

Putting into Practice the Principles of Effective Climate Change Communication

Scott Hershberger

Forestry Communications Specialist

University of Wisconsin–Madison Extension Forestry & Wildlife Program

M.S. in science communication

Midwest Climate Resilience Conference, Milwaukee, WI
October 20, 2025



Extension

UNIVERSITY OF WISCONSIN–MADISON

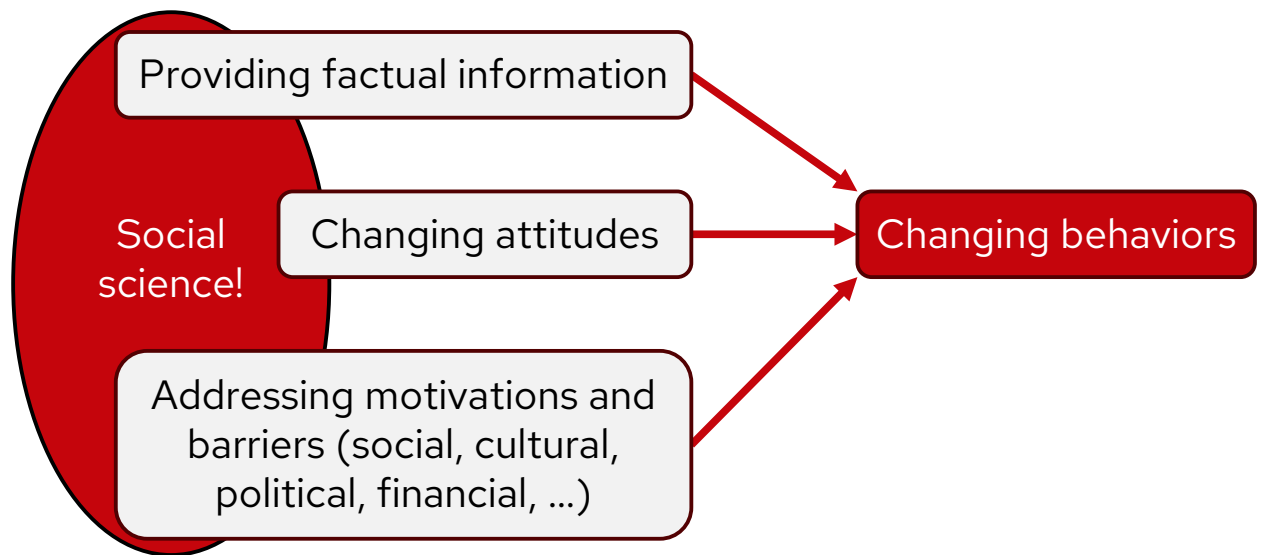
What are your communication goals?

Providing factual information

Changing attitudes

Changing behaviors

What are your communication goals?



OUTLINE

Audience segmentation

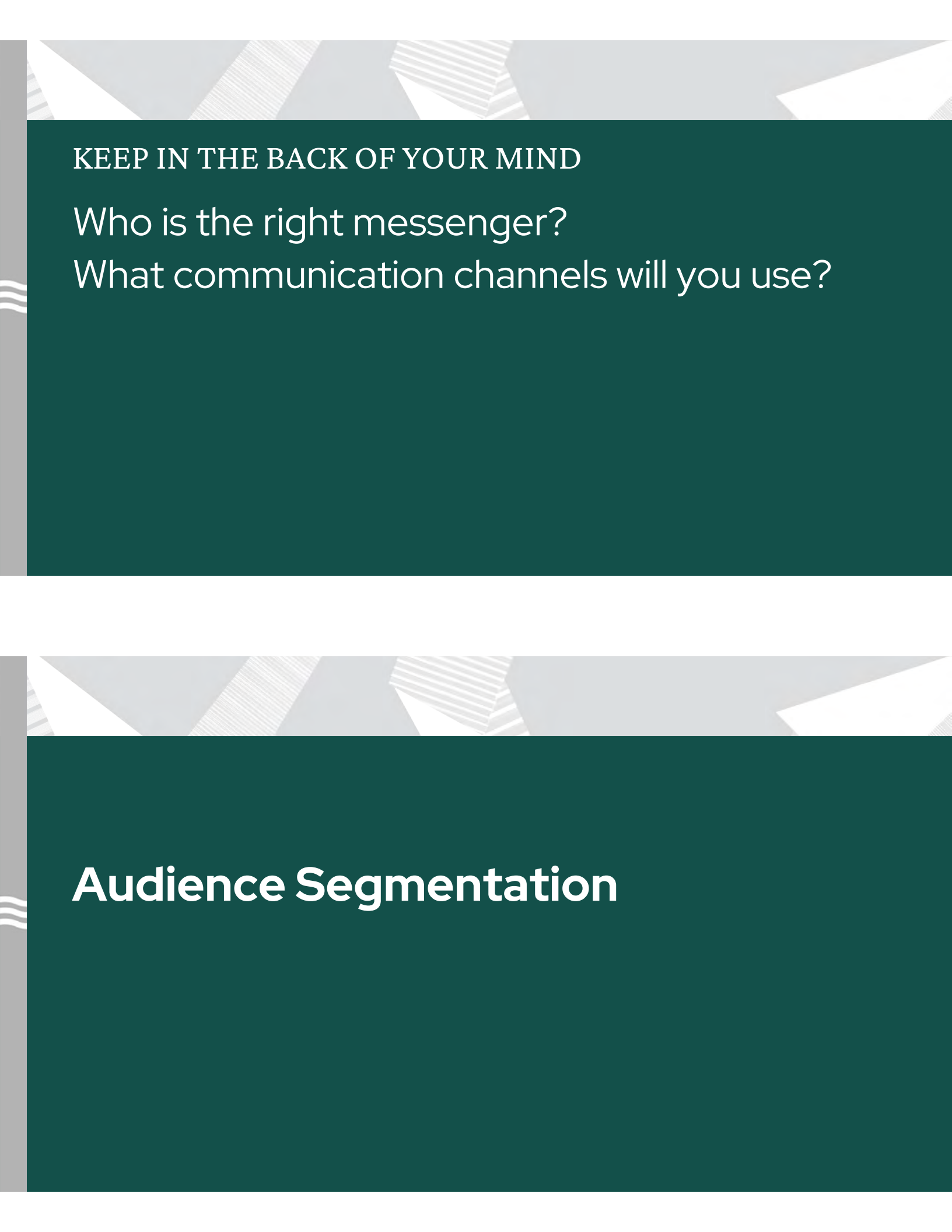
Word choice

Values and agency

Social norms

Misinformation and disinformation

Putting the pieces together



KEEP IN THE BACK OF YOUR MIND

Who is the right messenger?

What communication channels will you use?

Audience Segmentation

The “general public” does not exist

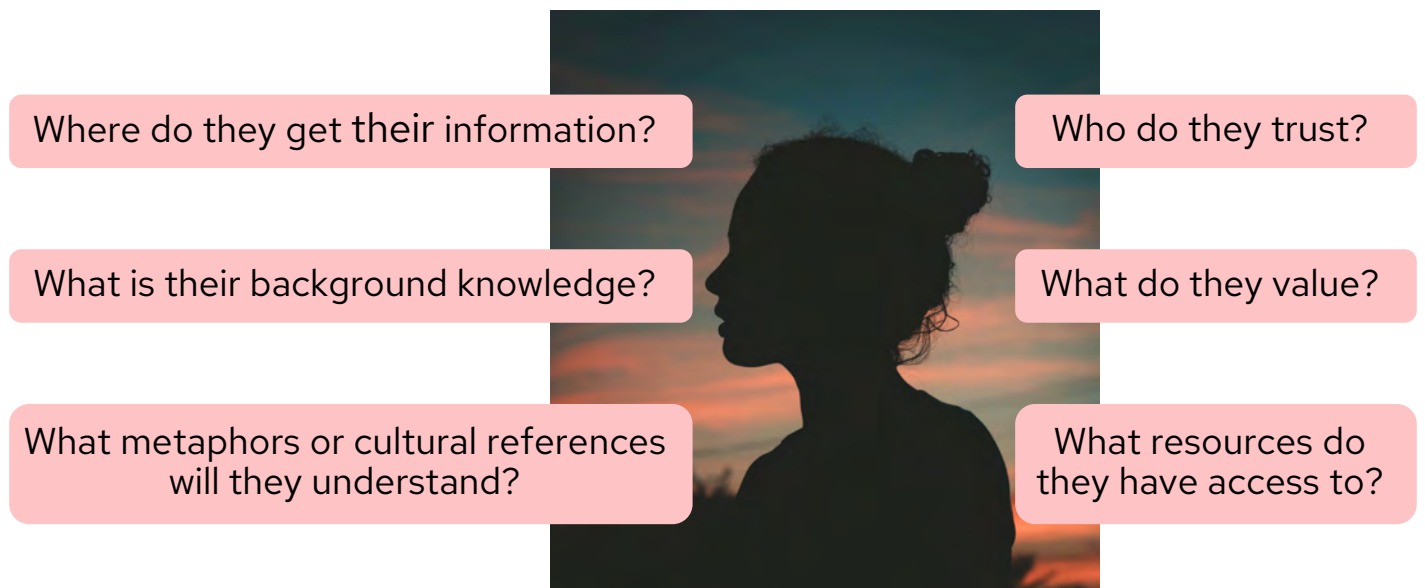


Image: mododeolhar

Audience segmentation

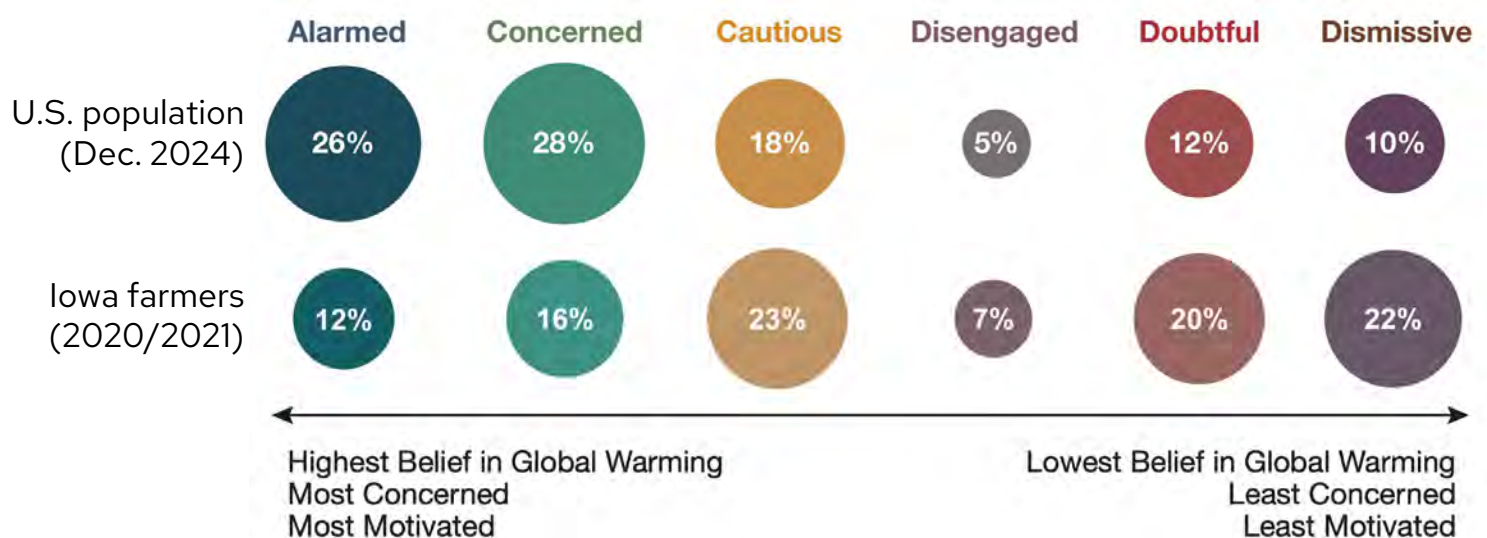
Word choice

Values and agency

Social norms

Misinformation

Global Warming's Six Americas



Leiserowitz et al., 2025; 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

Hershberger & Newman, in press

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

Hershberger & Newman, in press

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"

Hershberger & Newman, in press

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Woodland owner segmentation (WI)

Woodland retreat

37%	14%	32%	17%
-----	-----	-----	-----

- Beauty, lifestyle, recreation
- Environmental benefits (e.g., wildlife)
- Spiritual and emotional satisfaction



Tools for Engaging Landowners Effectively, 2018

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Woodland owner segmentation (WI)

Supplemental income

37%	14%	32%	17%
-----	-----	-----	-----

- Financial asset
- Legacy for heirs
- More likely to harvest timber



Tools for Engaging Landowners Effectively, 2018

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Woodland owner segmentation (WI)

Multi-use

37%	14%	32%	17%
-----	-----	-----	-----

- Balancing amenities and finances
- Strong emotional connection
- Often knowledgeable and confident



Tools for Engaging Landowners Effectively, 2018

Audience segmentation

Word choice

Values and agency

Social norms

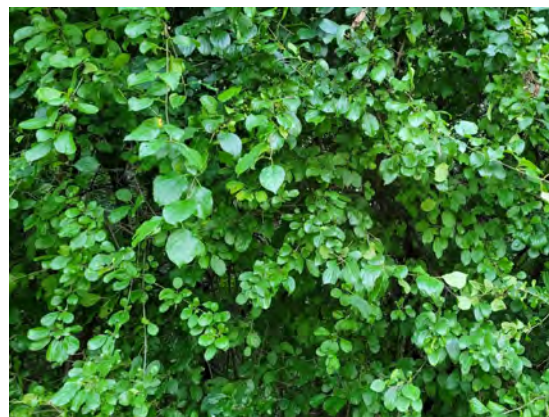
Misinformation

Woodland owner segmentation (WI)

Uninvolved

37%	14%	32%	17%
-----	-----	-----	-----

- Not motivated by nature nor finances
- Lack of emotional connection
- Lack of time or desire to act



Tools for Engaging Landowners Effectively, 2018

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 

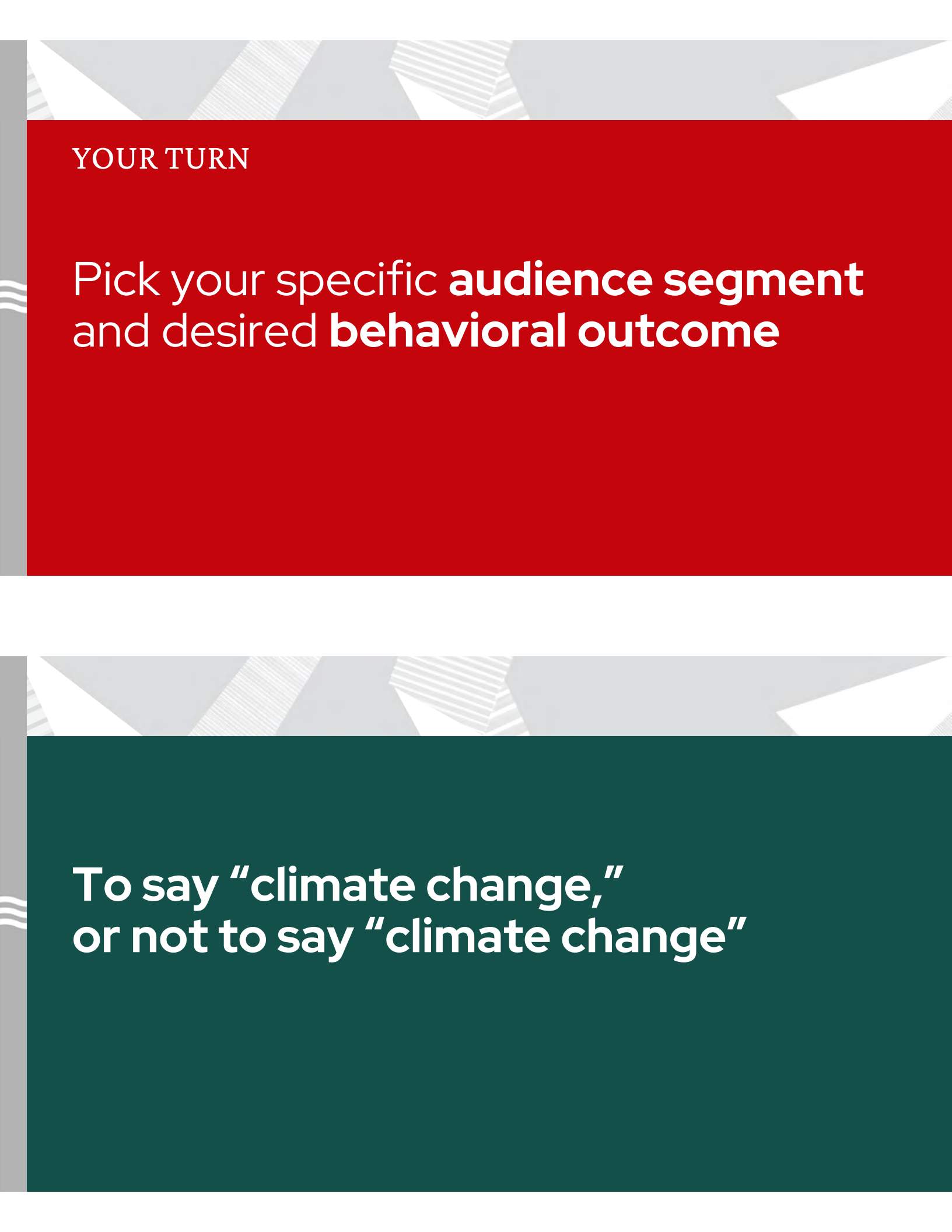
Audience segmentation

Word choice

Values and agency

Social norms

Misinformation



YOUR TURN

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

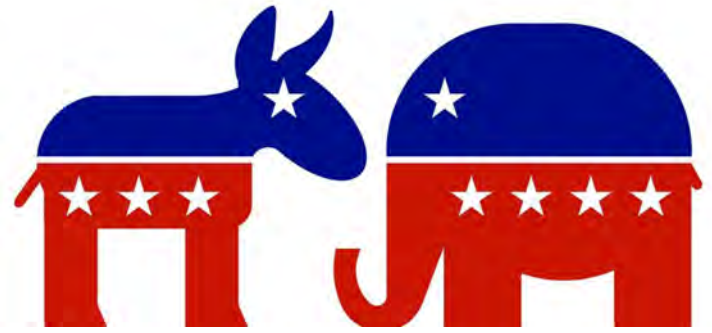


Image: CNN
Hornsey et al., 2016; Kahan et al., 2012

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

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

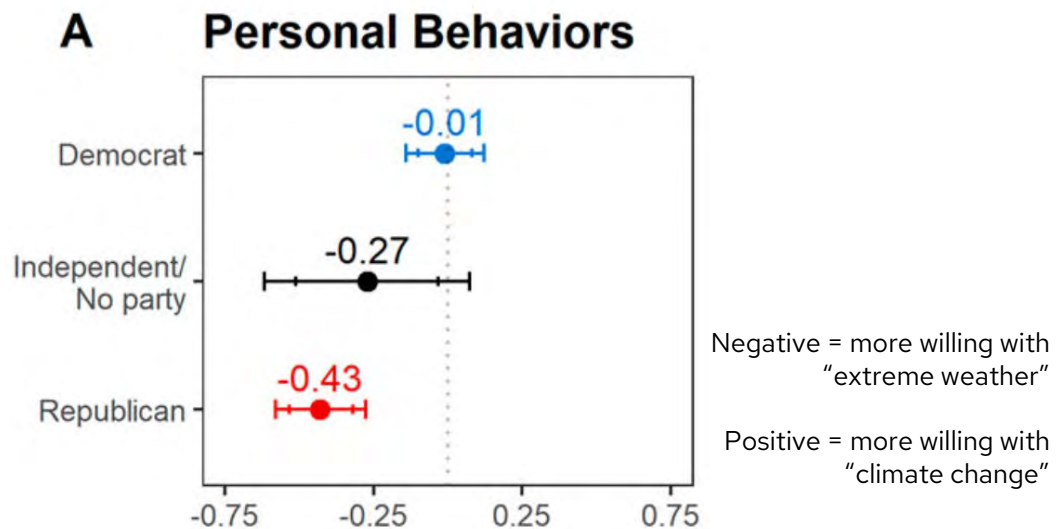
Word choice

Values and agency

Social norms

Misinformation

"Climate change" vs "extreme weather"



Carman et al., 2022

Audience segmentation

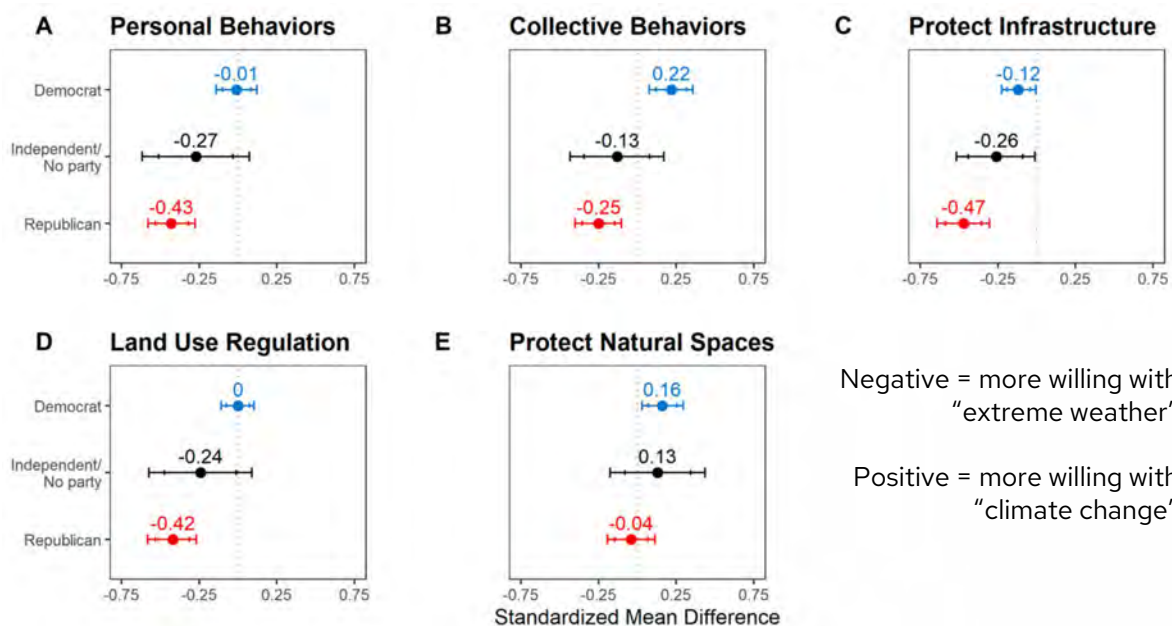
Word choice

Values and agency

Social norms

Misinformation

"Climate change" vs "extreme weather"



Carman et al., 2022

Audience segmentation

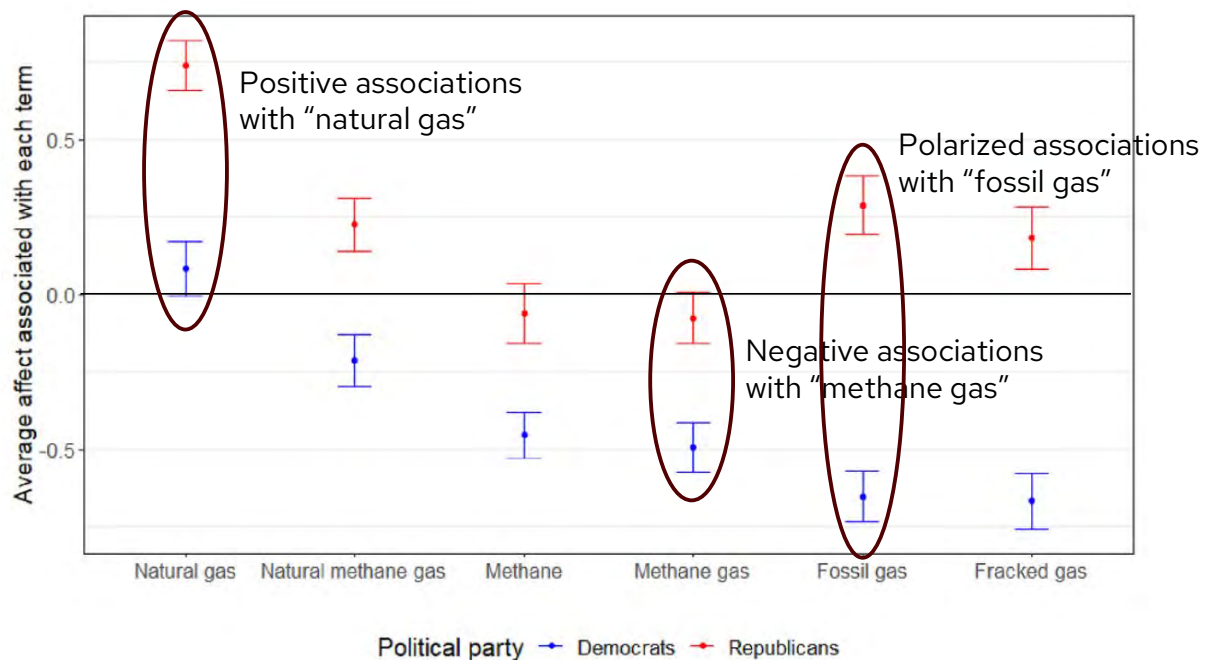
Word choice

Values and agency

Social norms

Misinformation

"Natural gas" vs "methane gas"



Lacroix et al., 2021

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 fejn

Audience segmentation

Word choice

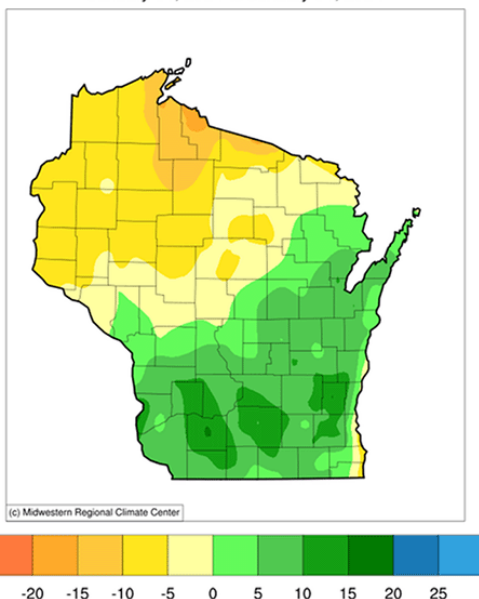
Values and agency

Social norms

Misinformation

Be specific, local, and relatable

Accumulated Snowfall (in): Departure from 1991-2020 Normals
January 01, 2024 to January 31, 2024



Climate change

Very little snowfall in northern Wisconsin

Cultural impact

Poor season for snowmobiling and skiing

Economic impact

Less income for seasonal workers

Actionable solution

Long-term financial planning

Hershberger & Newman, in press

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Be specific, local, and relatable

Climate change

Warmer winters & longer growing seasons

Environmental impact

Range expansion of invasive species



Economic/cultural impact

Lower-quality recreation

Less aesthetically pleasing forests

Lower timber value

Actionable solution

Proactive prevention, monitoring, & reporting

Image: Richard Gardner, Bugwood.org

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

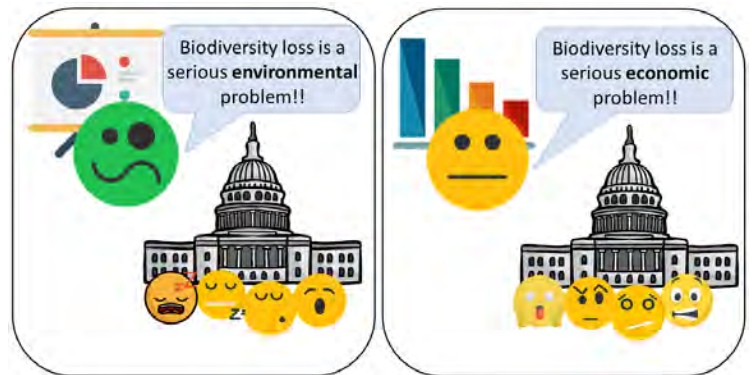
YOUR TURN

How will you refer to the concept of climate change?

Value-focused messaging and cultivating a sense of agency

Message framing

- *Emphasis framing*: draws attention to one aspect of a topic while deemphasizing other aspects
- Both text and visuals matter



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

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Going in the back door

“It's not necessarily saying, 'Well, this would be the best way we should go because it's good for the climate.'

Oftentimes, it's 'This is the best way to go because it would be beneficial to your particular interests, your particular costs. And it helps the environment too.'”

—UW-Madison Extension Community Economic Development educator

Hart & Feldman, 2018; Hershberger & Newman, in press

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Example: "New Climate Voices" ads

- One-month online video ad campaign in Missouri-02 and Georgia-07



is completely consistent
with our values as Christians.



We need to protect ourselves
from these risks.

<https://www.newclimatevoices.org/>

Goldberg et al., 2021

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

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.**"



Images: Pixabay; Anastasia Shuraeva
Coleman et al., 2024; Lamm et al., 2022

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Types of efficacy

- *Self-efficacy*
"I can take action"
- *Response efficacy*
"If I take action, it will have the desired effect"
- *Collective efficacy*
"If we all take action, our collective action will make a difference"



Jugert et al., 2016; Sinclair et al., 2025

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Example: invasive stiltgrass outreach campaign



Stiltgrass: building efficacy

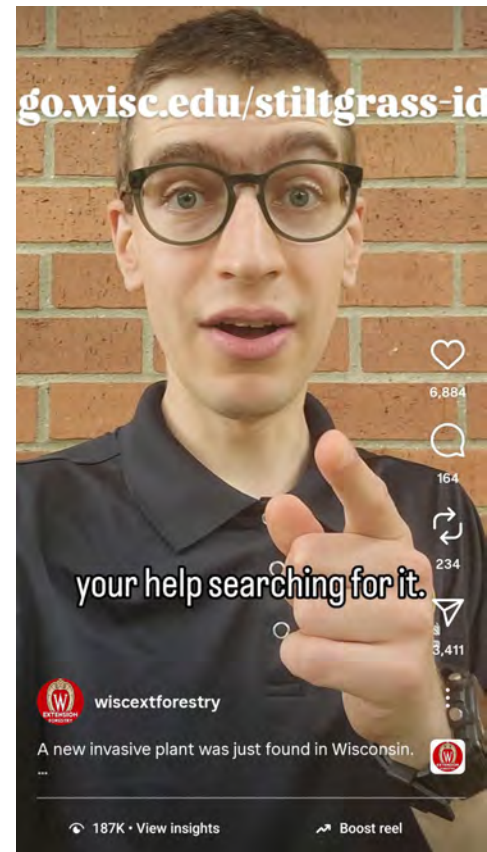
- Provide factual information
 - How to identify stiltgrass
- Change attitudes
 - Why stiltgrass and other invasive plants are a problem
- Address barriers
 - How to report findings



Stiltgrass: building efficacy

The screenshot shows the iDDMapS form for reporting Stiltgrass. The form includes fields for Species, Infestation Status, Observation Date, Infested Area, Survey Area, Habitat, Density, Abundance, Plant Description, and Damage. A large red 'X' is drawn over the entire form, indicating it is not recommended.

"Take photos and send them to forestry@extension.wisc.edu or Invasive.Species@Wisconsin.gov"



Audience segmentation

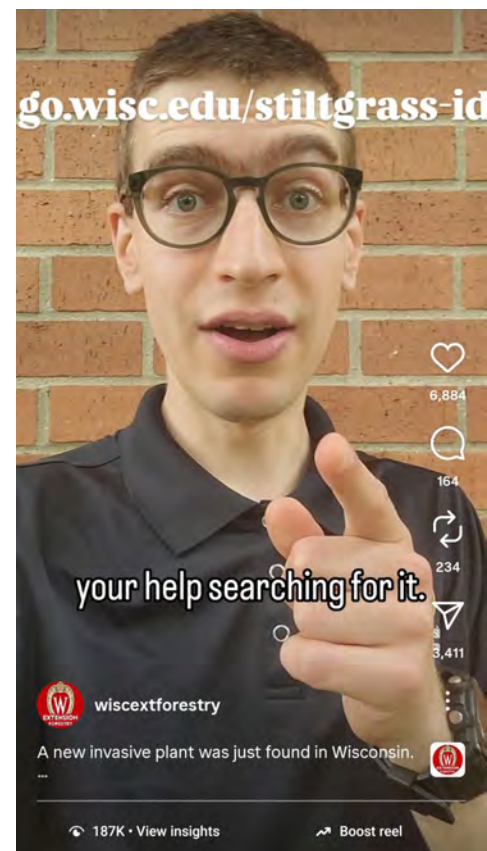
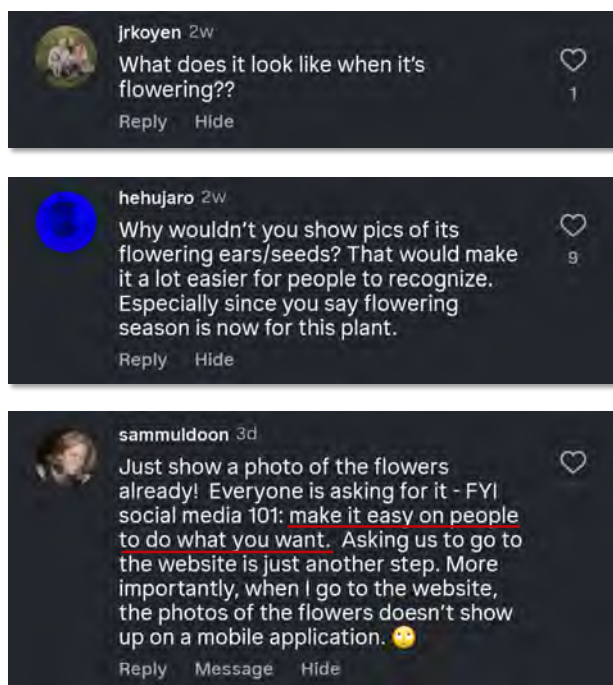
Word choice

Values and agency

Social norms

Misinformation

Stiltgrass: building efficacy



Audience segmentation

Word choice

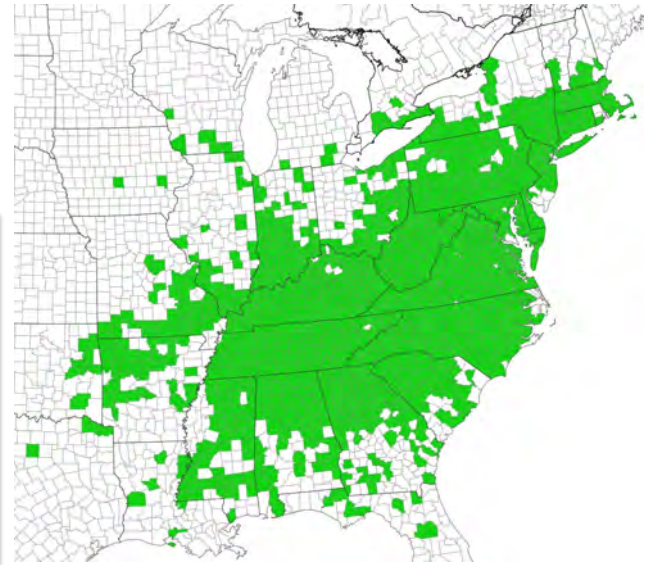
Values and agency

Social norms

Misinformation

Stiltgrass: real-world outcomes

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



Map: EDDMapS reported stiltgrass locations as of September 2025

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

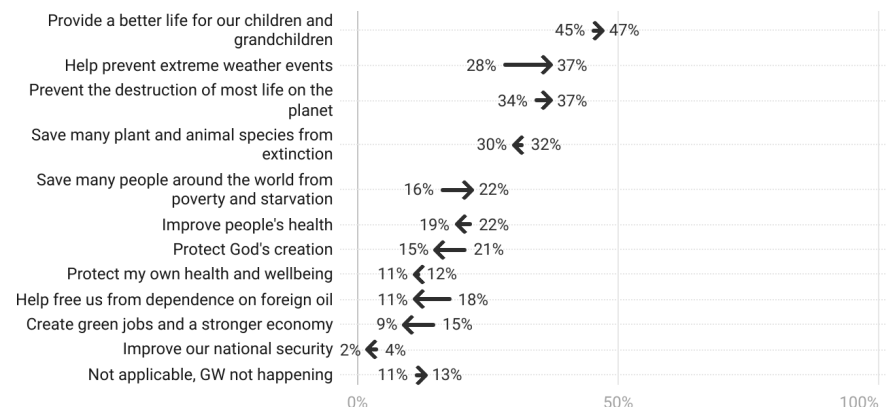
What if my audience is mixed?

- 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



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; Syropoulos et al., 2023; Syropoulos & Markowitz, 2024

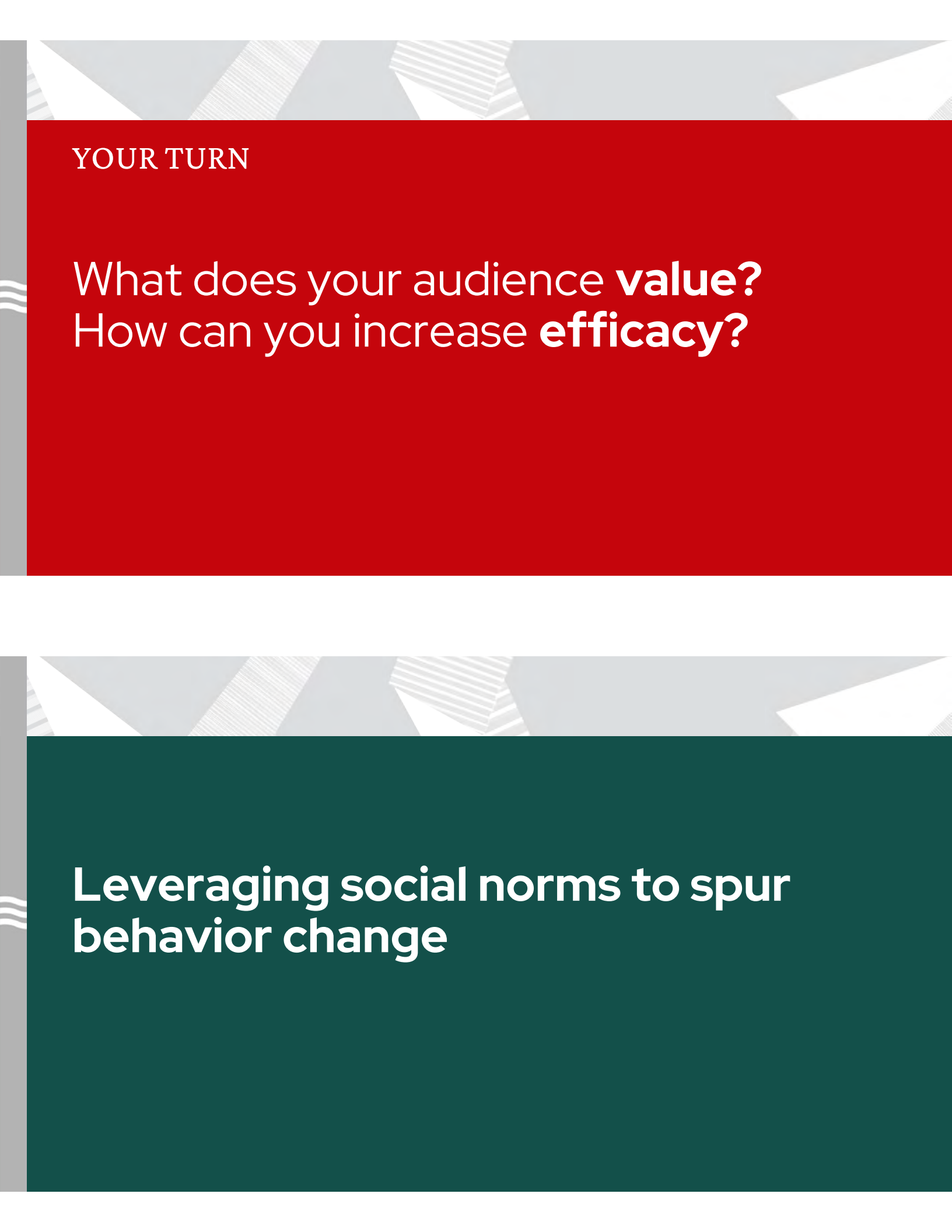
Audience segmentation

Word choice

Values and agency

Social norms

Misinformation



YOUR TURN

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?
- "Together we logged 9,354 car-free and car-light trips."

Injunctive

- What do other people think is the right thing to do?
- "Most Madisonians think highly of their friends who bike to work."

Close reference group



More powerful norms

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

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

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 pro-climate **behaviors**
 - Support pro-climate **policies**



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

Audience segmentation

Word choice

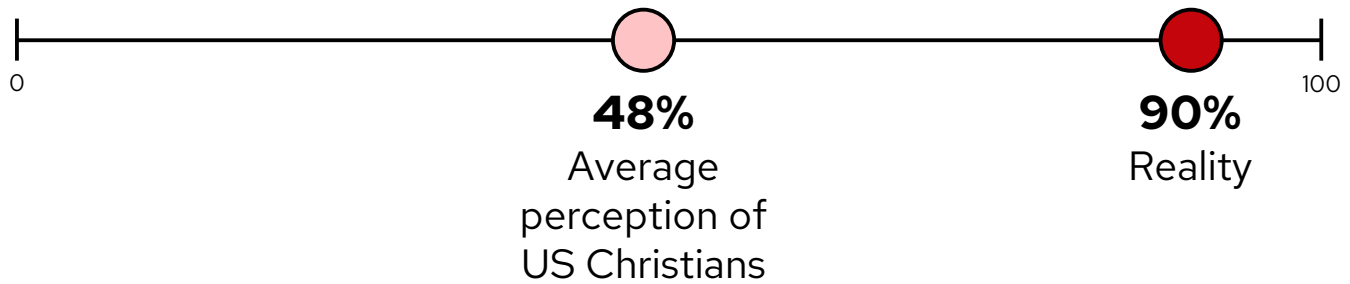
Values and agency

Social norms

Misinformation

Pluralistic ignorance: acceptance

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



Syropoulos & Sparkman, 2025

Audience segmentation

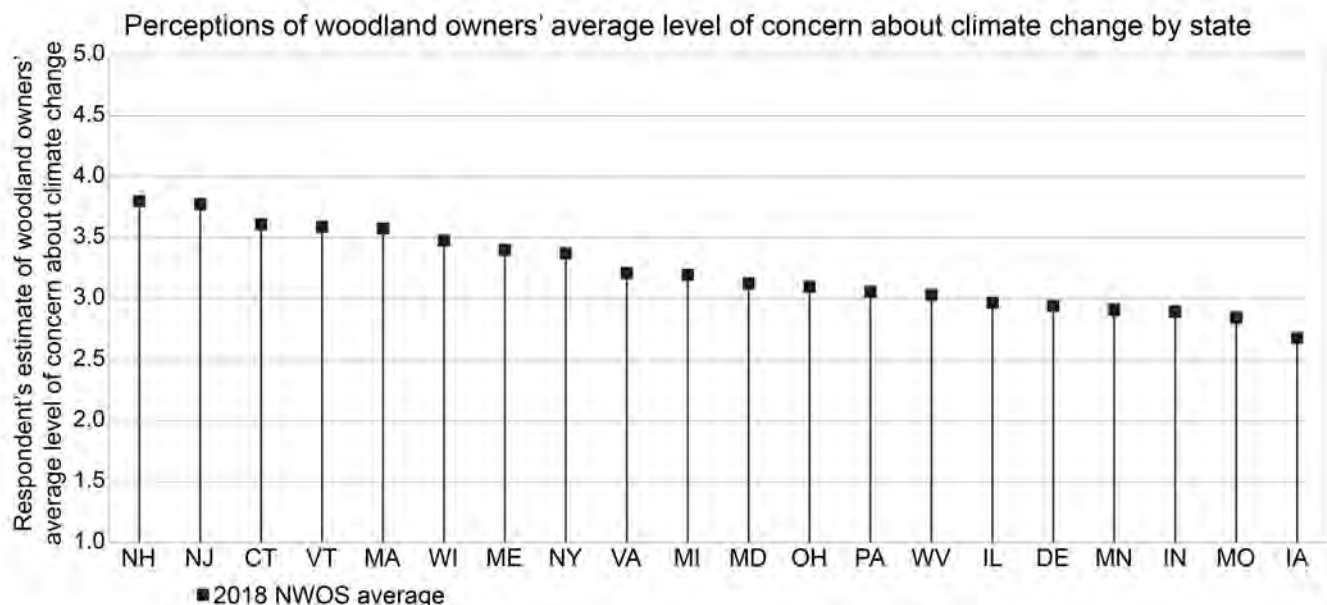
Word choice

Values and agency

Social norms

Misinformation

Pluralistic ignorance: concern



Desprez et al., 2025

Audience segmentation

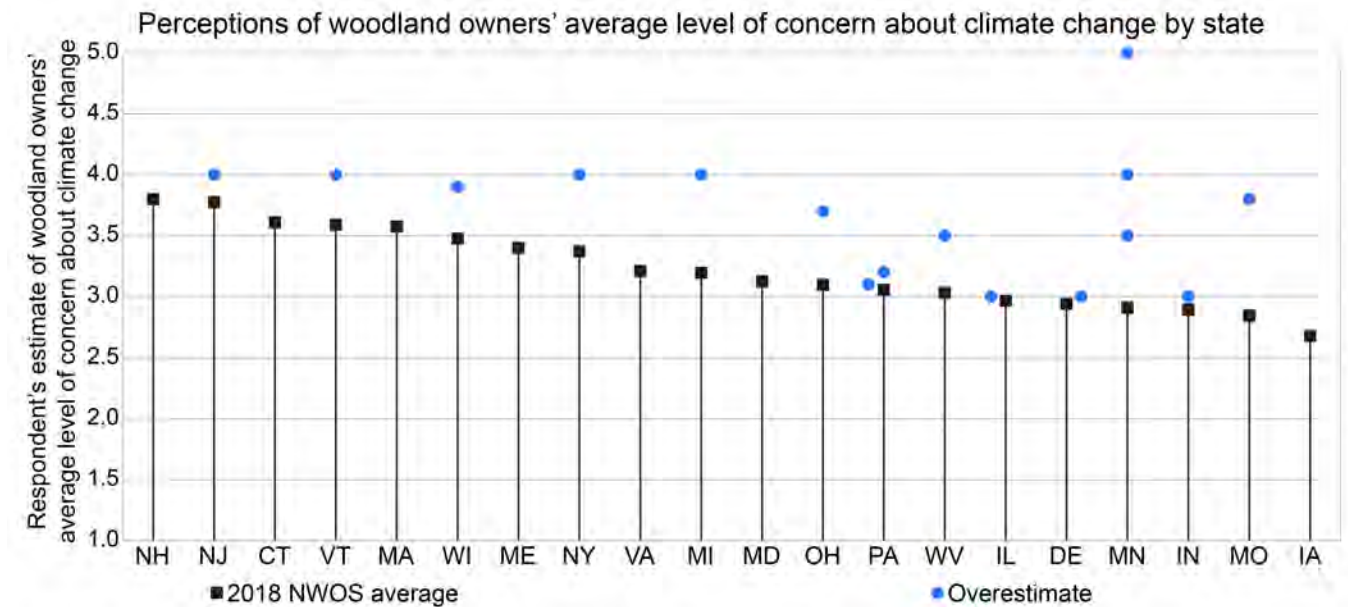
Word choice

Values and agency

Social norms

Misinformation

Pluralistic ignorance: concern



Desprez et al., 2025

Audience segmentation

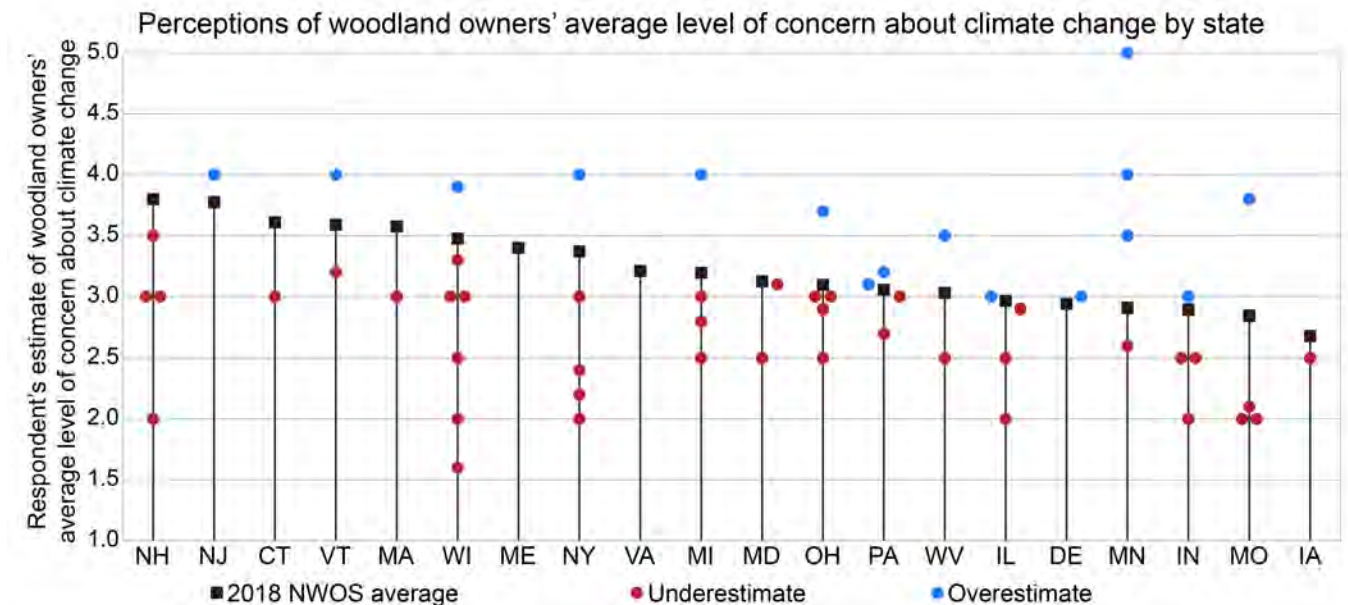
Word choice

Values and agency

Social norms

Misinformation

Pluralistic ignorance: concern



Desprez et al., 2025

Audience segmentation

Word choice

Values and agency

Social norms

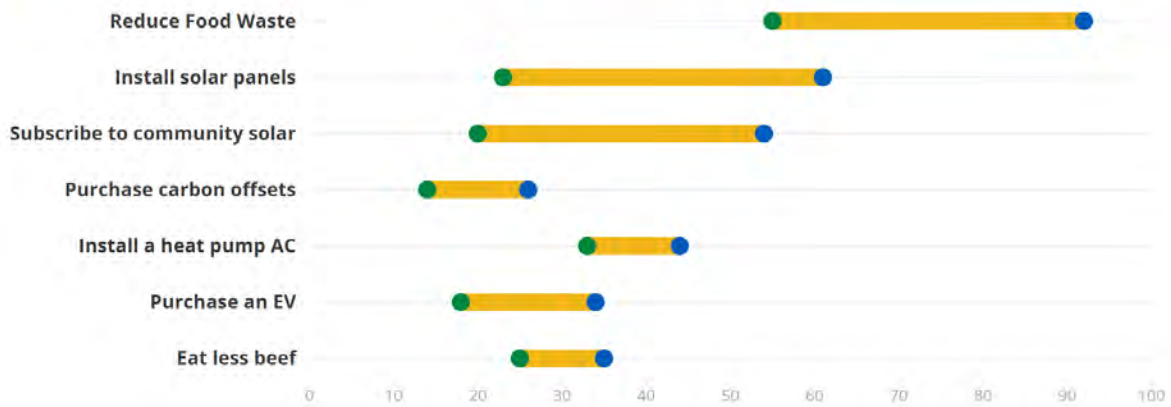
Misinformation

Pluralistic ignorance: individual behaviors

There is a sizable gap when people are asked if they support adoption of behaviors vs their impression if others also support adoption

Across all the behaviors, there is a "normative bubble" around behavior adoption waiting to be popped: Americans support adoption of these behaviors, but they don't realize others believe the same

● Do you support adoption? ● Do you think others support adoption?



Source: [Rare "Climate Culture Index 2024"](#)

Rare, 2024

Audience segmentation

Word choice

Values and agency

Social norms

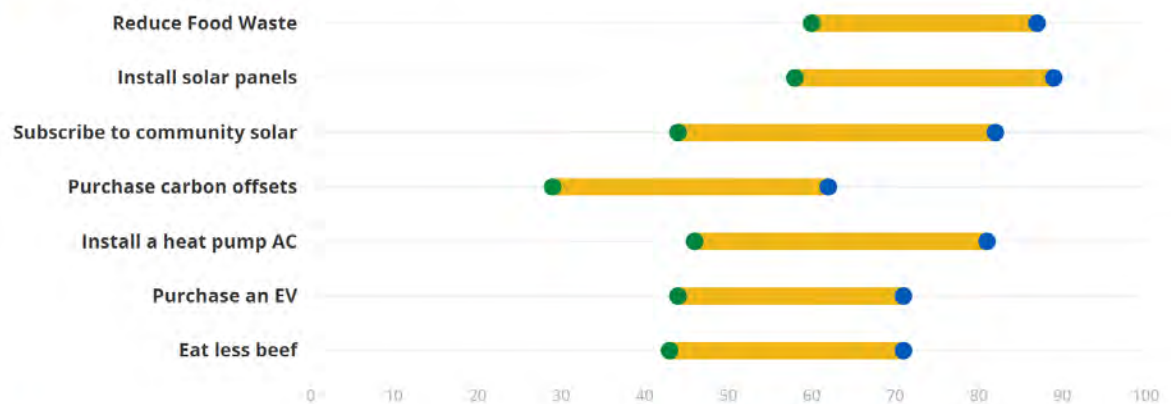
Misinformation

Pluralistic ignorance: policy support

There is a sizable gap when people are asked if they support policies vs their impression if others also support such policies.

Across all the behaviors, there is a "normative bubble" around policy support waiting to be popped: Americans support potential policies, but they don't realize others believe the same

● Do you support policies? ● Do you think others support policies?



Source: [Rare "Climate Culture Index 2024"](#)

Rare, 2024

Audience segmentation

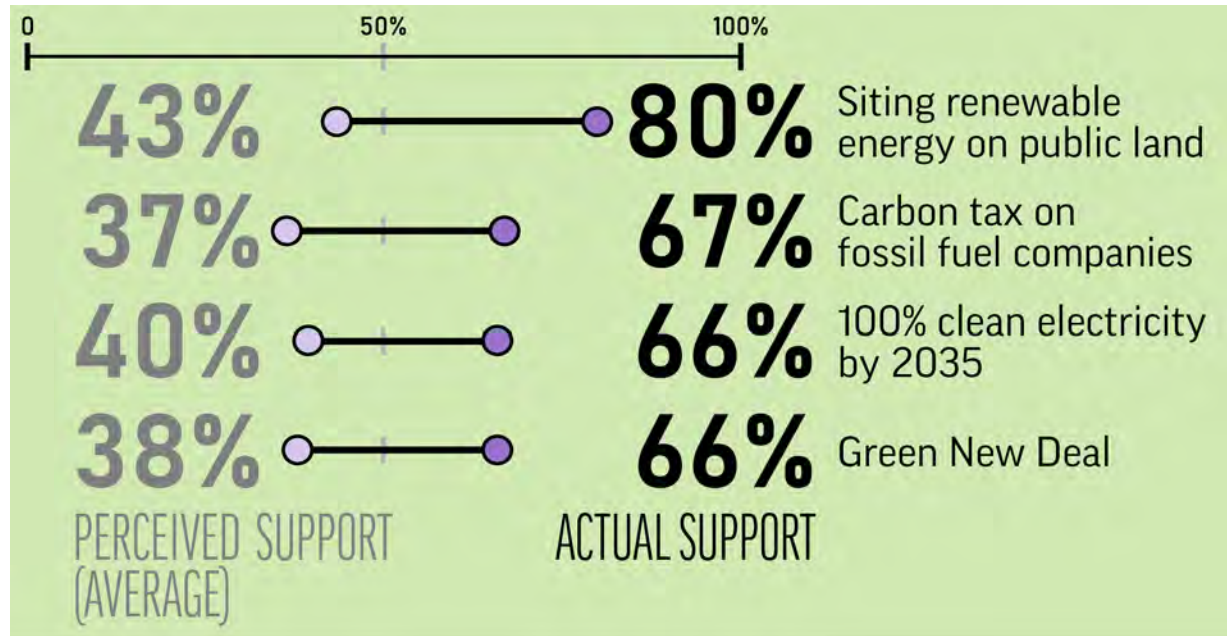
Word choice

Values and agency

Social norms

Misinformation

Pluralistic ignorance: policy support



Infographic: Scott Hershberger
Data: Sparkman et al., 2022

Audience segmentation

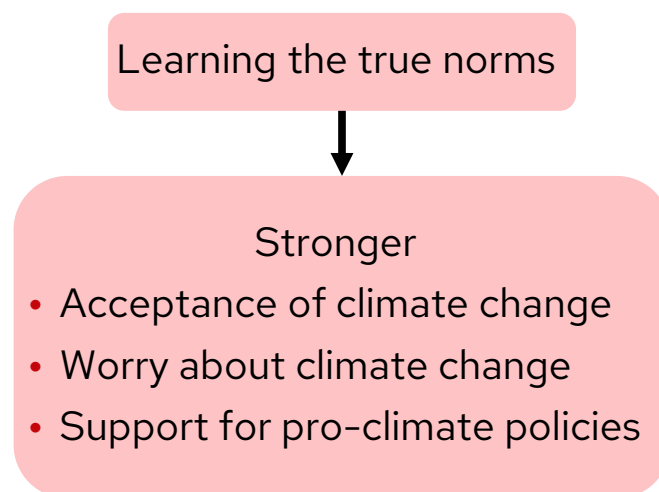
Word choice

Values and agency

Social norms

Misinformation

Perceived social norms matter



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

Audience segmentation

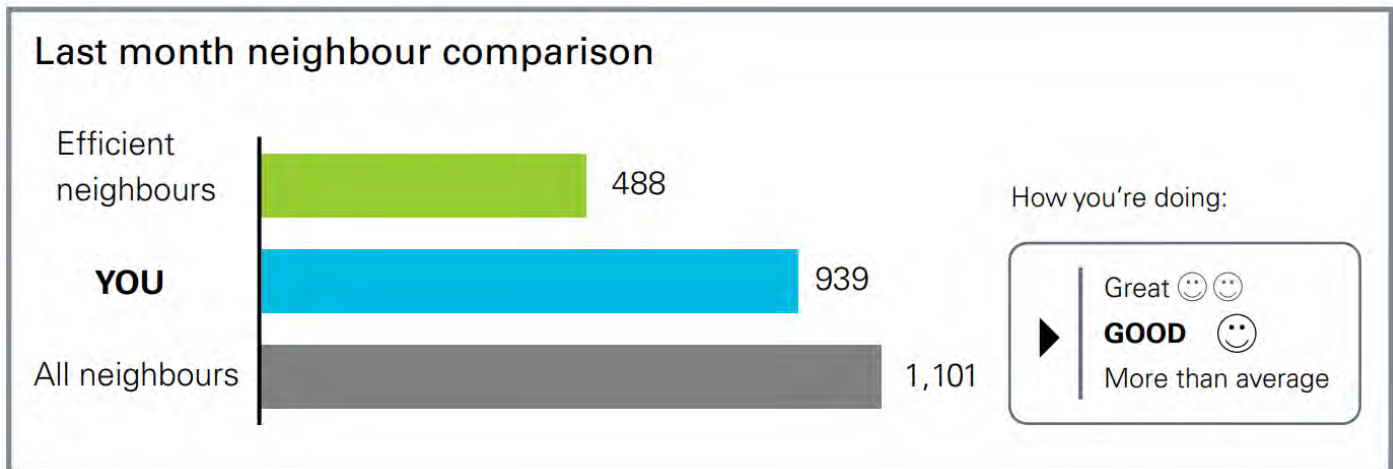
Word choice

Values and agency

Social norms

Misinformation

Example: home energy conservation



- 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

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Make invisible norms visible



Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Make invisible norms visible



Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Don't highlight an undesirable norm

"Many producers prefer the clean, open aesthetic of tilled fields."



"No-till creates a rugged, natural aesthetic."



"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

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

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

YOUR TURN

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

Disinformation

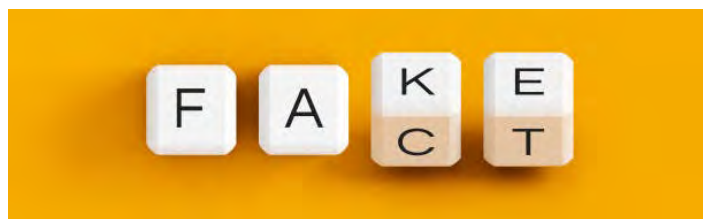
False and misleading
information

Spread intentionally

Misinformation

False and misleading
information

Spread unintentionally



Altay et al., 2023
Image: iStock

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Definitions

Misinformation

False and misleading
information

Disinformation

Spread intentionally

Altay et al., 2023

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Types of misinformation



Wardle, 2017

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; Williams et al., 2022

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

Where climate misinformation comes from

Funded by 7+ pipeline & utility companies
\$10 million budget



Funded by the American Gas Association and
American Public Gas Association



Brown, 2022; King, 2023; Leber, 2020

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

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; Traber et al., 2022

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

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

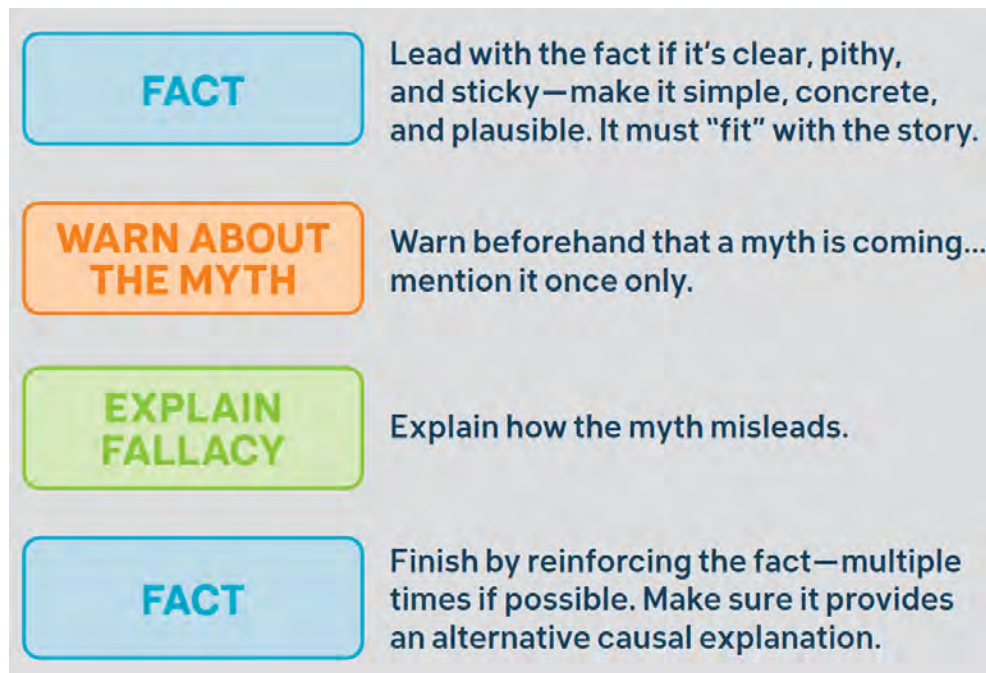
Word choice

Values and agency

Social norms

Misinformation

One template: “fact sandwich”



Lewandowsky et al., 2020

Audience segmentation

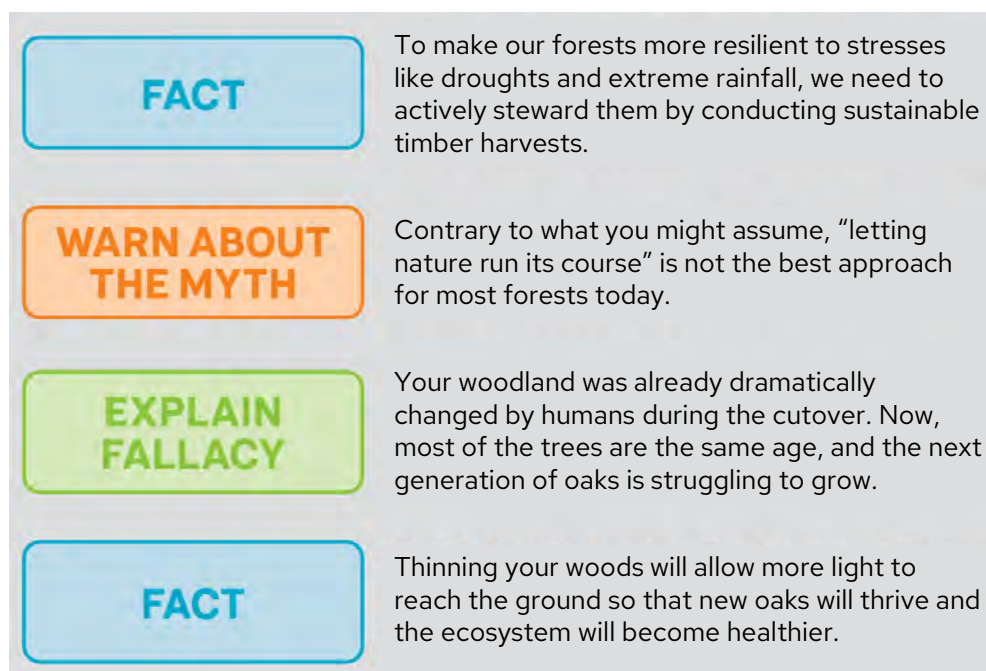
Word choice

Values and agency

Social norms

Misinformation

Example: timber harvests



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, 2024

Audience segmentation

Word choice

Values and agency

Social norms

Misinformation

YOUR TURN

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

Putting the pieces together

Adapting to Changes in Your Sugarbush

Going in the
back door



Social norms

Long-term
trend

Maple syrup producers across the Midwest have noticed changes in their sugarbushes in recent years, such as earlier tapping seasons and the arrival of new invasive and competing plant species and forest pests. We expect these and other changes to continue in the coming decades. By being flexible and adaptable, you can be a good steward of the land, ensuring that your sugarbush thrives for many years into the future.

Audience's
values

Resilience

<https://maple.extension.wisc.edu/adaptation-menu/>

Specific & relatable

Lower Sap Sugar Content



Problem

Summers now tend to be hotter than in the past. After a particularly hot summer, the sugar content of the following season's sap may be lower than usual.

What you can do:

Solutions & efficacy

- Take an **energy self-assessment** to determine how you can make your operation more energy-efficient, which will lessen the financial impact of lower sap sugar content on your operation.
- Use reverse osmosis to increase the sugar concentration of your sap before boiling it.
- Use a pre-heater or a more energy-efficient evaporator to save on fuel costs and boiling time.
- **Contact your local USDA Natural Resources Conservation Service** office to learn about their **Environmental Quality Incentives Program On-Farm Energy Initiative**, which might provide you financial assistance to purchase reverse osmosis or upgrade your equipment.
- In consultation with a forester, **thin your stand** to give your trees space to grow deep, wide crowns. Trees with more vigorous crowns and wider trunks typically yield a higher sap sugar content and sap volume, though you will still see variability from tree to tree and even from day to day.

- Practice **good sanitation habits** to get a higher yield. Use new, sterile spouts each year (or use sterilizable stainless steel spouts).
- If you use gravity tubing, upgrade to a vacuum tubing system, which can double your sap yield.
- Tap more trees to increase your overall yield of syrup.
- **Tap red maples** in addition to sugar maples. Red maples with deep, wide crowns can be just as good for sugarmaking as sugar maples. This is true even though red maples sometimes bud out earlier in the spring than sugar maples.
- Make **value-added products** like maple cream or maple candy in addition to syrup. **Product diversification** allows you to make more income per unit of sap, which will help your finances in low-yield years.

Trusted messenger

Stories from Wisconsin maple syrup producers



YOUR TURN

Who is your messenger?
Which communication channels will
you use?

**Jot down an outline of your
message.**

Role-playing activity

Role-playing activity

- Partner 1: describe your audience segment and scenario
- Partner 2: pretend to be a member of that audience segment
- Partner 1: facilitate a conversation with partner 2 that covers your talking points and responds to partner 2's concerns
- Partner 2: give feedback
- Switch!

Open discussion

Let's stay in touch!

 scott.hershberger@wisc.edu

 scott-hershberger.com

 [scott-hershberger-scicomm](https://www.linkedin.com/company/scott-hershberger-scicomm)

 go.wisc.edu/forestry

Scan for sources & these slides



go.wisc.edu/mcrc-climate-comm



Extension

UNIVERSITY OF WISCONSIN-MADISON

The University of Wisconsin–Madison Division of Extension provides equal opportunities in employment and programming in compliance with state and federal law.