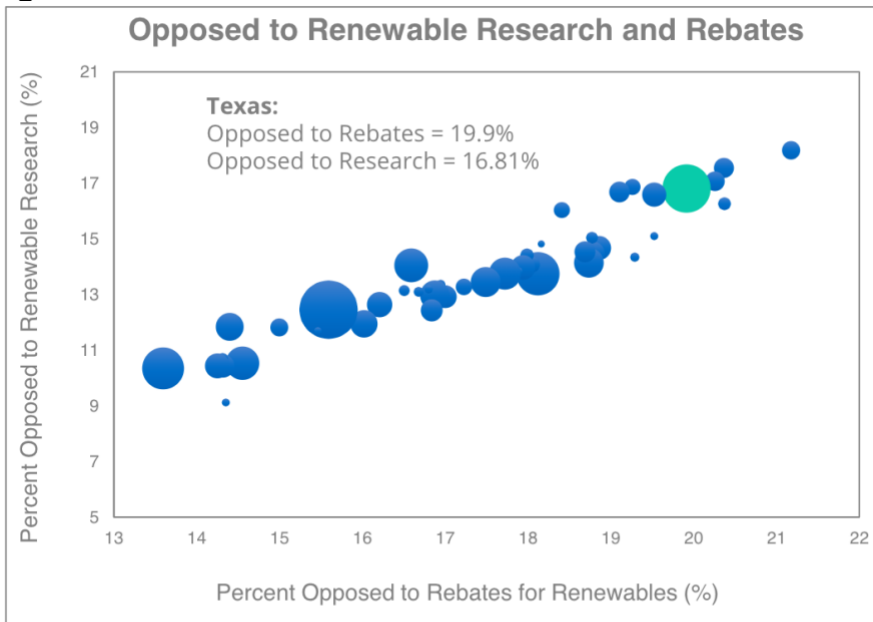
Cons: It may not be possible to decrease opposition below the national average. Goals should be realistic and attainable. The lack of media representation in Texas surrounding renewables funding only at 23% is alarming (Fig 2). Furthermore, when media does appear around Texas and global warming, the state is shown to consistently have the strongest opposition.

Conclusion

These KPIs must be discussed to determine if they have the best interests of the program at heart and lay the best foundation for a stronger data driven culture. The Yale Program on Climate Change Communication has a great future in increasing the Texan population perception on climate change, global warming, and renewable energy.

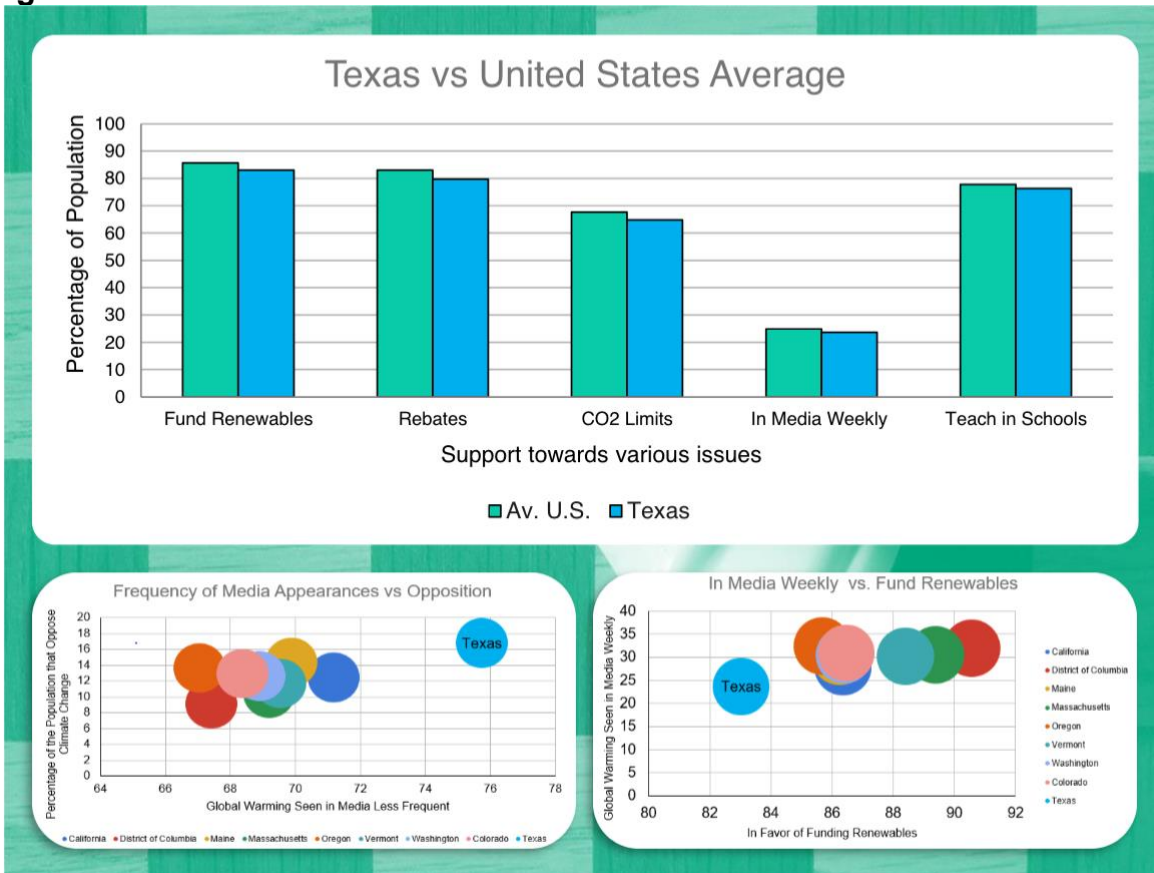
Please contact me with any further details needed to implement these solutions.

Figure 1



● Bubble Size represents population size by State

Figure 2



Decision Making Framework

Framework Steps	Key Questions We Need Answered
<p>1) Identify the problem or opportunity</p>	<p>What is the problem we are trying to solve? Educate the people in Texas about renewable energy benefits, climate change research, and rebates</p> <p>Where is there an opportunity for the organization? The population in Texas would benefit significantly from education on climate change and renewable energy.</p>
<p>2) Gather information</p>	<p>What do we need to know before we can make a decision? Who knows, who can help, and who can influence the decision?</p> <ul style="list-style-type: none"> • At present, Yale conducts scientific research and case studies on climate change knowledge, changing attitudes, policy support, and behavior perception including political and socioeconomic factors. • Numerous partnerships can assist government – federal, state and local, nonprofits, and for-profit corporations. • The media will play a huge part in regard to frequency of appearance of climate change in the media – on a weekly and daily basis.
<p>3) Analyze the information</p>	<p>What alternative courses of action are there? What different interpretations of the data might be possible?</p> <ul style="list-style-type: none"> • The focus on allocating resources to Texas may be hard to impact and expand to all 50 states. • Population size and demographic changes could weigh heavily. • As the #1 producer of oil and gas, political and economic forces in Texas may make education impossible.
<p>4) Develop options</p>	<p>What is the ideal end state situation? What are several possible options that could be pursued?</p> <ul style="list-style-type: none"> • KPI #1 Population reach through media, partnerships, and social media. • KPI #2 Decrease Texas opposition from rebates from 19.8% to 17% in three years. • KPI #3 Decrease Texas opposition from renewables from 16.8% to 14% in three years.
<p>5) Evaluate Alternatives</p>	<p>What criteria should be used to evaluate alternative? Which alternatives will best achieve our goal?</p> <ul style="list-style-type: none"> • Statewide versus nationwide comparisons • Opposition to renewable and rebates may vary • Demographic changes and other parameters may be at play including policy support and risk perception

<p>6) Make a Decision</p>	<p>What are the first key steps needed to make the decision?</p> <ul style="list-style-type: none"> • Determine concentrated focus area – state, county, etc. • Gauge attitudes – positive versus negative • Other risk perceptions related to target audience • Effective outreach to media channels and outlets <p>What are the potential risks or challenges with the decisions?</p> <ul style="list-style-type: none"> • Is a targeted area such as Texas too narrow? • Determining if the goal is about maximum geographical impact or reaching the greatest needed population • Accuracy of survey results and historical data overtime
<p>7) Act on the Decision</p>	<p>What is the plan to implement the decision?</p> <ul style="list-style-type: none"> • Focus on increasing one’s states understanding and education around climate change • Funding will continue to grow into larger geographic regions with a goal of reaching a nationwide strategic plan <p>Who needs to be informed, engaged, and committed?</p> <ul style="list-style-type: none"> • All partners – government, nonprofits, for-profits • Media – stop spread of disinformation • Oil & gas companies – can sway policy makers, control government buy-in, and craft campaigns

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