Putting into Practice the Principles of Effective Climate Change Communication

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Science Talk
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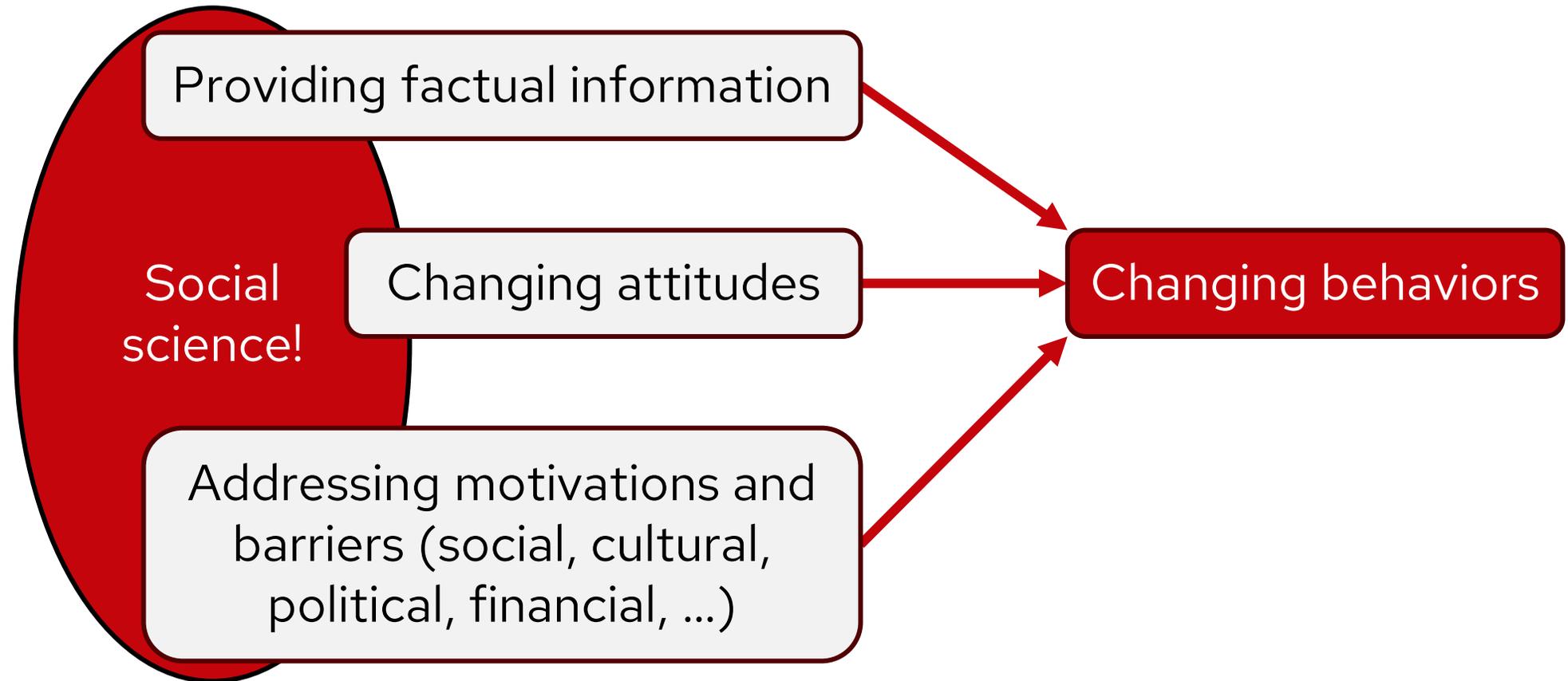Extension
UNIVERSITY OF WISCONSIN–MADISON

What are your communication goals?

Providing factual information

Changing attitudes

Changing behaviors

Ballew et al., 2024

What are your communication goals?

Ballew et al., 2024

OUTLINE

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation and disinformation

Putting the pieces together

Who is the right messenger?
What communication channels will you use?

Audience Segmentation

The "general public" does not exist

Where do they get their information?

Who do they trust?

What is their background knowledge?

What do they value?

What metaphors or cultural references will they understand?

What resources do they have access to?
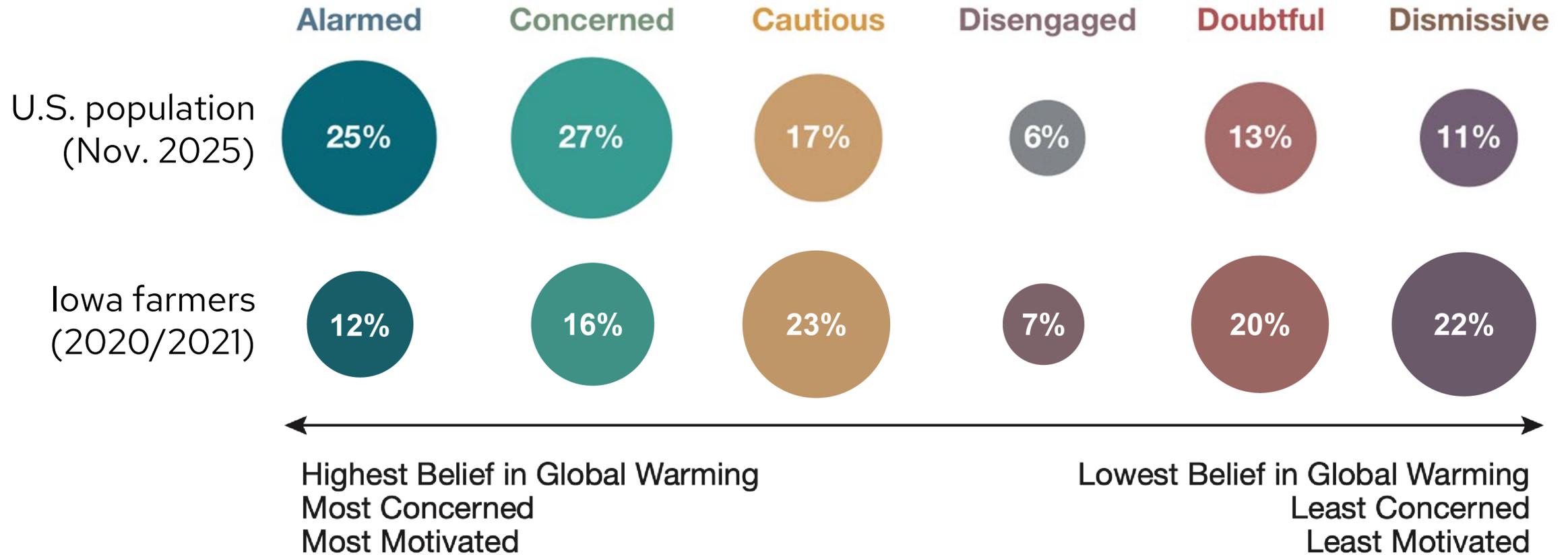
Image: mododeolhar

Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

Global Warming's Six Americas

	Alarmed	Concerned	Cautious	Disengaged	Doubtful	Dismissive
U.S. population (Nov. 2025)	25%	27%	17%	6%	13%	11%
Iowa farmers (2020/2021)	12%	16%	23%	7%	20%	22%

Highest Belief in Global Warming
Most Concerned
Most Motivated

Lowest Belief in Global Warming
Least Concerned
Least Motivated

Chryst et al., 2018, Leiserowitz et al., 2026; Nowatzke & Arbuckle, 2024

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

One size does not fit all

• Three basic audience categories:

Actively want to address climate change

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

One size does not fit all

- Three basic audience categories:

Actively want to address climate change

Acknowledge climate change but don't prioritize it

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

One size does not fit all

- Three basic audience categories:

Actively want to address climate change

Acknowledge climate change but don't prioritize it

Are opposed to the phrase "climate change"

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Choose your scope strategically

	Audience size		Usefulness to audience	
Broad scope	Large	👤👤👤👤	Low	☆☆★
Narrow scope	Small	👤👤👤👤	High	★★★

Pick your specific **audience segment** and desired **behavioral outcome**

To say "climate change," or not to say "climate change"

The elephant and donkey in the room

- Political ideology is the strongest demographic predictor of climate change attitudes

- People engage in *motivated reasoning*—facts are not enough!

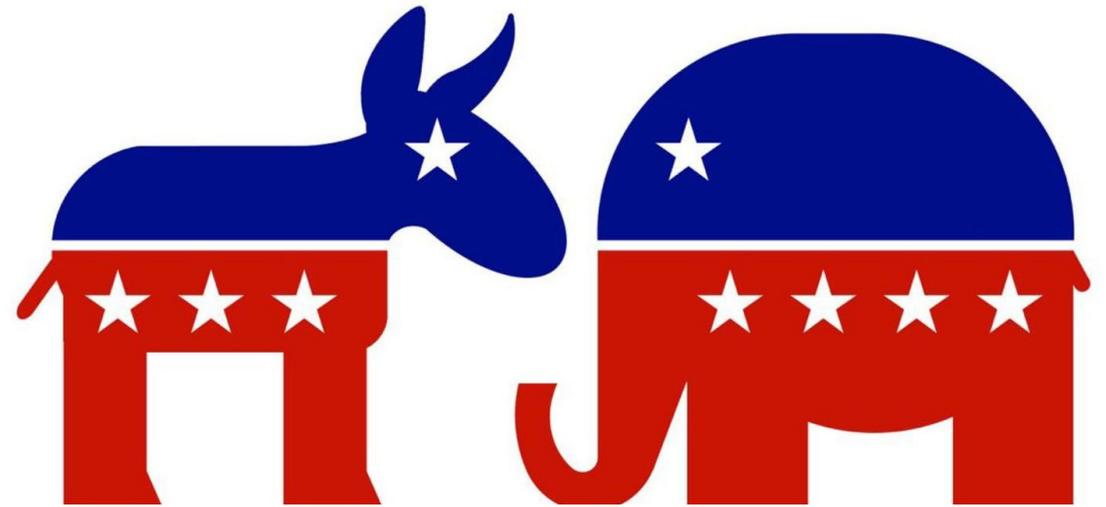- BUT be careful to not stereotype or overgeneralize

Image: CNN
Hornsey et al., 2016; Kahan et al., 2012

Overcoming polarization

"Climate change" ❌

" The words are what they object to, not necessarily to the activities that are being done under those words. "

—*UW–Madison Extension Community Economic Development educator*

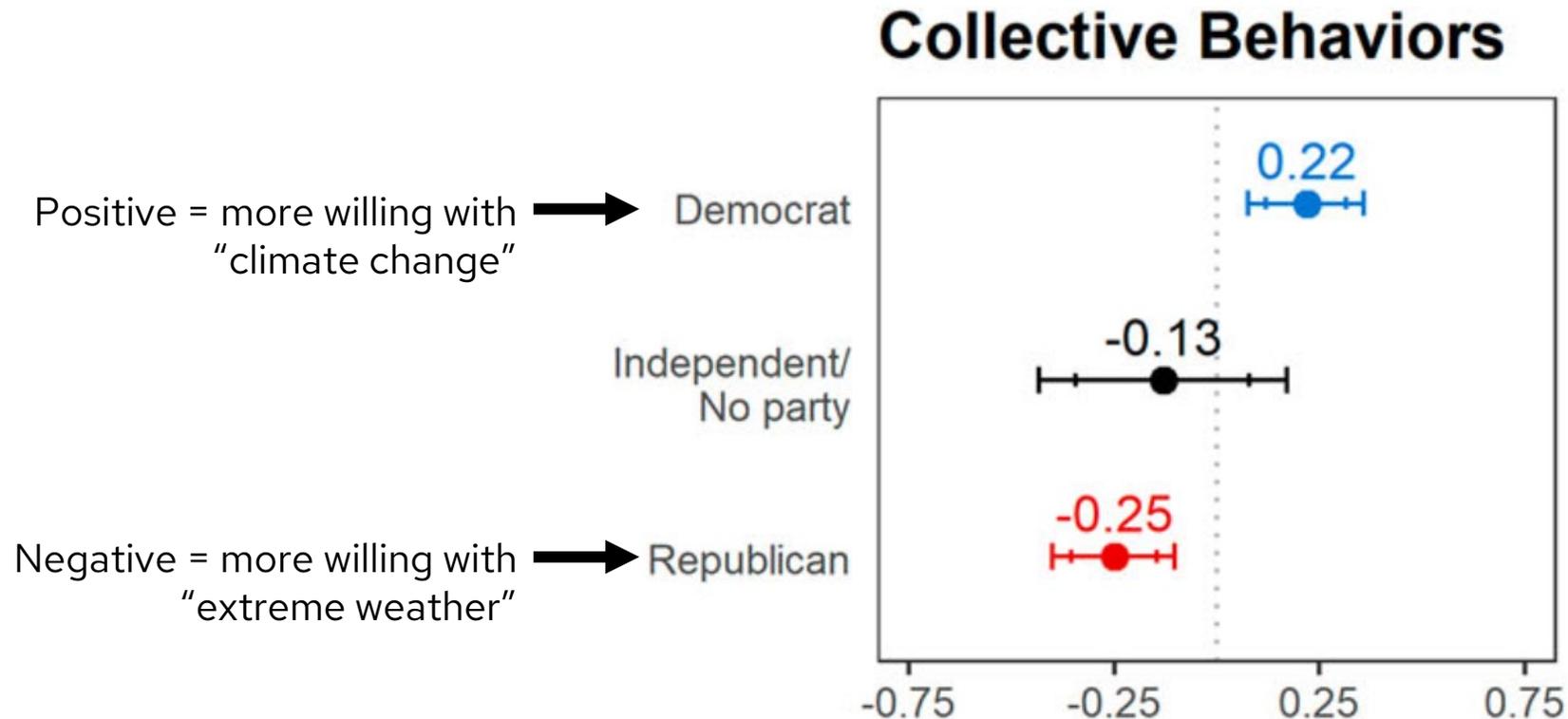"Changing weather patterns" ✅

"Changing climate" ✅

"Climate variability" ✅

"Extreme weather" ✅

Hershberger & Newman, in press

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

"Climate change" vs "extreme weather"

- "How willing or unwilling are you to do each of the following to help your local community prepare for the impacts of [extreme weather/climate change]?" (graph shows average of 8 items)

Collective Behaviors

Positive = more willing with "climate change" →

Negative = more willing with "extreme weather" →

Democrat: 0.22

Independent/No party: -0.13

Republican: -0.25

Carman et al., 2022

| Audience segmentation | Word choice | Values and agency | Social norms | Misinformation |

What if my audience is mixed?

- **DON'T** unnecessarily activate partisan identities
- **DO** activate shared identities
- Emphasize specific, local, & relatable aspects of climate change
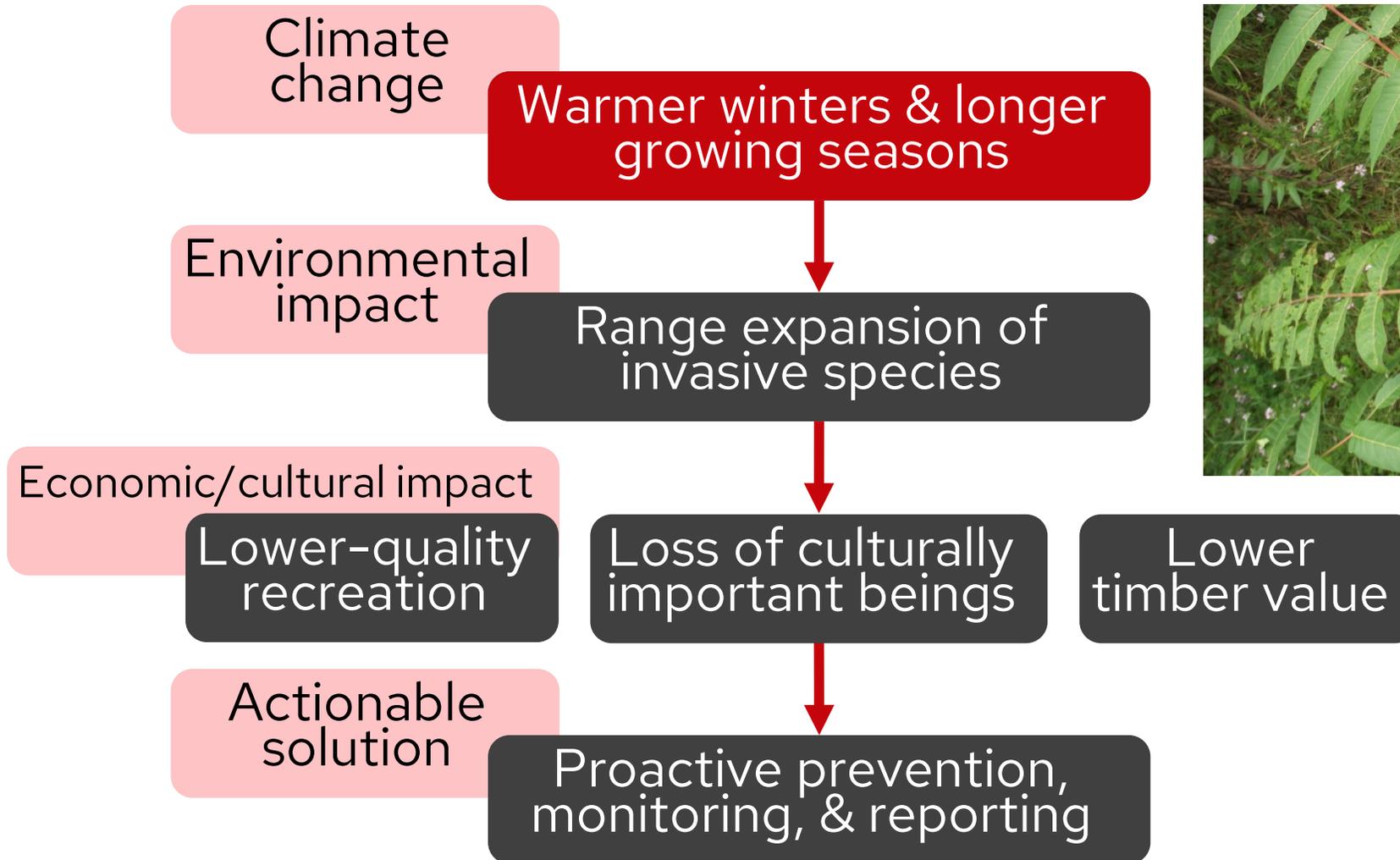

Image: clmcdk fejcn

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Be specific, local, and relatable

Warmer winters & longer growing seasons

Environmental impact

Range expansion of invasive species

Economic/cultural impact

Lower-quality recreation

Loss of culturally important beings

Lower timber value

Actionable solution

Proactive prevention, monitoring, & reporting

Image: Richard Gardner, Bugwood.org

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation
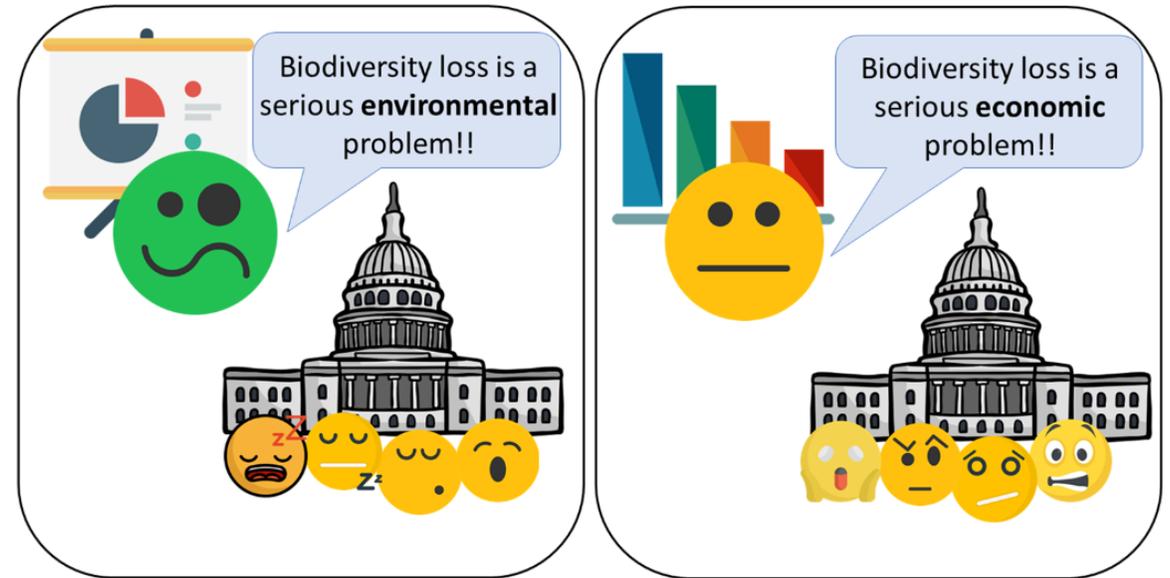
How will you refer to the concept of climate change?

Value-focused messaging and cultivating a sense of agency

Message framing

- Draw attention to one aspect of a topic while deemphasizing other aspects
- Both text and visuals matter

Biodiversity loss is a serious **environmental** problem!!

Biodiversity loss is a serious **economic** problem!!

Guenther et al., 2023
Images: USDA; Kusmanoff et al., 2020

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Message framing

- Emphasize "do more good," not "do less bad"

"Ban" ❌

"Mandate" ❌

"Phaseout" ❌

"Decrease your use of single-use products that are often thrown away" ❌

"Upgrading" ✅

"Setting standards" ✅

"Making solutions accessible" ✅

"Increase your use of reusable products that last a long time" ✅

Marshall et al., 2023; Radke et al., 2026

| Audience segmentation | Word choice | Values and agency | Social norms | Misinformation |

Example: Tribal Adaptation Menu

- Respect for all beings

- Reciprocity

- Building relationships
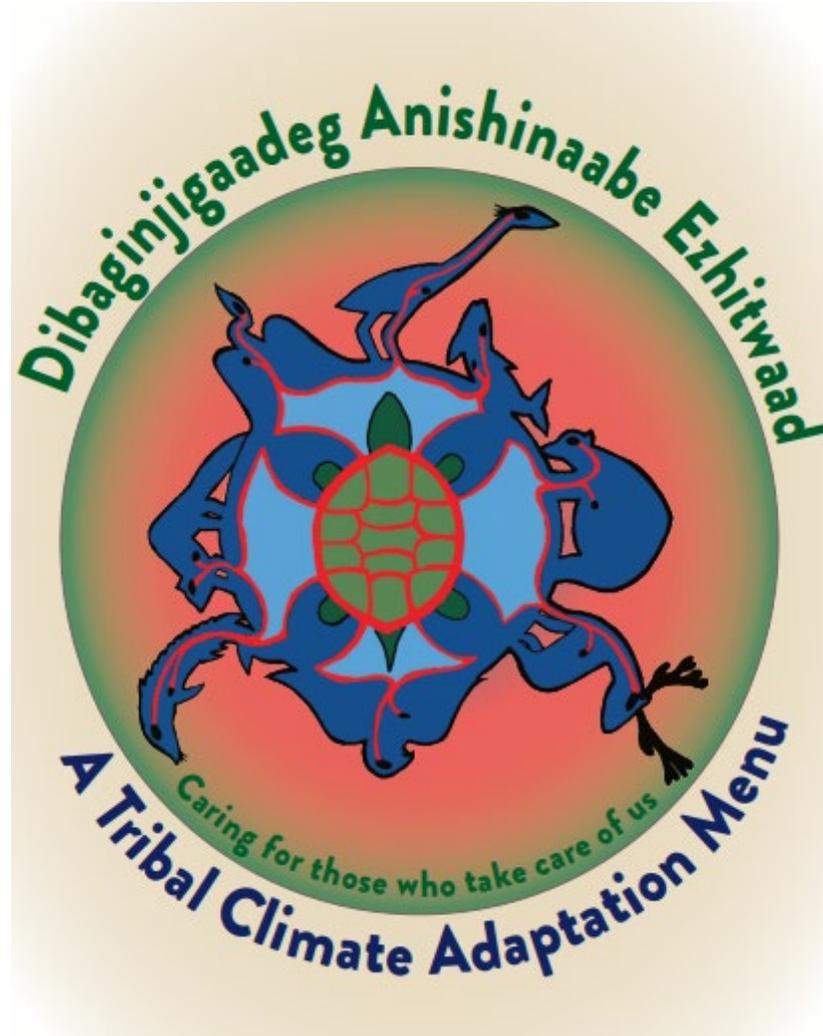
Tribal Adaptation Menu Team, 2019

Example: Rotary Club Four-Way Test

THE FOUR-WAY TEST
Of the things we think, say or do:

first — Is it the **TRUTH**?

second — Is it **FAIR** to all concerned?

third — Will it build **GOODWILL** and **BETTER FRIENDSHIPS**?

fourth — Will it be **BENEFICIAL** to all concerned?

" I never thought too much of this whole global warming thing, but it passed the Four-Way Test. "

–Texas businessman

Hayhoe, 2021

Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

Efficacy: an active form of hope

"Here's the big problem the *world* faces."

"Here's the big problem *you* face, and **here's what you can do about it.**"

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Example: invasive stiltgrass outreach campaign

Stiltgrass: building efficacy

"Take photos and send them to forestry@extension.wisc.edu or Invasive.Species@Wisconsin.gov"
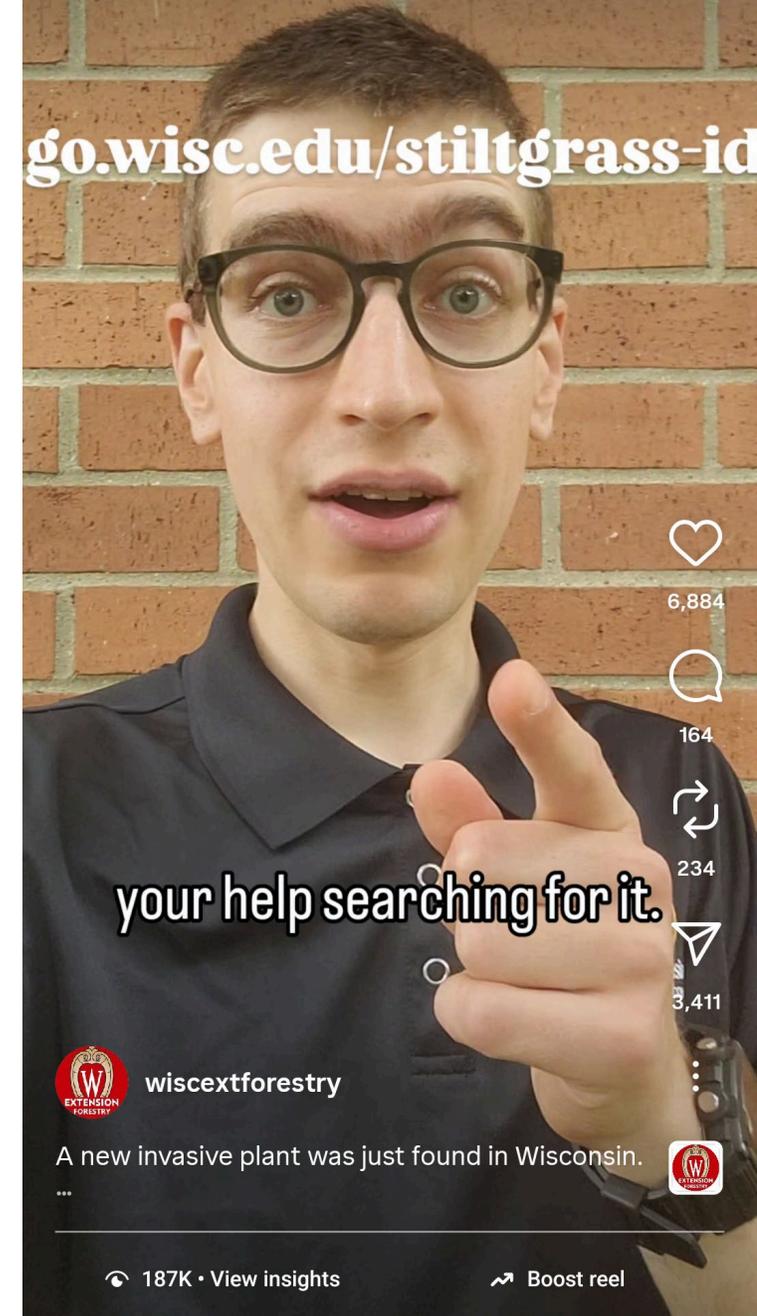
| Audience segmentation | Word choice | Values and agency | Social norms | Misinformation |

Stiltgrass: real-world outcomes

- 3 more infestations found within 3 weeks
  - 2 are small and likely to be eliminated!

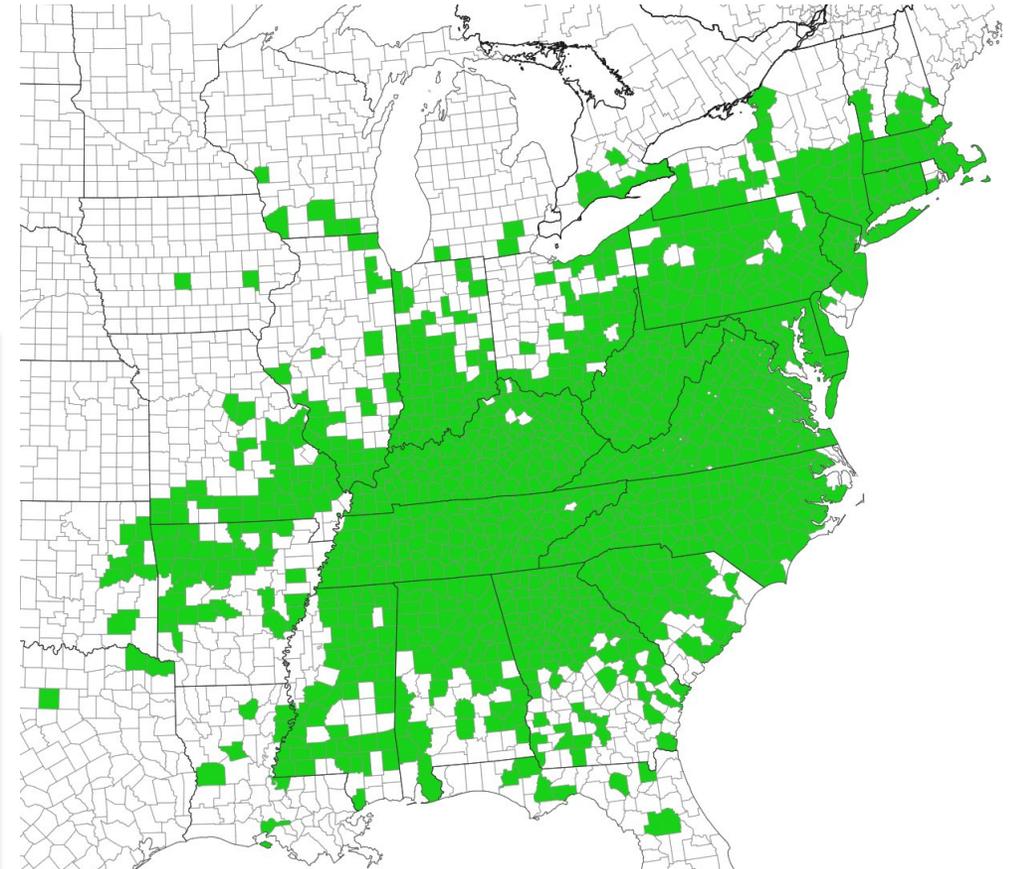> **Donna Witt Laughlin** · 2d
>
> I'm so glad I posted when I saw this information . Someone found it and had it confirmed because of my post and another was thinking they also found some. Sharing definitely makes a difference.
>
> Reply   👍 5

Map: EDDMapS reported stiltgrass locations as of September 2025

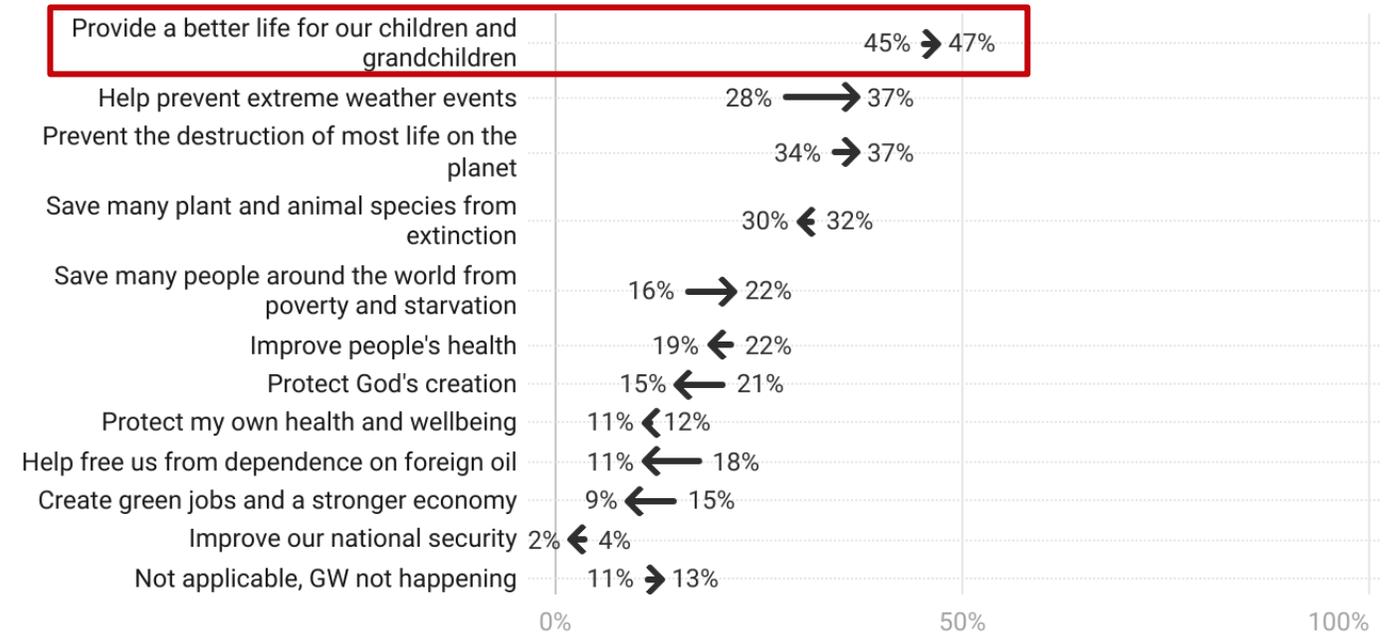Audience segmentation | Word choice | **Values and agency** | Social norms | Misinformation

What if my audience is mixed?

- Emphasize the value of providing a better life for future generations

Changes in U.S. registered voters' views of the most important reasons to reduce global warming, 2017 → 2024

% selecting as a top 3 "most important" reason

Provide a better life for our children and grandchildren	45% → 47%
Help prevent extreme weather events	28% → 37%
Prevent the destruction of most life on the planet	34% → 37%
Save many plant and animal species from extinction	30% ← 32%
Save many people around the world from poverty and starvation	16% → 22%
Improve people's health	19% ← 22%
Protect God's creation	15% ← 21%
Protect my own health and wellbeing	11% ← 12%
Help free us from dependence on foreign oil	11% ← 18%
Create green jobs and a stronger economy	9% ← 15%
Improve our national security	2% ← 4%
Not applicable, GW not happening	11% → 13%

0%   50%   100%

Which of the following reasons to reduce global warming, if any, are most important to you? Please select up to three reasons.

May 2017 - April 2024.
Base: U.S. registered voters in May 2017 (n = 1070) and April 2024 (n = 896).

Image: Pixabay
Carman et al, 2024; Marshall et al., 2023; Syropoulos et al., 2023; Syropoulos & Markowitz, 2024

Audience segmentation	Word choice	Values and agency	Social norms	Misinformation

What does your audience **value?**
How can you increase **efficacy?**

Leveraging social norms to spur behavior change

Two types of social norms

Descriptive

- What do other people do?

- "More than 80% of UW-Madison students get to campus by walking, biking, or taking the bus."

Injunctive

- What do other people think is the right thing to do?

- "More than 80% of Madison residents think highly of their friends who bike to work."

Close reference group

↓

More powerful norms

Constantino et al., 2022; Miller & Prentice, 2016

Perceptions might not match reality

- Across many reference groups, people systematically underestimate how many people:
  - **Accept** that human-caused climate change is happening
  - **Are concerned** about climate change
  - Support individual climate-friendly **behaviors**
  - Support climate-friendly **policies**

Images: Edward Kimmel, CC BY-SA 2.0; Fibonacci Blue, CC BY 2.0

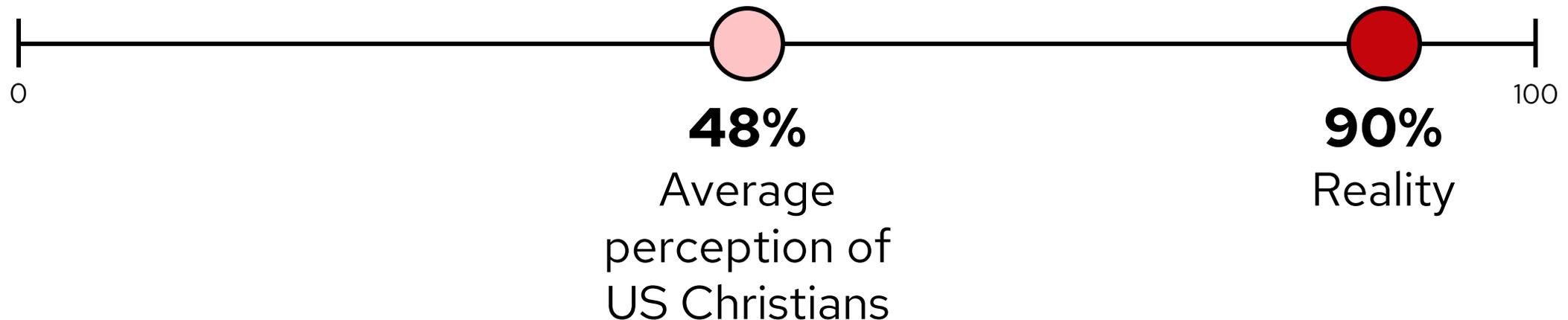Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

Pluralistic ignorance: acceptance

Proportion of US Christian religious leaders who accept that human-caused climate change is happening

0   48%   90%   100
Average perception of US Christians   Reality

Syropoulos & Sparkman, 2025

Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

Pluralistic ignorance: concern

Most Americans underestimate how worried the American public is about global warming

Legend: Underestimated · Correct · Overestimated · Don't know enough to say

The true percentage is 64%
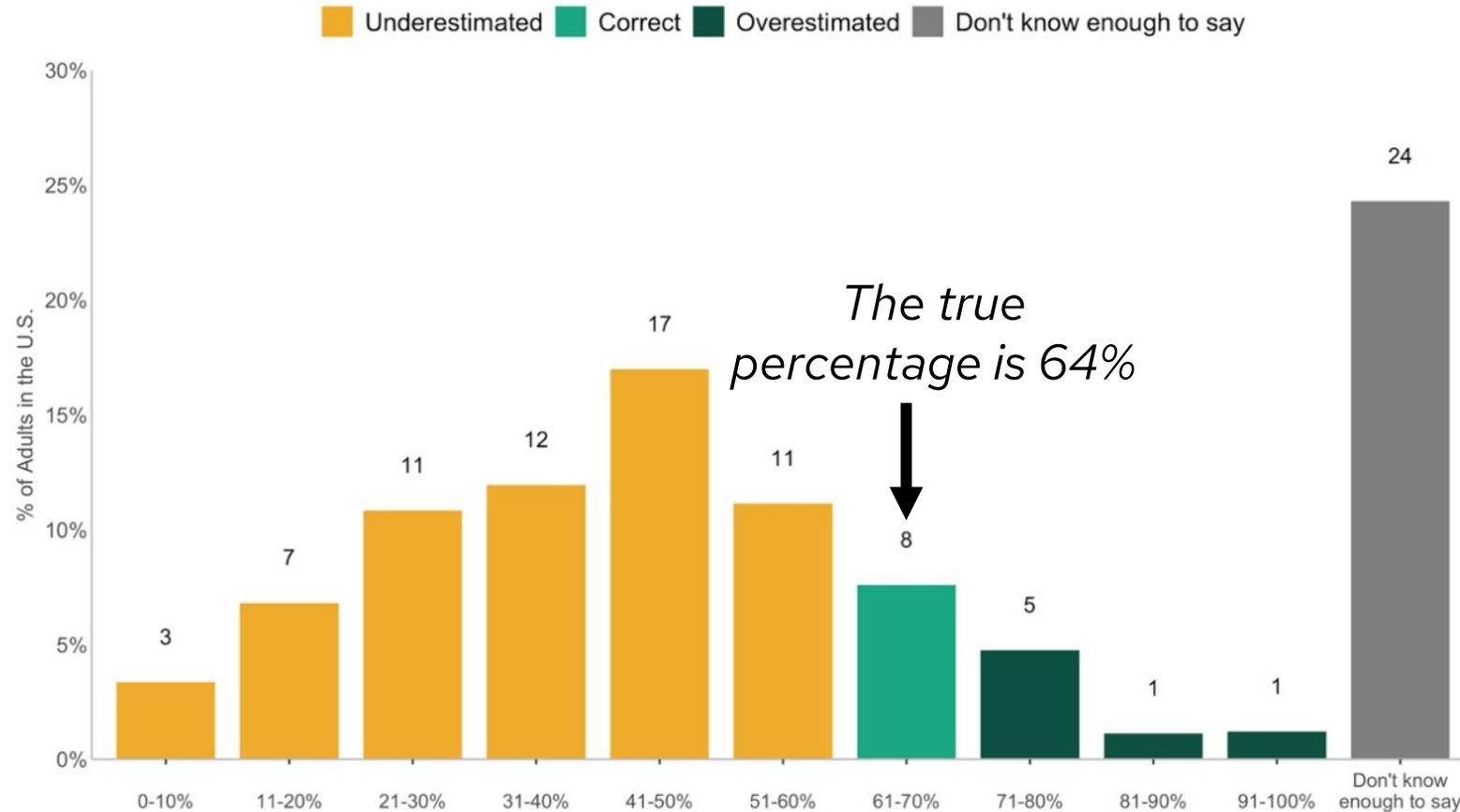
To the best of your knowledge, what percentage of adults in the United States (18 years or older) are worried about global warming?

Leiserowitz et al., 2026

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Pluralistic ignorance: policy support

perceived % supporting the policy	% supporting the policy
Reduce food waste	62% — 91%
Install solar panels	59% — 90%
Sign up for community solar	47% — 83%
Install a heat pump	47% — 81%
Eat less beef	47% — 77%
Drive an EV	45% — 71%
Buy carbon offsets	31% — 62%

Rare, 2026

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation
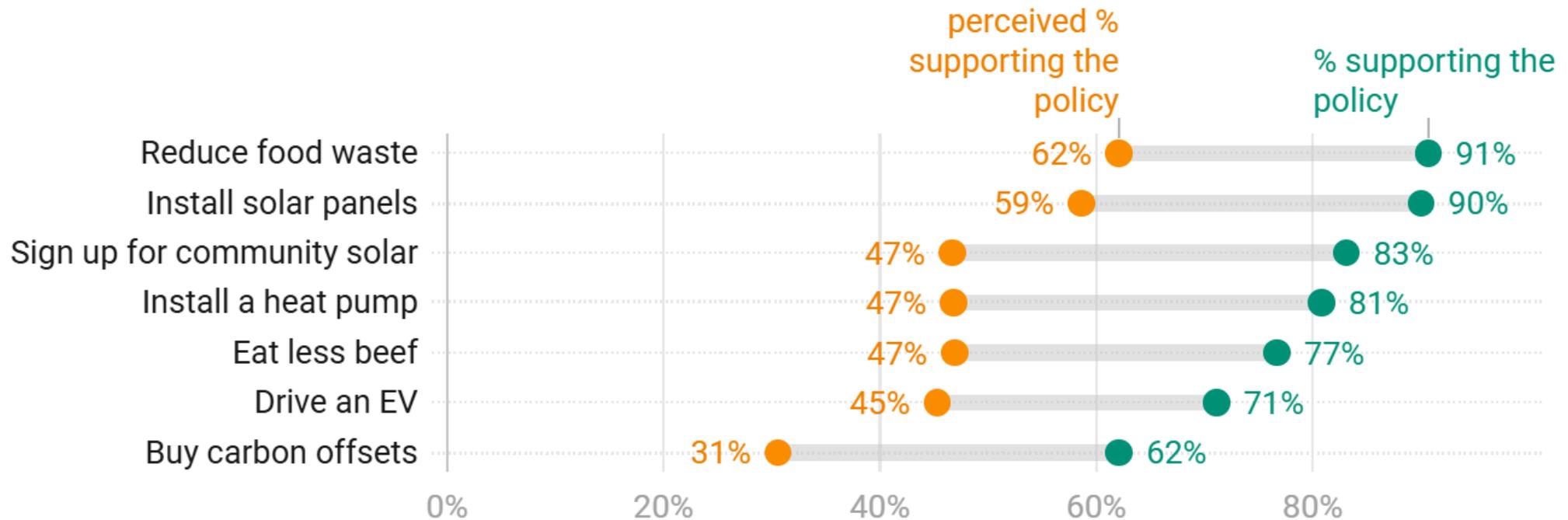
Pluralistic ignorance: within party

% Agree ● Democrats' estimate (of their own party) ● Democrats' actual views
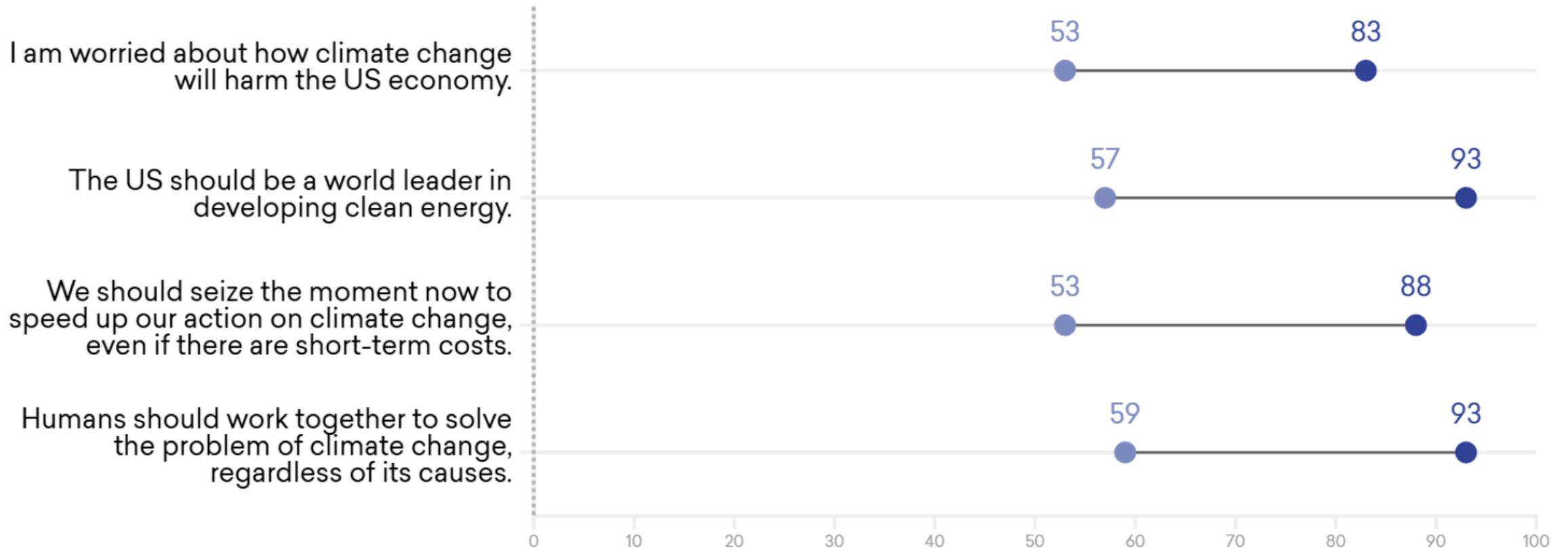
I am worried about how climate change will harm the US economy.
53 — 83

The US should be a world leader in developing clean energy.
57 — 93

We should seize the moment now to speed up our action on climate change, even if there are short-term costs.
53 — 88

Humans should work together to solve the problem of climate change, regardless of its causes.
59 — 93

0 10 20 30 40 50 60 70 80 90 100

More in Common US, 2025

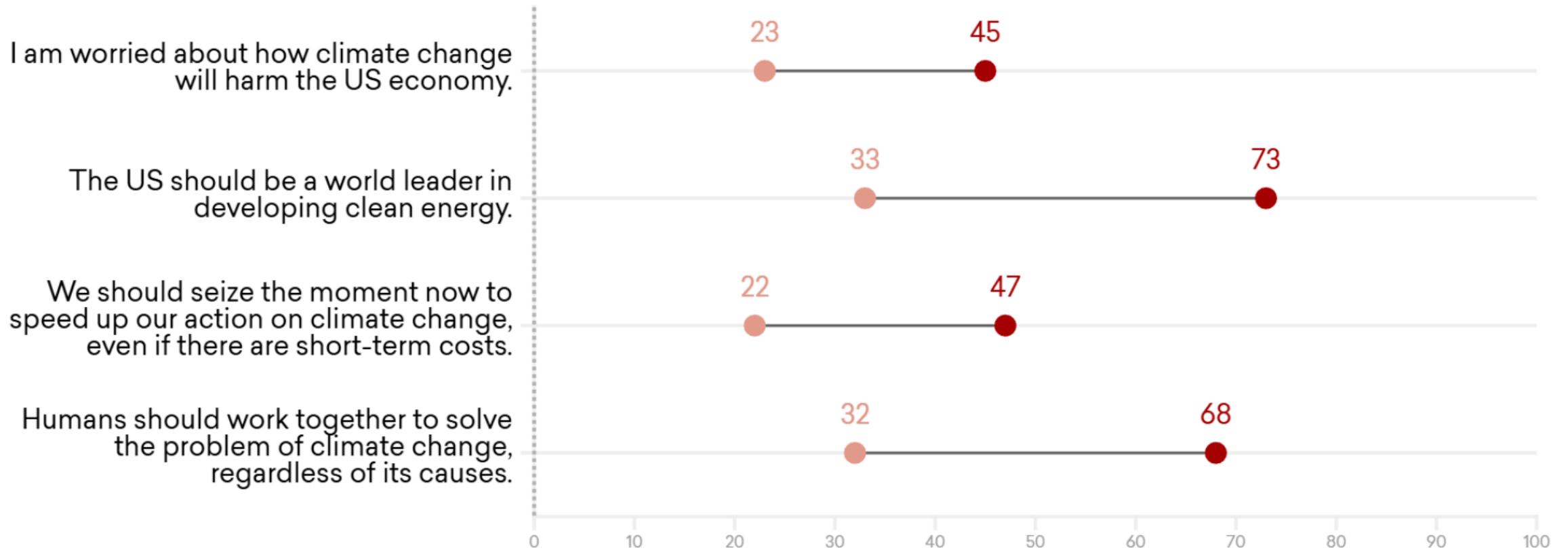| Audience segmentation | Word choice | Values and agency | Social norms | Misinformation |

Pluralistic ignorance: within party

% Agree ● Republicans' estimate (of their own party) ● Republicans' actual views

I am worried about how climate change will harm the US economy. — 23, 45

The US should be a world leader in developing clean energy. — 33, 73

We should seize the moment now to speed up our action on climate change, even if there are short-term costs. — 22, 47

Humans should work together to solve the problem of climate change, regardless of its causes. — 32, 68

More in Common US, 2025

Audience segmentation | Word choice | Values and agency | **Social norms** | Misinformation

Perceived social norms matter
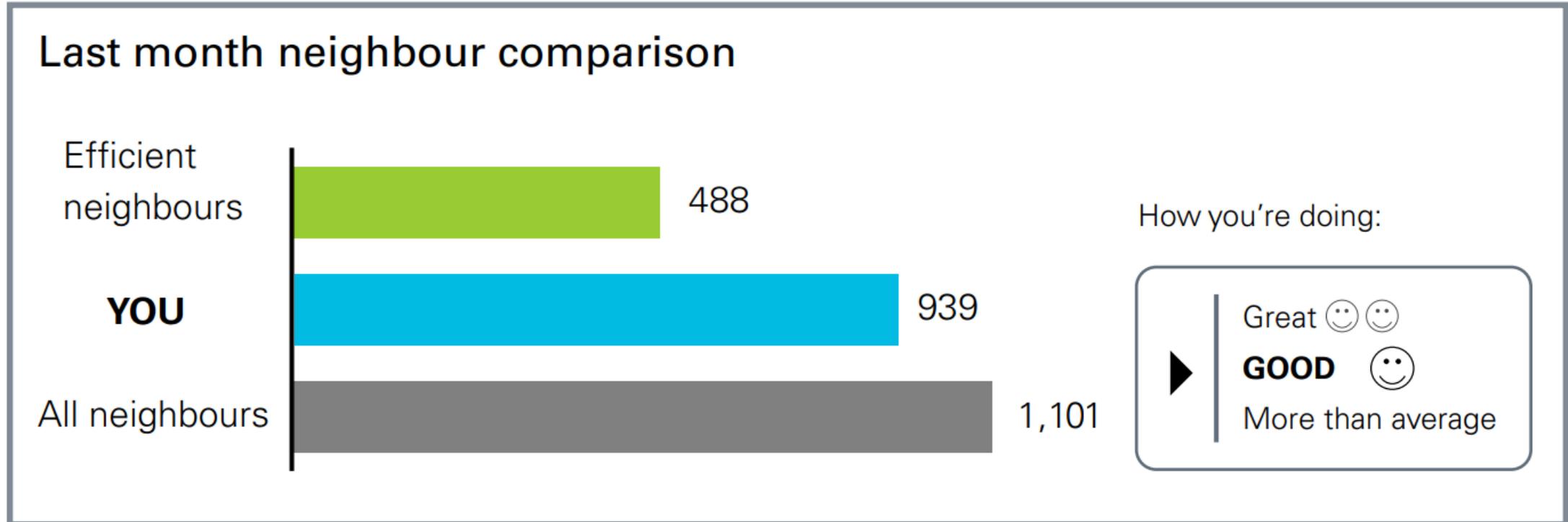
Learning the true norms

↓

Stronger

- Acceptance of climate change
- Worry about climate change
- Support for climate-friendly policies

Goldberg et al., 2020; Mildenberger & Tingley, 2019; Sparkman et al., 2022; Syropoulos & Sparkman, 2025

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Example: home energy conservation

Last month neighbour comparison

Efficient neighbours: 488

YOU: 939

All neighbours: 1,101

How you're doing:

Great ☺ ☺
▶ GOOD ☺
More than average

- Customers typically save 1.5%-2.5% on energy bills in first 2 years
- Since 2007: $2 billion in customer savings

Allcott, 2011; Rare, 2020

Make invisible norms visible

Audience segmentation   Word choice   Values and agency   **Social norms**   Misinformation
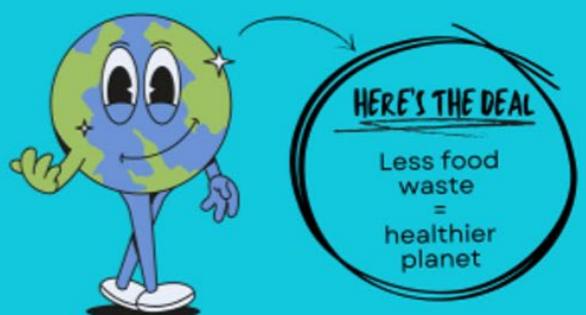
Example: food waste at Google

A 2023 survey found:

97% OF GOOGLERS

think Googlers should do what they can to avoid wasting food

HERE'S THE DEAL
Less food waste = healthier planet

Join in to stop food waste! Take what you'll eat.

A 2023 survey found:

96% OF GOOGLERS

care about being environmentally friendly

HERE'S THE DEAL
Less food waste = healthier planet

Join in to stop food waste! Take what you'll eat.

- Signage reduced food waste in Google cafeterias by 31%

Daker et al., 2025

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Don't highlight an undesirable norm

"Only 17% of Wisconsin woodland owners have a forest management plan." ✕

"Since 2018, more than 21,000 Wisconsin woodland owners have received a property visit from a DNR forester." ✓

Dynamic norm

Butler et al., 2021; Constantino et al., 2022; Sparkman & Walton, 2017

What **social norms** can you highlight? If you don't know the true norms, how can you find out?

How to handle misinformation and disinformation

Definitions

Altay et al., 2023

Audience segmentation   Word choice   Values and agency   Social norms   **Misinformation**

Types of misinformation

7 TYPES OF MIS- AND DISINFORMATION

SATIRE OR PARODY
No intention to cause harm but has potential to fool

MISLEADING CONTENT
Misleading use of information to frame an issue or individual

IMPOSTER CONTENT
When genuine sources are impersonated

FABRICATED CONTENT
New content is 100% false, designed to deceive and do harm

FALSE CONNECTION
When headlines, visuals or captions don't support the content

FALSE CONTEXT
When genuine content is shared with false contextual information

MANIPULATED CONTENT
When genuine information or imagery is manipulated to deceive

Wardle, 2017

| Audience segmentation | Word choice | Values and agency | Social norms | Misinformation |

Types of climate misinformation

Truth

Misinformation

It's real —————— It's not real

It's us —————— It's natural

Experts agree —————— The science is uncertain

Badullovich et al., 2025; Törnberg & Törnberg, 2025

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation

Types of climate misinformation

Truth

Misinformation

It's bad — The costs of addressing it outweigh the benefits

Others care — Only [environmentalists/Democrats/elites] care

There's hope — [Climate solution] wouldn't work

There's hope — [Polluting activity] is a solution (greenwashing)

Badullovich et al., 2025; Törnberg & Törnberg, 2025

Audience segmentation | Word choice | Values and agency | Social norms | Misinformation
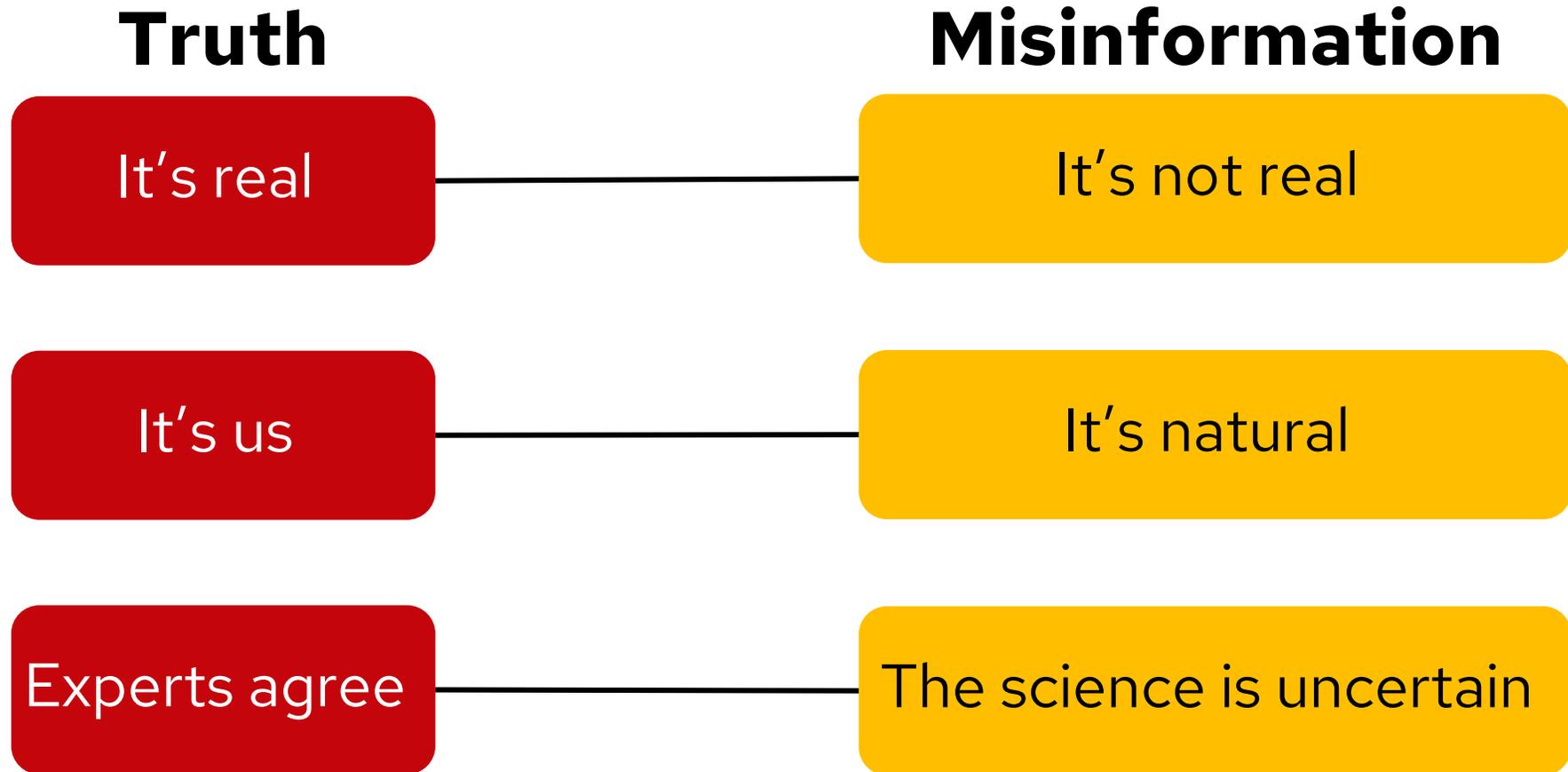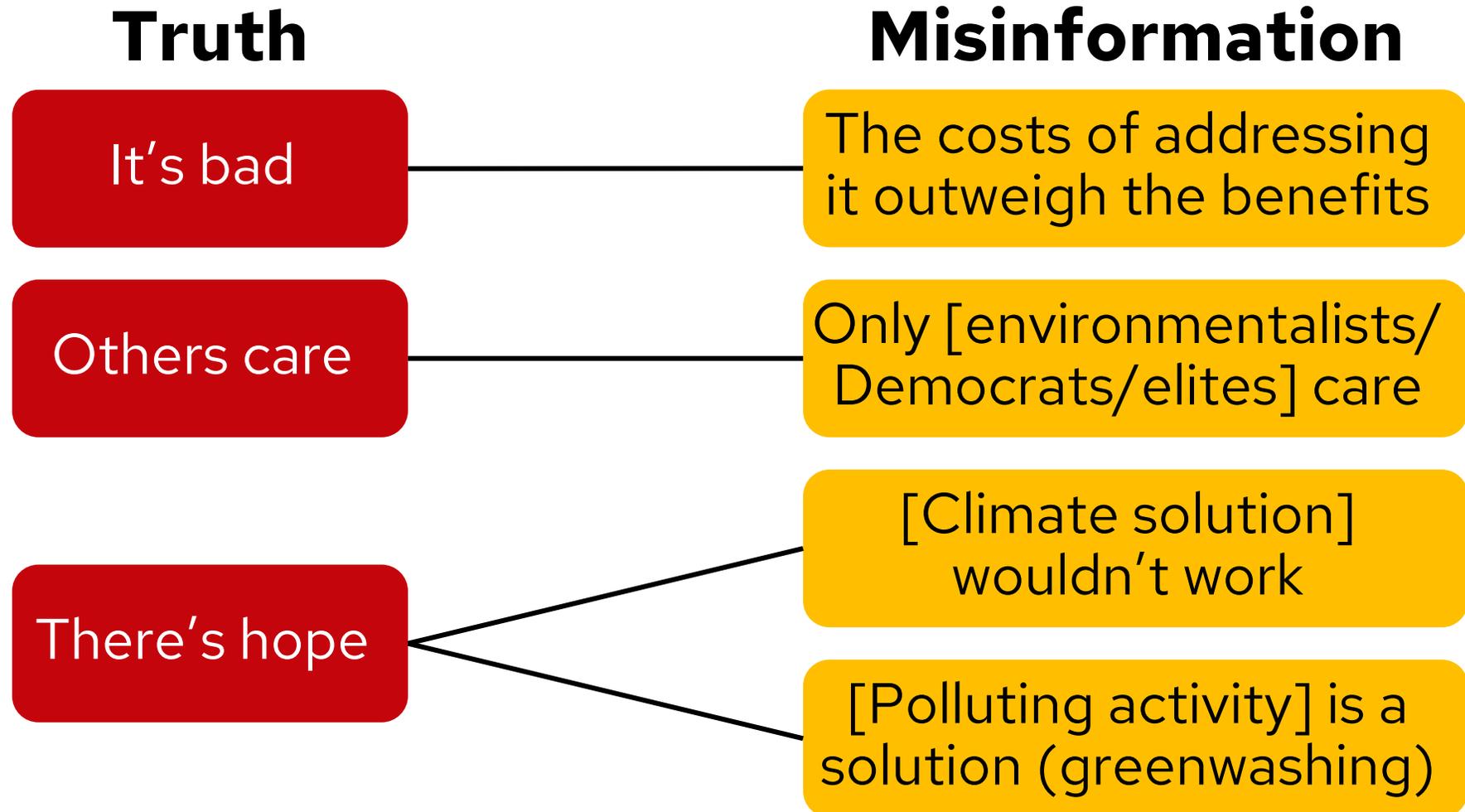
Where climate misinformation comes from

Most climate change misinformation originates as
DISINFORMATION
funded by the fossil fuel industry (or allies)
TOP-DOWN,
often trying to appear grassroots

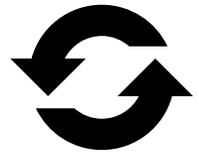*Dunlap & McCright, 2011; Roberts et al., 2025; Williams et al., 2022*

Why do people believe misinformation?

Familiarity → increased belief (illusory truth effect)

Easy-to-follow narratives

Aligns with preexisting identities or worldviews

Triggers strong emotions

Ecker et al., 2022; Udry & Barber, 2024

Audience segmentation | Word choice | Values and agency | Social norms | **Misinformation**

Before exposure: inoculation

- Convey the threat of misinformation

- Explain the truth and the fallacy
  - False facts and/or flawed arguments

Cook, 2020; Ecker et al., 2022; Traberg et al., 2022

After exposure: effective correction
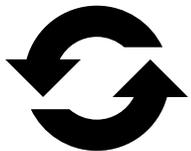
Use a source the audience trusts

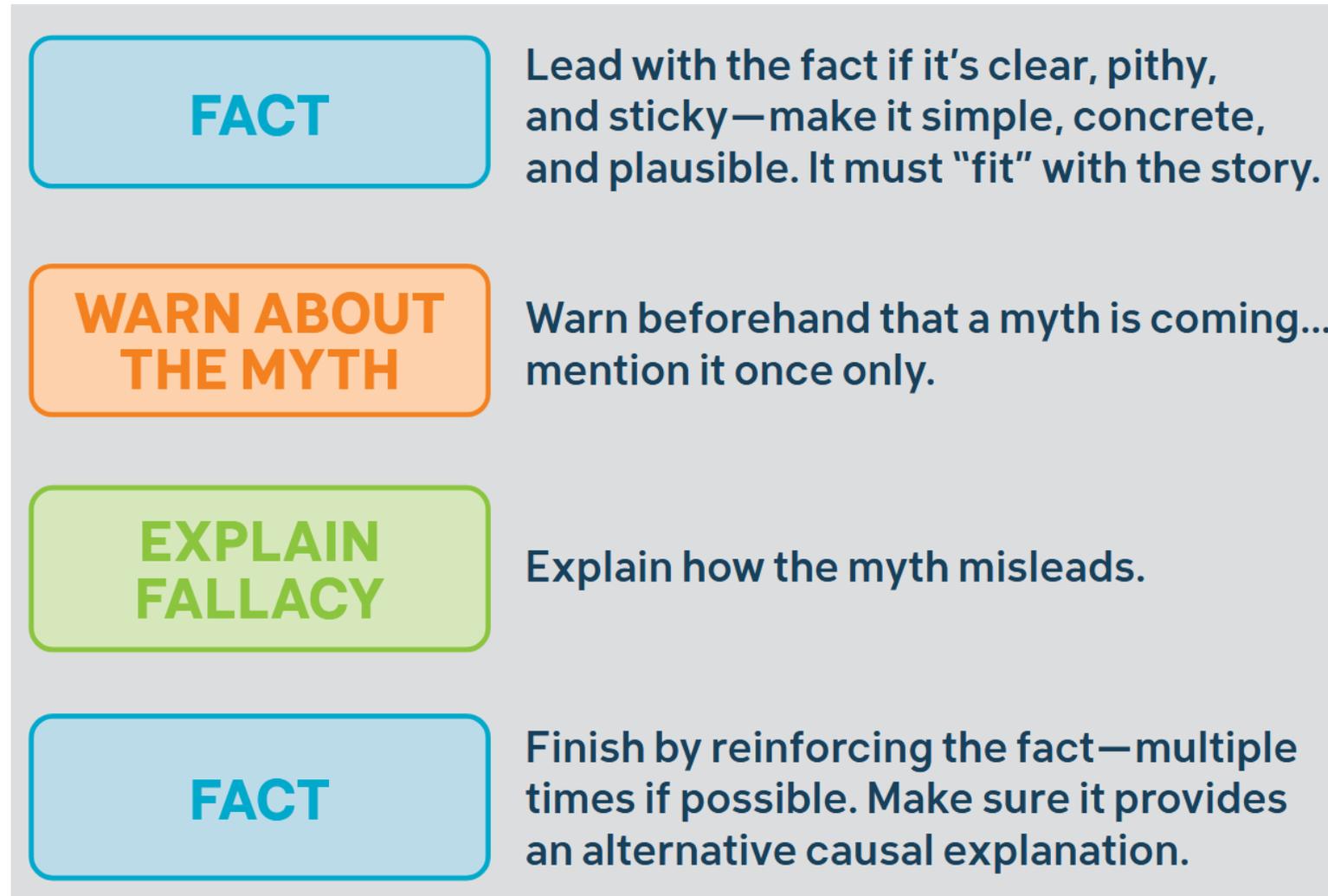Validate their underlying concern

Convey empathy and do not condescend

Provide an alternative (true) explanation

Repeat the correction over time

Ecker et al., 2022; Prike & Ecker, 2023; McRaney, 2022

Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

One template: "fact sandwich"

FACT — Lead with the fact if it's clear, pithy, and sticky—make it simple, concrete, and plausible. It must "fit" with the story.

WARN ABOUT THE MYTH — Warn beforehand that a myth is coming... mention it once only.

EXPLAIN FALLACY — Explain how the myth misleads.

FACT — Finish by reinforcing the fact—multiple times if possible. Make sure it provides an alternative causal explanation.

Lewandowsky et al., 2020

Audience segmentation Word choice Values and agency Social norms **Misinformation**

Example: timber harvests

FACT	To make our forests more resilient to stresses like droughts and extreme rainfall, we need to actively steward them by conducting sustainable timber harvests.
WARN ABOUT THE MYTH	Contrary to what you might assume, "letting nature run its course" is not the best approach for most forests today.
EXPLAIN FALLACY	Your woodland was already dramatically changed by humans during the cutover. Now, most of the trees are the same age, and the next generation of oaks is struggling to grow.
FACT	Thinning your woods will allow more light to reach the ground so that new oaks will thrive and the ecosystem will become healthier.

Lewandowsky et al., 2020

Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

Example: timber harvests

Use a source the audience trusts

Peer woodland owner

Validate their underlying concern

Timber harvests CAN be done unsustainably

Convey empathy and do not condescend

It's understandable to not want your woods to change

Ecker et al., 2022; Prike & Ecker, 2024; McRaney, 2022

Audience segmentation   Word choice   Values and agency   Social norms   Misinformation

What **mis/disinformation** is your audience exposed to? How will you address it?

Putting the pieces together

Who is your messenger?
Which communication channels will you use?
Jot down an outline of your message.

Open discussion

Let's stay in touch!

✉ scott.hershberger@wisc.edu

🌐 scott-hershberger.com

in scott-hershberger-scicomm

🌳 go.wisc.edu/forestry-newsletter

Scan for sources & these slides

go.wisc.edu/mcrc-climate-comm

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