Welcome to the Webinar

We'll get started shortly!

"Secondary education for girls is the most cost-effective and best investment against climate change."

SUSTAINABLE DEVELOPMENT GOALS

Malala Yousafzai
Co-founder of Malala Fund,
UN Messenger of Peace

UN Photo/Mark Garten

We'll Get Started Soon!

Please enter your name, organization, and where you are from in the chat box.

WELCOME

Mapping the Landscape of K-12 Climate Change Education Policy in the United States

August 30, 2022

Mapping the Landscape of K–12 Climate Change Education Policy in the United States

Full Report

May 2022

This report is part of as larger project to:

- Conduct an analysis of current state and federal policy related to climate change education

- Report on recommendations for increasing climate change education in formal and nonformal institutions

Greetings from MECCE Project Director

Dr. Marcia McKenzie

Thanks to Marcia McKenzie, Nicola Chopin, and Kristen Hargis

MECCE
MONITORING AND EVALUATING
CLIMATE COMMUNICATION
AND EDUCATION PROJECT

SEPN
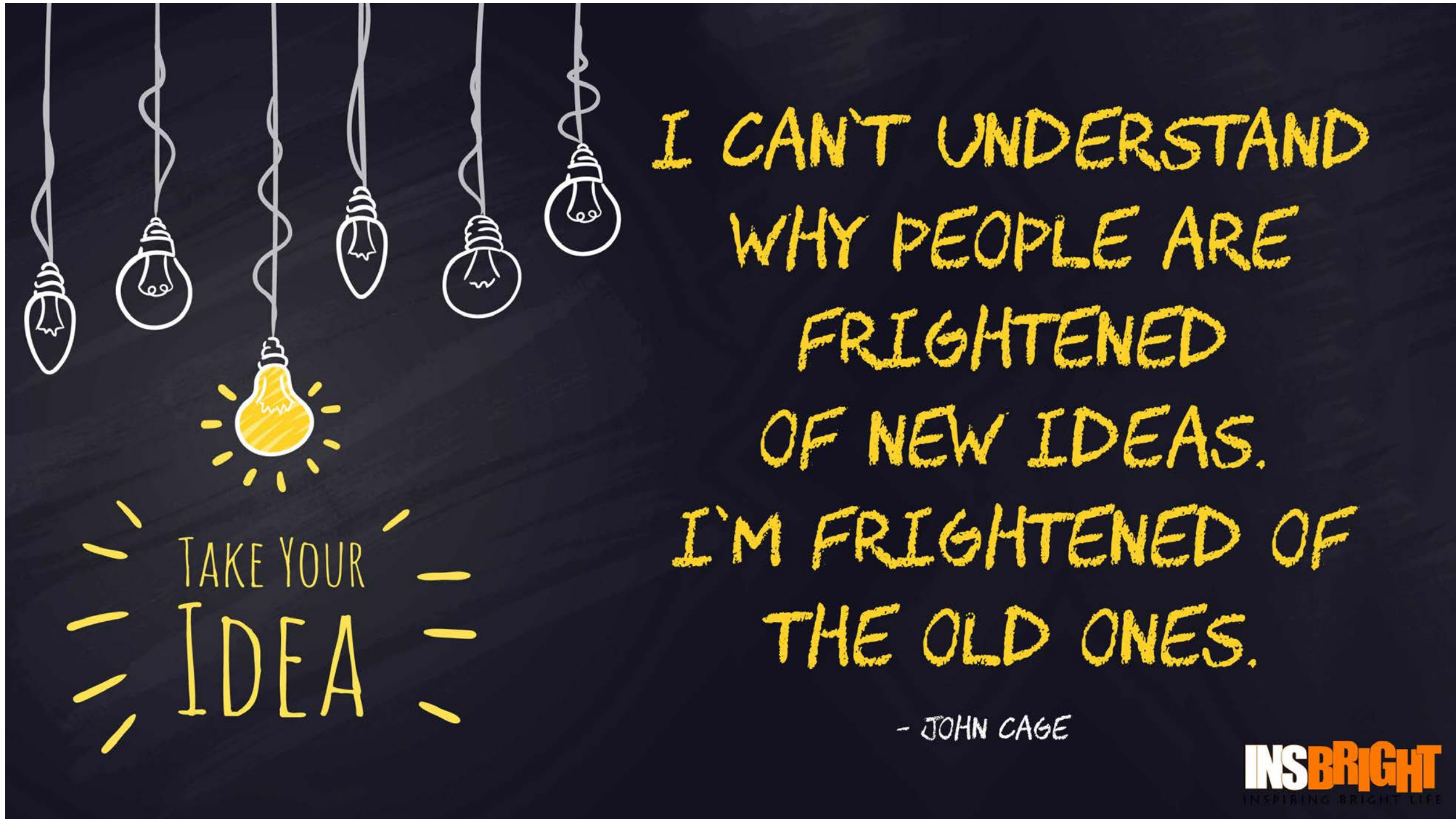SUSTAINABILITY
AND EDUCATION
POLICY NETWORK

Sarah Bodor

Director of Policy and
Affiliate Relations
NAAEE

This is Sarah! ☺

Bringing New Ideas and Insights to the Our Field

I CAN'T UNDERSTAND WHY PEOPLE ARE FRIGHTENED OF NEW IDEAS. I'M FRIGHTENED OF THE OLD ONES.

– JOHN CAGE

TAKE YOUR IDEA

Thanks so much to Rachel and her team for all the work they do in conservation education!

Rachel Bayer
Environmental Education Specialist
US Forest Service

Thanks to our Affiliate Co-hosts!

Thanks to EPA and ee360!

ee360

From Inspiration to Impact

EPA

Using Zoom:
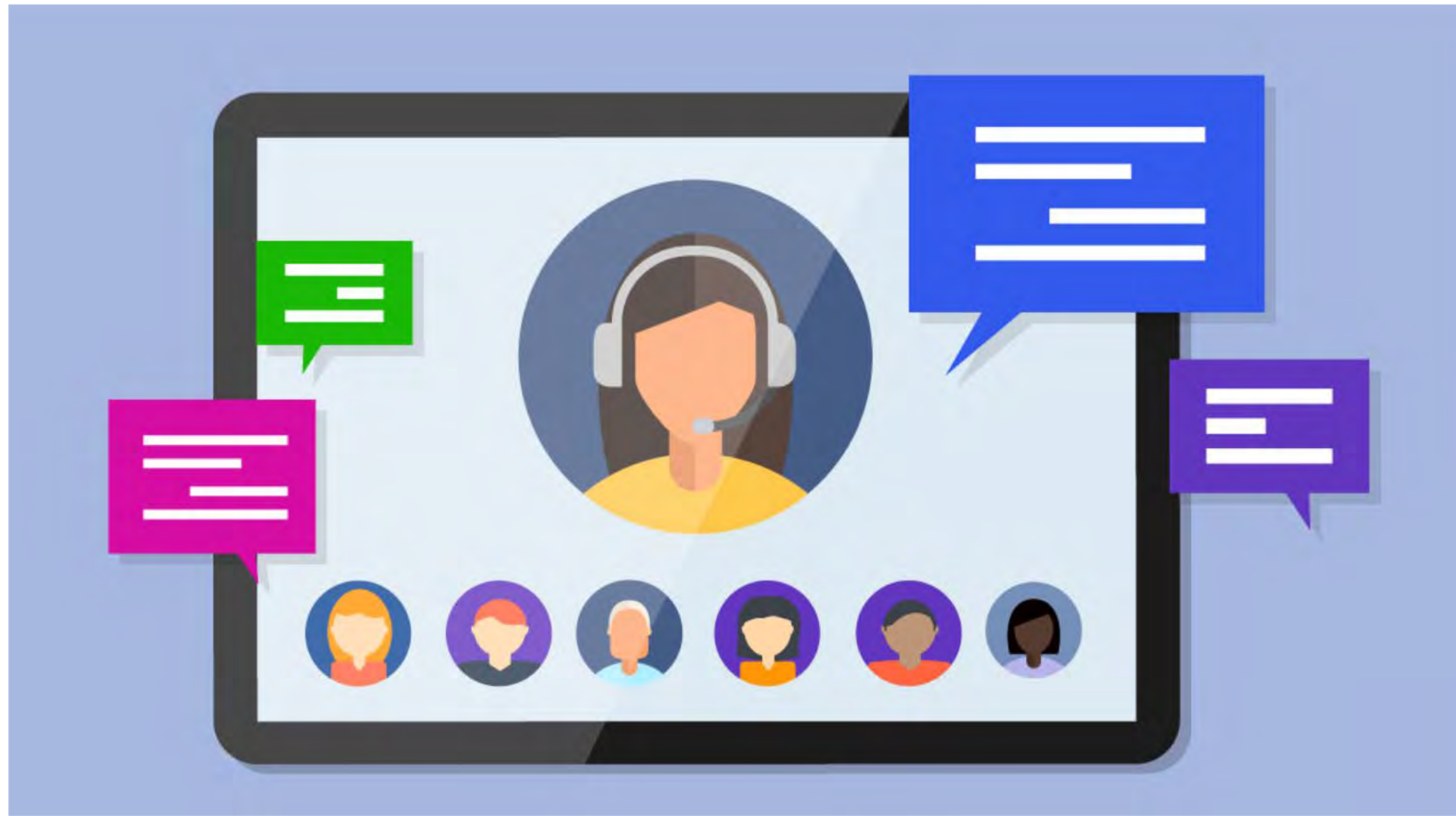
* Everyone is on mute

* Use the chat to ask questions

* We're recording this session

Please type your questions and any resources into the chat box.

We'll also be recording this, and you'll get a copy of the recording, a PDF of the PowerPoint, and comments in the chat.

We have live captioning today for anyone needing help with the audio.

Thanks to our captioner!

Thanks, Anne!

Anne Umali, Director of Professional Development and
Co- Manager of ee360 and ee360+

PROJECT OVERVIEW

1. **Kindergarten to Grade 12 (K-12) policy analysis**

2. K-12 administrator and teacher survey: https://bit.ly/3Tji5ZG

3. Higher education policy landscape analysis

4. Analysis of NGO involvement in climate change education

5. Pocket of innovation - case studies

6. K-12 administrator policy forum

Teacher and Administrator Survey
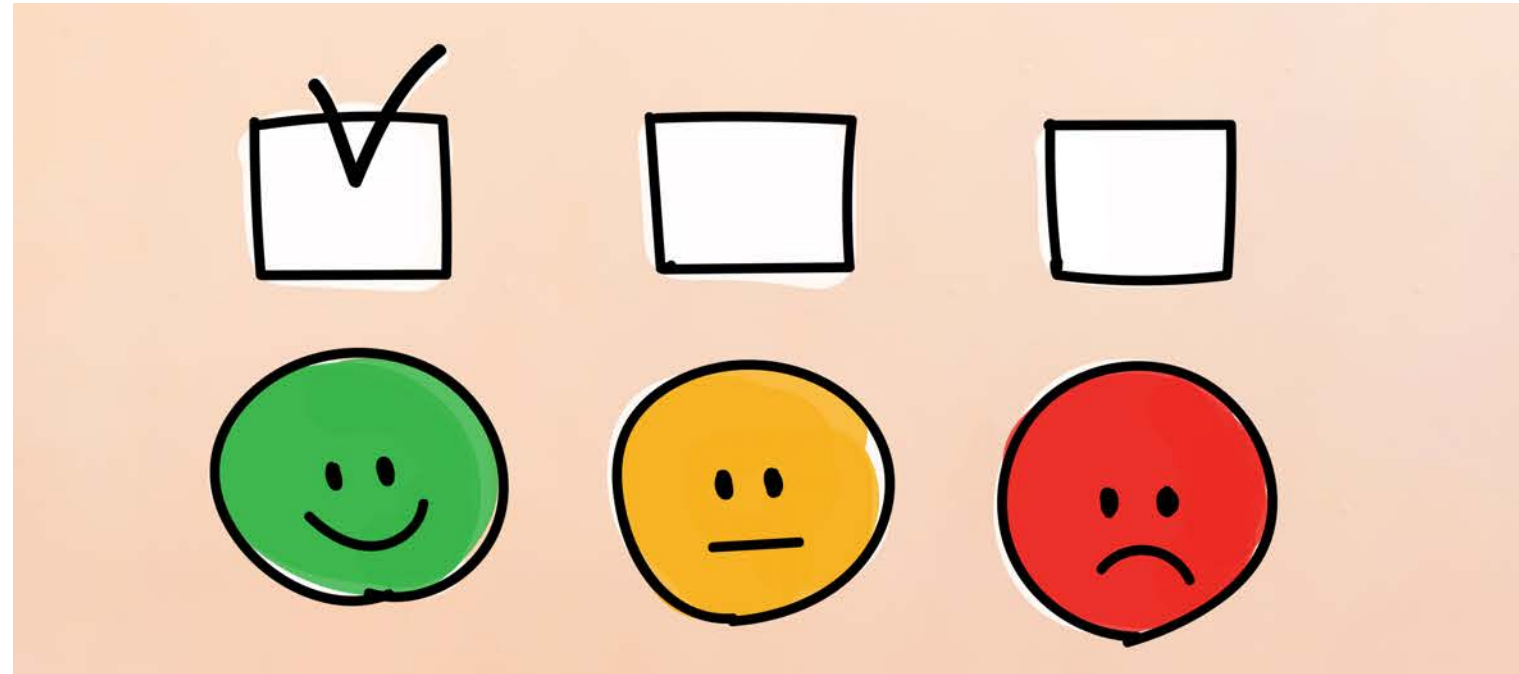
Pam Loeb, Lisa Dropkin, and Glynis Donaldson

Research group with expertise in education and conservation and that has years of experience working on surveys!

We need more K-12 teachers and administrators to fill out the survey! We're doing a representative sample of 800 with Edge and opening it up widely to get more data!

Started with K-12 and now working on a higher education landscape analysis

"Daddy works in a magical, faraway land called Academia."

Nonformal Education Survey
--community-based organizations

Case Studies: to provide examples

To provide real-world examples of implementation, case studies will also be developed to **reflect common barriers to effective or systemic climate change education**, along with **positive stories and effective practices** that demonstrate how we can advance climate change education in the United States. The report will provide special consideration to how **climate justice is integrated into climate education programs**, and the role of environmental education in addressing the profound and inequitable impacts of climate change on communities of color.

Need for Climate Literacy and Climate Justice

- This Landscape Assessment Project (to understand barriers and opportunities)

- Coalition for Climate Education Policy

- eePRO Discussion Group

- What works in climate change education (eeWORKS: Martha Monroe)

- Climate Choices: Deliberation

- New Guidelines for Excellence focused on Climate Education and Climate Justice

https://naaee.org/our-work/programs/climate-change

Check out these resources to learn more:

Coalition for Climate Education Policy
Join the Coalition for Climate Education Policy to advance climate literacy and justice!

eeWORKS: Identifying Effective Climate Change Education Strategies
Learn which educational strategies help create effective education to address climate change and the role of outreach in helping communities adapt.

Climate Change Education eePRO Group
Join this group to discuss how we can use EE as a platform to leverage support for climate change education.

Climate Change Education Resource Roundup

Climate Change Education Resources

eePRO Picks: Climate Change Education (Coming Soon)

Introducing Our Speakers

Kristen Hargis
Graduate Student
University of Saskatchewan

Sarah Bodor
Director of Policy and Affiliate Relations
NAAEE

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SEPN
SUSTAINABILITY AND EDUCATION POLICY NETWORK

naaee
North American Association for Environmental Education

The Monitoring and Evaluating Climate Communication and Education (MECCE) Project

- Goal to increase the quality and quantity of climate change education and communication globally

- 'Strategic methodology,' with three axes of activity: 100+ case studies, dataset and indicator development, targeted outputs (institutes, guidelines, data platform)

- Linked partner projects: 50+ country profiles with UNESCO GEM Report; US Landscape Analysis with NAAEE

- Advisory Committee Members: UNESCO, UNFCCC, IPCC, GEMR

- Funding of 2.5M SSHRC, $2M+ matching funds; 80+ interdisciplinary partnership team; 2020-2026

www.mecce.ca   #mecce

K-12 Policy Analysis Objectives

- To examine the extent and type of climate change inclusion in K-12 education policy across the United States

- By 'policy' we mean official policy texts, such as strategic plans, environmental literacy plans, and sustainability policies; as well as curriculum frameworks and standards

- Benchmarking whether, and how, states are currently including climate change in policy materials can help inform and motivate further inclusion

- Strong inclusion of climate change in education policy helps provide support for administrators, educators, and students to recognize and mobilize the role of education in climate action, as well as in addressing climate-related mental and social health issues

K-12 Education Policy Sample

- All 50 states, plus Washington D.C.

- Only policy and related materials within public state-level departments and boards of education.

- Collected 802 publicly available education policy documents (between May to August 2021)

- Not including private education or local authorities (e.g., school districts)
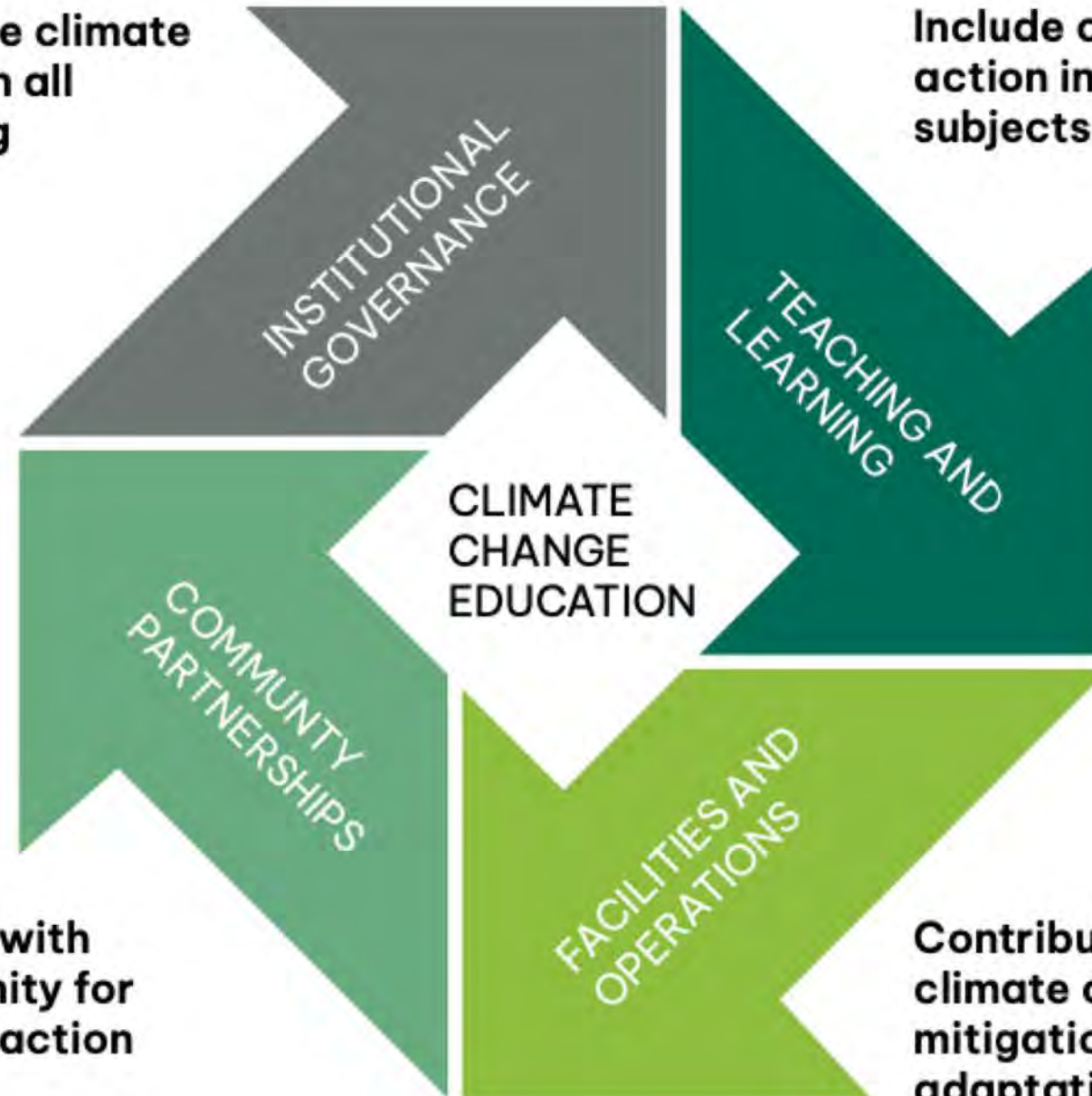
Policy Materials Analyzed

Institutional Governance

1. Education strategic materials (up to 3 policies)
2. Every Student Succeeds Act state plans (up to 1 policy)
3. Overarching state education standards (up to 4 policies)
4. Governance-related climate/ sustainability/environment education plans (up to 4 policies)

Integrate climate action in all planning

Include climate action in all subjects

Teaching and Learning

1. Subject/grade level state education standards (core subjects + 2 electives)
2. State education standards guides (up to 1 policy per grade and subject level)
3. Teaching and learning plans/standards (up to 3 policies)
4. Environmental literacy plans (up to 1 policy)

INSTITUTIONAL GOVERNANCE

TEACHING AND LEARNING

CLIMATE CHANGE EDUCATION

COMMUNTY PARTNERSHIPS

FACILITIES AND OPERATIONS

Community Partnerships

1. Community partnership plans (up to 3 policies)

Partner with community for climate action

Contribute to climate change mitigation and adaptation through buildings and grounds

Facilities and Operations

1. Operation plans (up to 1 policy)
2. Operations-related climate/ sustainability plans (up to 2 policies)

ANALYSIS METHODS

- Policy materials were assigned attributes for document type, state, and subject, where applicable

- A range of search terms were used to search the documents with an aim to identify all climate change content

- Analysis was run in NVivo 12 to determine the extent and type of climate change content in the documents

- Advisory group of climate change education experts provided feedback on methods

Climate Change-Overall Keywords:			
• "climate change" • "climate hazard*" • "climate impact*" • "climate vulnerab*" • "climate action*"	• "climate resilience" • "carbon footprint*" • "global warming" • "GHG emission*" • "greenhouse gas emission*"	• "CO2 emission*" • "Carbon Dioxide emission*" • "low emission*" • "net-zero emission*"	• "climate mitigation*" • "climate adaptation*" • "just transition*" • "climate justice"
Energy-related Keywords:			
• fossil fuel*"	• "renewable energ*"	• "renewable resource*"	• "alternative energ*"

All states had policies that mentioned climate change at least once; extent of inclusion was usually very low.

- 17% (136/802) of all policies mentioned climate change at least once (average of 3 x per policy)

- Policies from Indiana had the highest average mentions of climate change at 42 per policy

- Policies from Utah had the lowest average mentions of climate change: only mentioned 5 times across 25 policies
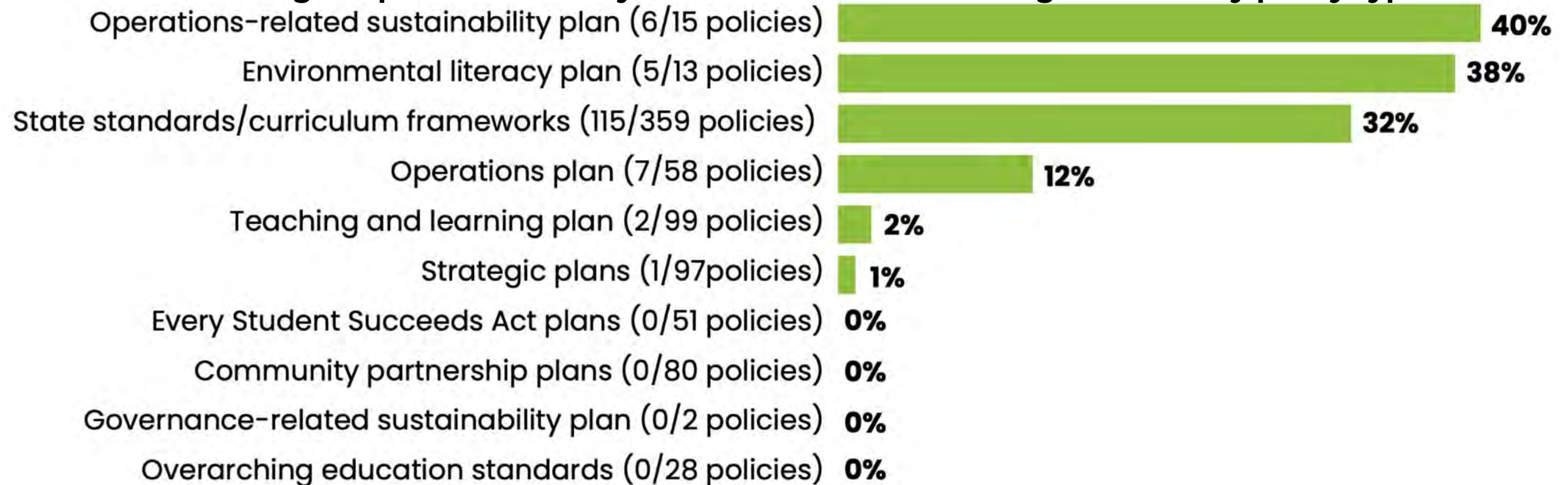
Percentage of policies with any climate change content

17%

83%

■ Any Climate Change Content

■ No Climate Change Content
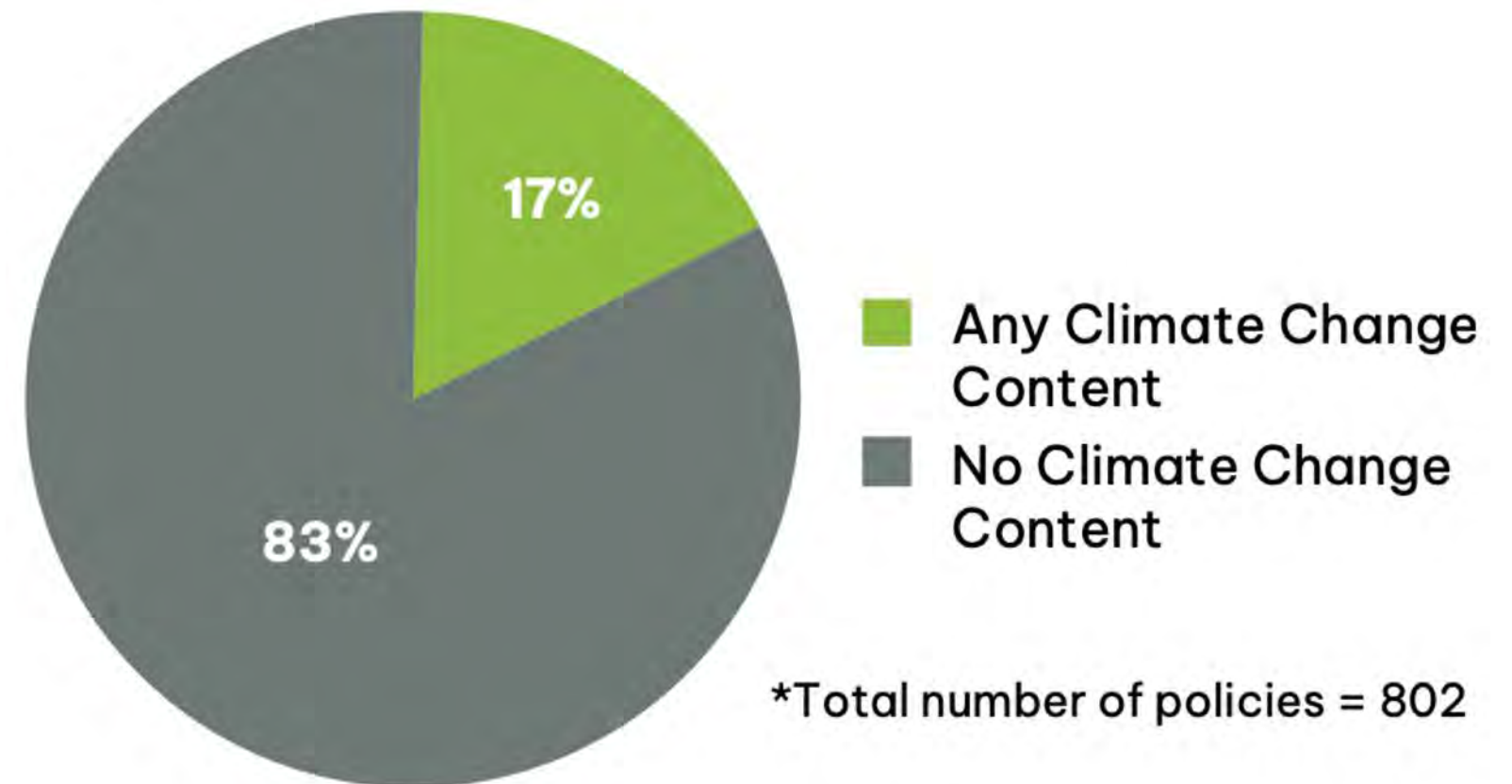
*Total number of policies = 802

Climate change content was most commonly included in sustainability-specific operations plans and environmental literacy plans; although many environmental literacy plans are dated.

Percentage of policies with any reference to climate change content by policy type

Policy type	Percentage
Operations-related sustainability plan (6/15 policies)	40%
Environmental literacy plan (5/13 policies)	38%
State standards/curriculum frameworks (115/359 policies)	32%
Operations plan (7/58 policies)	12%
Teaching and learning plan (2/99 policies)	2%
Strategic plans (1/97policies)	1%
Every Student Succeeds Act plans (0/51 policies)	0%
Community partnership plans (0/80 policies)	0%
Governance-related sustainability plan (0/2 policies)	0%
Overarching education standards (0/28 policies)	0%

*136 out of 802 documents had climate charge content

"**From global issues such as pandemics and strikes for climate change, to social movements such as March for Our Lives and Black Lives Matter:** the world around us is changing rapidly."

—Washington D.C. environmental literacy plan, 2021, p. 1 (emphasis added)

"The Maryland State Department of Education Environmental Education **website hosts a Climate Change Education resource page and classroom toolkit.** Lessons, websites, and unit plans for all appropriate grade levels are included on the site."
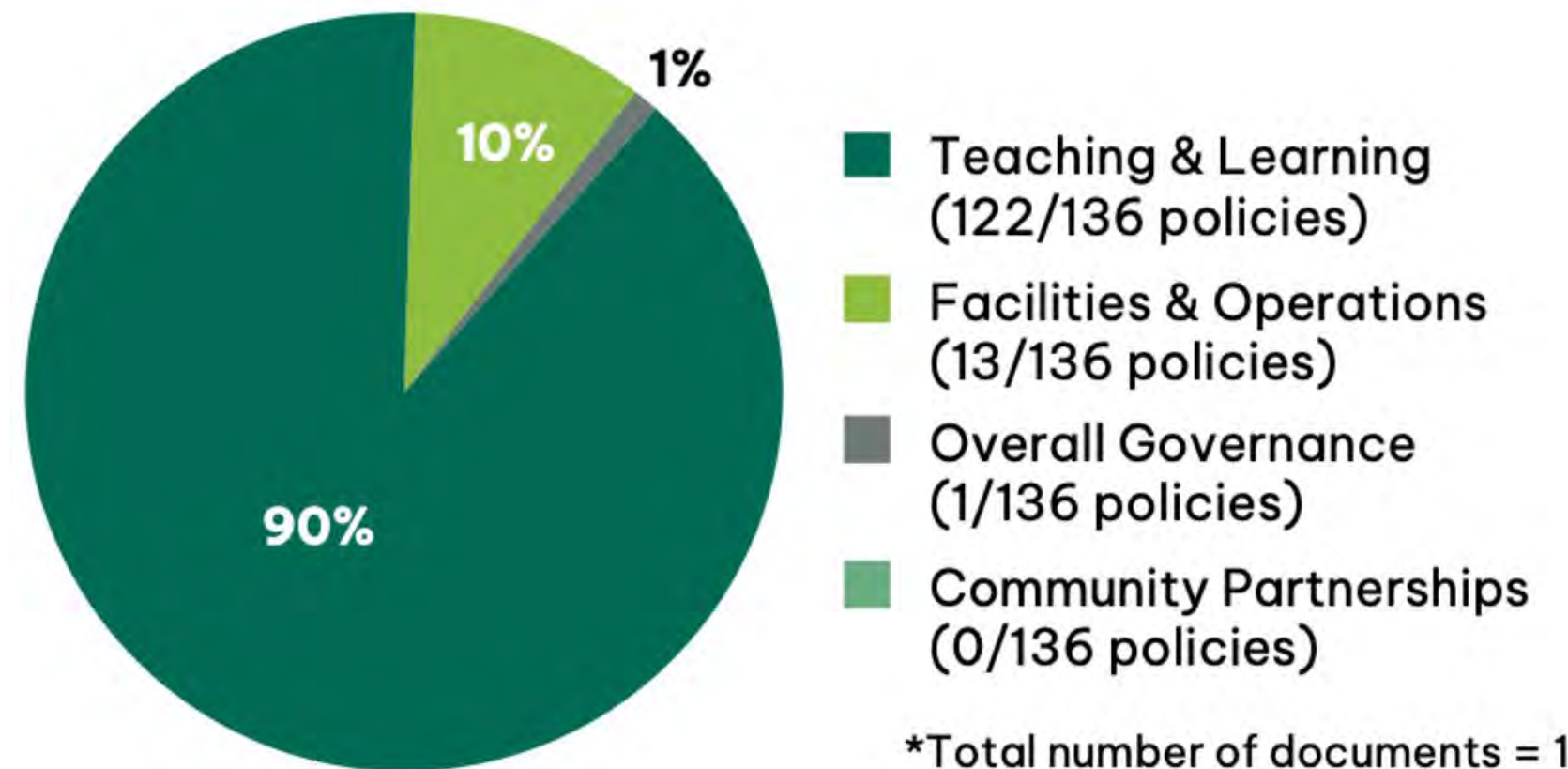
—Maryland environmental literacy plan, 2010, p. 23 (emphasis added)

Climate change content was most commonly in teaching and learning policies (e.g., state standards, environmental literacy plans)

- 90% of climate change content was in teaching and learning policies

- All 51 jurisdictions had climate change content in teaching and learning policies (122/471)

- 8 had climate change content in operations policies (13/73)

- 1 (i.e., Minnesota) had climate change content in governance policies (1/178)

- None had climate change content in community partnership policies (0/80)

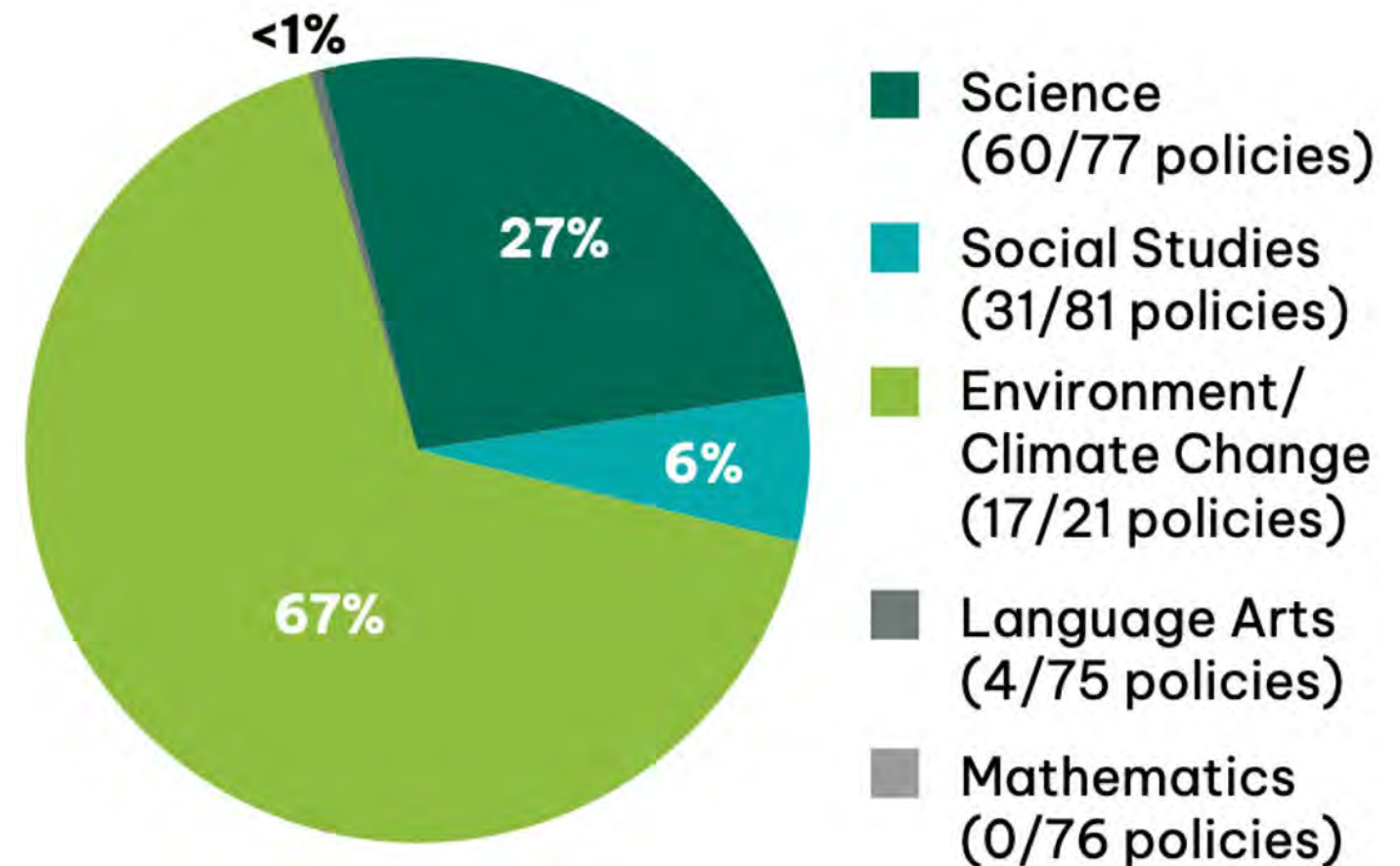**Climate Change Inclusion Across Institutional Domains**

1%
10%
90%

- Teaching & Learning (122/136 policies)
- Facilities & Operations (13/136 policies)
- Overall Governance (1/136 policies)
- Community Partnerships (0/136 policies)

*Total number of documents = 136

Climate change content was found most often in environment/climate change and science subjects, rarely in social studies, and never in mathematics.

- Climate change content was most often included in environment/climate change-specific standards (67% of content) and science standards (27% of content)

- Climate change content was included in social studies standards to a lesser extent (6% of content) and rarely included in language arts standards (<1% of content)

- Mathematics standards did not include any climate change content

Extent of inclusion of climate change content in state standards and curriculum frameworks.

<1%

27%

6%

67%

- Science (60/77 policies)
- Social Studies (31/81 policies)
- Environment/ Climate Change (17/21 policies)
- Language Arts (4/75 policies)
- Mathematics (0/76 policies)

THE COMPLEXITY OF THE CLIMATE CHANGE CONVERSATION

- Presence of climate change content does not necessarily indicate support for climate change or climate action

- In South Dakota, climate change is mentioned to inform the reader that this topic, along with evolution, should be taught at home and not within schools

*The South Dakota Board of Education also recognizes that not all viewpoints can be covered in the science classroom. Therefore, **the board recommends that parents engage their children in discussions regarding these important issues [i.e., climate change** and evolution], in order that South Dakota students are able to analyze all forms of evidence and argument and **draw their own conclusions."***
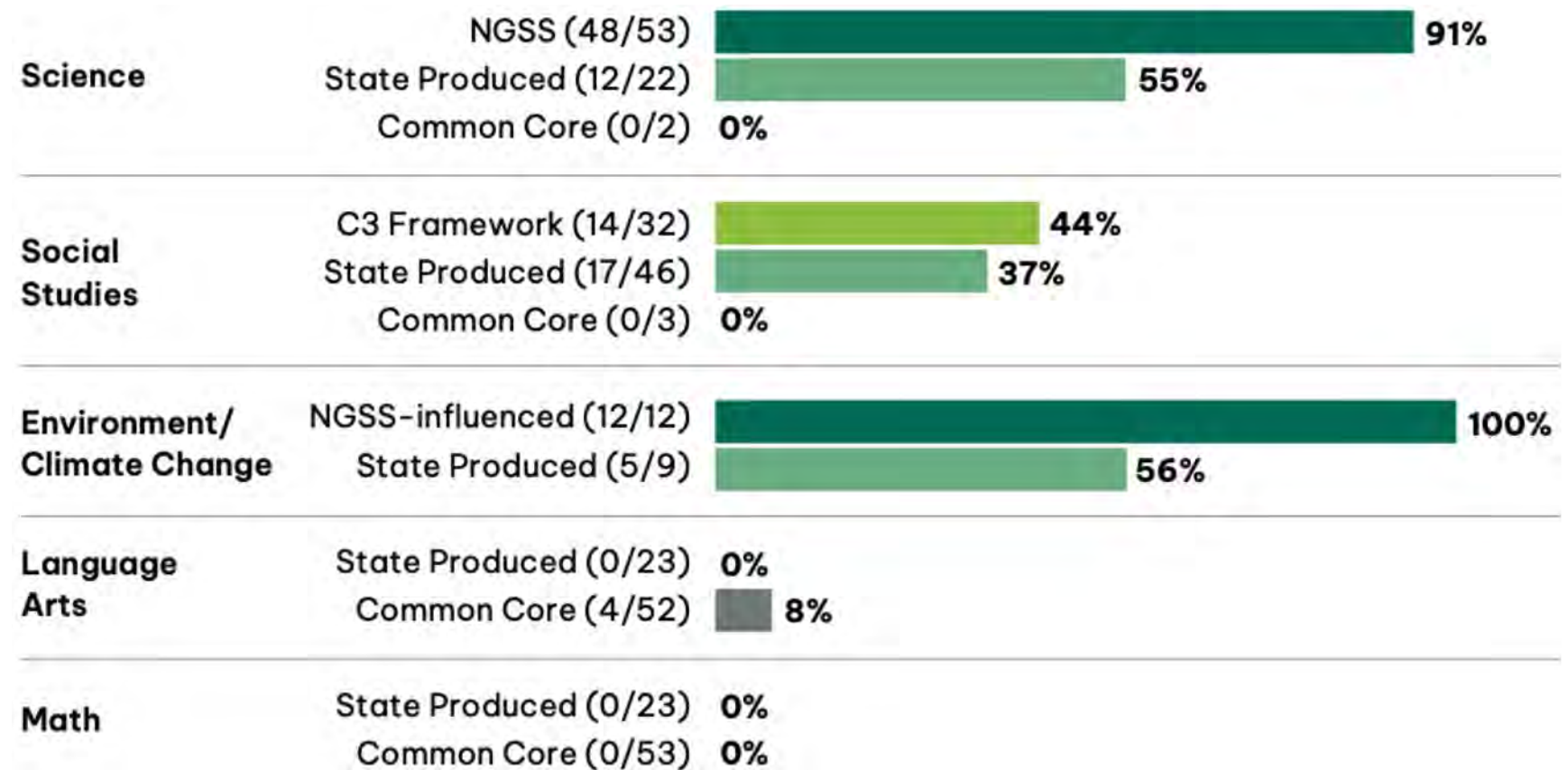
-South Dakota science standards, 2015, p. 6 (emphasis added)
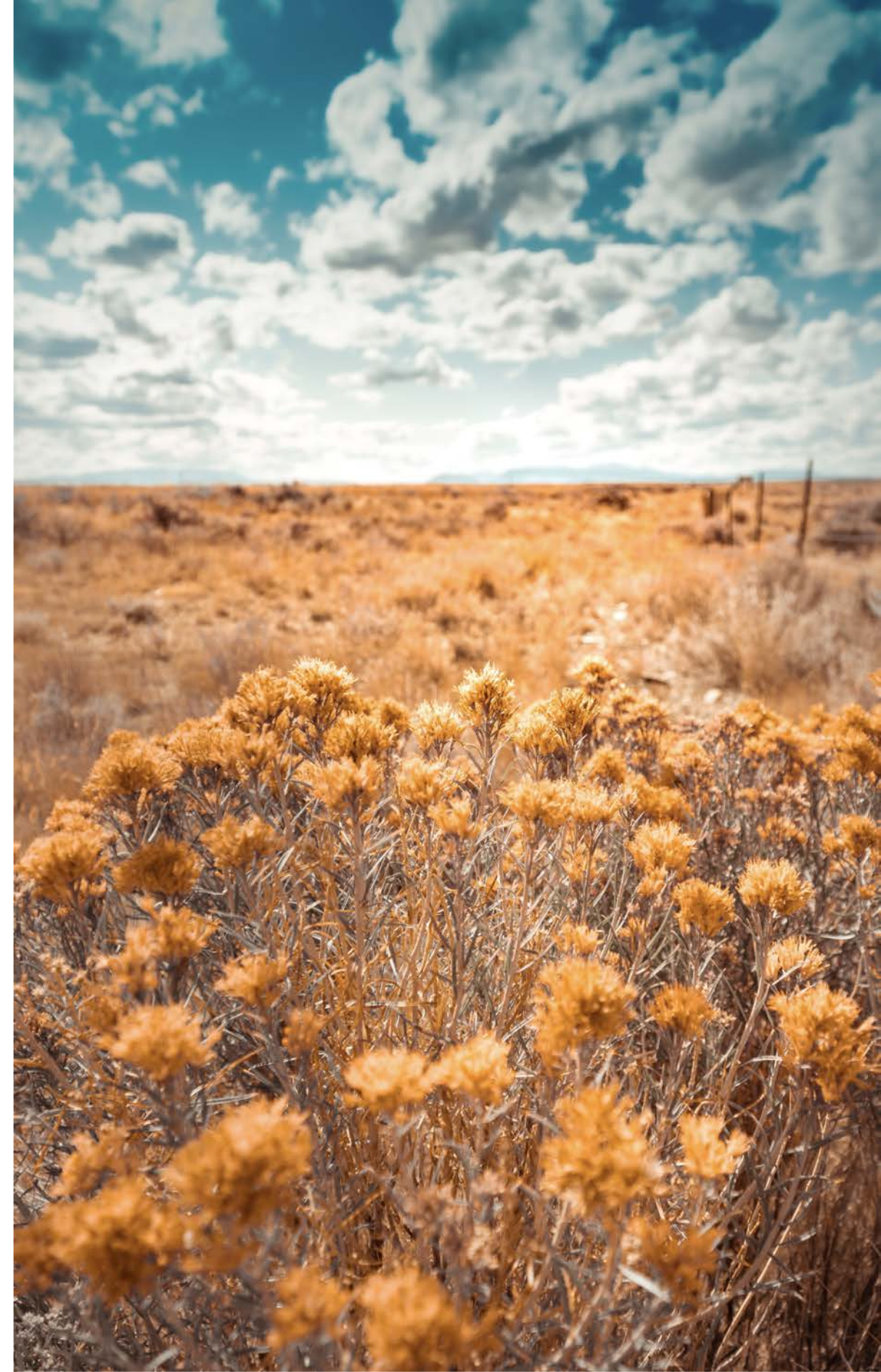
State standard and curriculum frameworks that used or were influenced by the Next Generation Science Standards (NGSS) were more likely to include climate change content.

- Science standards that used or were influenced by Next Generation Science Standards (NGSS) were much more likely to include climate change content than state produced standards

- Social studies standards that used or were influenced by the College, Career, and Civic Life Framework were only slightly more likely to include climate change content than state produced standards

- Math and Language Arts Standards that used or were influenced by Common Core standards were least likely to include climate change content

Percentage of standards with any climate change content by subject and type of standards

| Subject	Standard	Percentage
Science	NGSS (48/53)	91%
	State Produced (12/22)	55%
	Common Core (0/2)	0%
Social Studies	C3 Framework (14/32)	44%
	State Produced (17/46)	37%
	Common Core (0/3)	0%
Environment/ Climate Change	NGSS-influenced (12/12)	100%
	State Produced (5/9)	56%
Language Arts	State Produced (0/23)	0%
	Common Core (4/52)	8%
Math	State Produced (0/23)	0%
	Common Core (0/53)	0%

The majority of state standards and curriculum frameworks did not include holistic approaches to climate change education.

- 22% of the time climate change was mentioned only as an example concept

- 74% of state standards and curriculum frameworks addressed the cognitive learning dimension

- 10% addressed the socio-emotional learning dimension

- 7% addressed the action-oriented learning dimension

Percentage of state standards or curriculum frameworks with climate change content focusing on the holistic learning dimensions

Legend:
- Cognitive
- Socio-emotional
- Action-behavioral
- Neither

Pie chart values: 74%, 10%, 7%, 9%
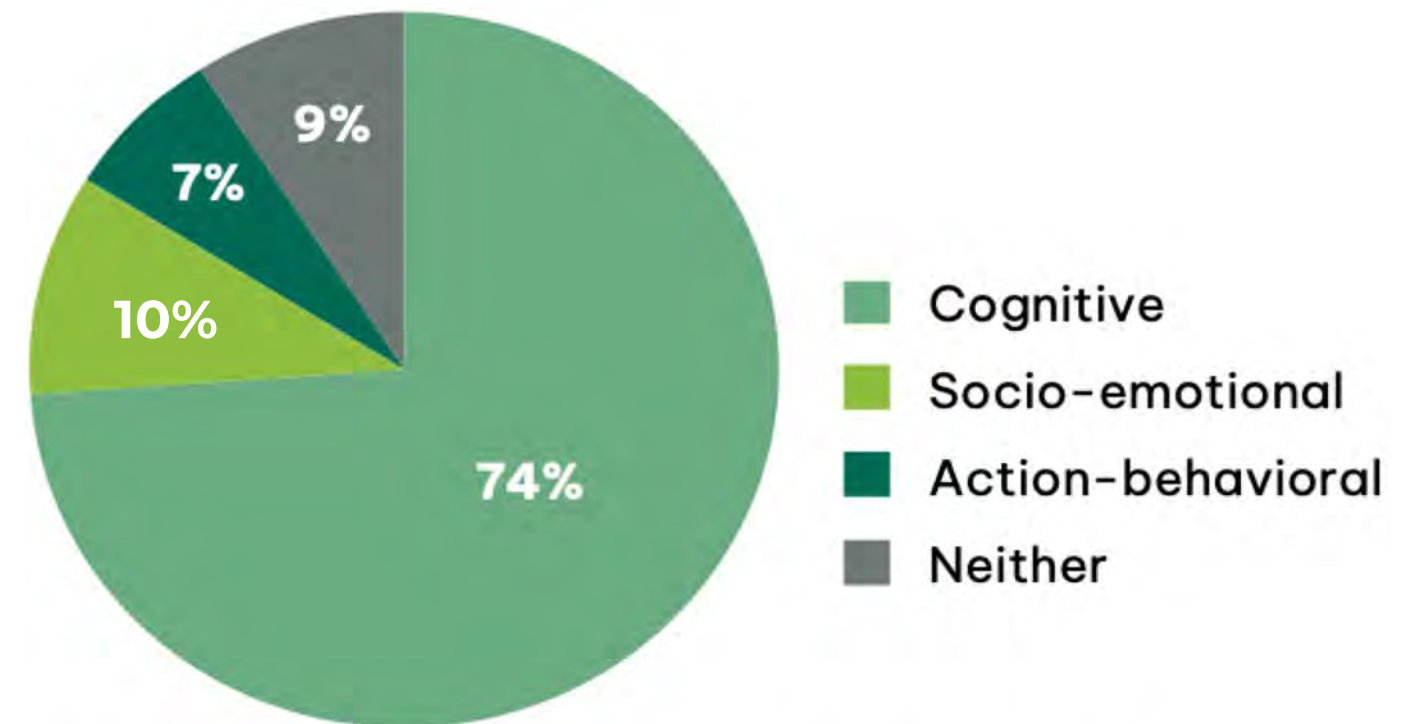
*Number of standards/curriculum frameworks with climate change content=115

"**Develop an action plan** that addresses issues related to climate change and **share with school and/or community members**."

"Use evidence and quantitative data to **propose or defend a public policy related to climate change**."
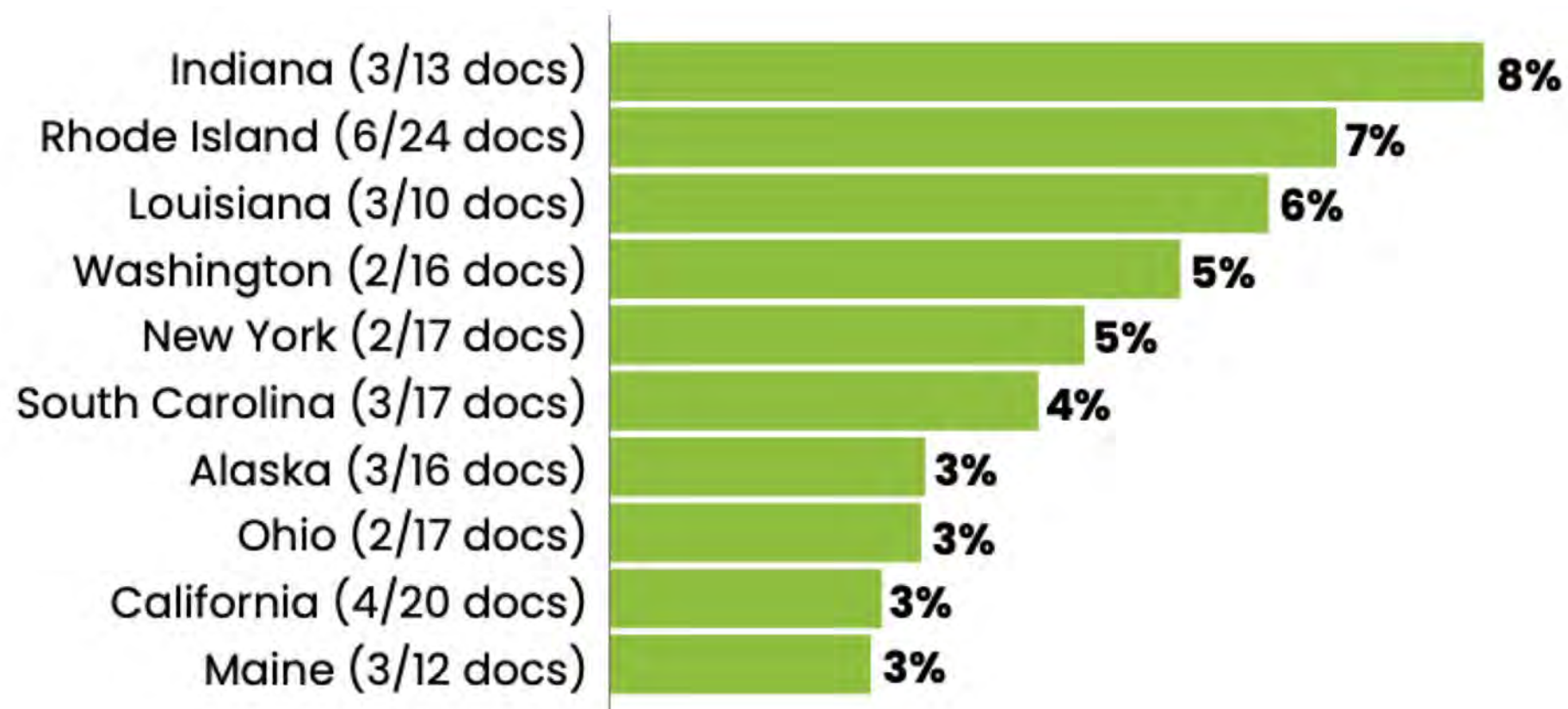
"**Investigate a global issue such as climate change**, its significance, and **share information** about how it impacts different regions around the world."

—New Jersey social studies standards, 2020, n.p. (emphasis added)[p]

Discussions of energy were often in relation to fossil fuel, and there was little mention of key topics and initiatives such as climate action, justice, mitigation, or adaptation, Indigenous knowledges, or the United Nations.

- 16% of policies had energy-focused content (128/802 docs)

- Only 14% of that content (17/121 references) was located within one paragraph of the word 'climate,' suggesting many uses were not related to climate change

Top Ten States with the Most Energy Content

State	%
Indiana (3/13 docs)	8%
Rhode Island (6/24 docs)	7%
Louisiana (3/10 docs)	6%
Washington (2/16 docs)	5%
New York (2/17 docs)	5%
South Carolina (3/17 docs)	4%
Alaska (3/16 docs)	3%
Ohio (2/17 docs)	3%
California (4/20 docs)	3%
Maine (3/12 docs)	3%

ORIENTATIONS TO CLIMATE CHANGE

- Lack of focus on climate justice, including civics and citizenship in relation to the climate change keywords

- Few mentions of climate action, mitigation, or adaptation

- 'Global warming' and 'emissions' terms were rarely used

Percentage of References to Type of Climate Change Content in All Documents

Climate Change	Global Warming	Emissions	Mitigation	Adaptation	Justice
86%	9%	4%	1%	<1%	0%
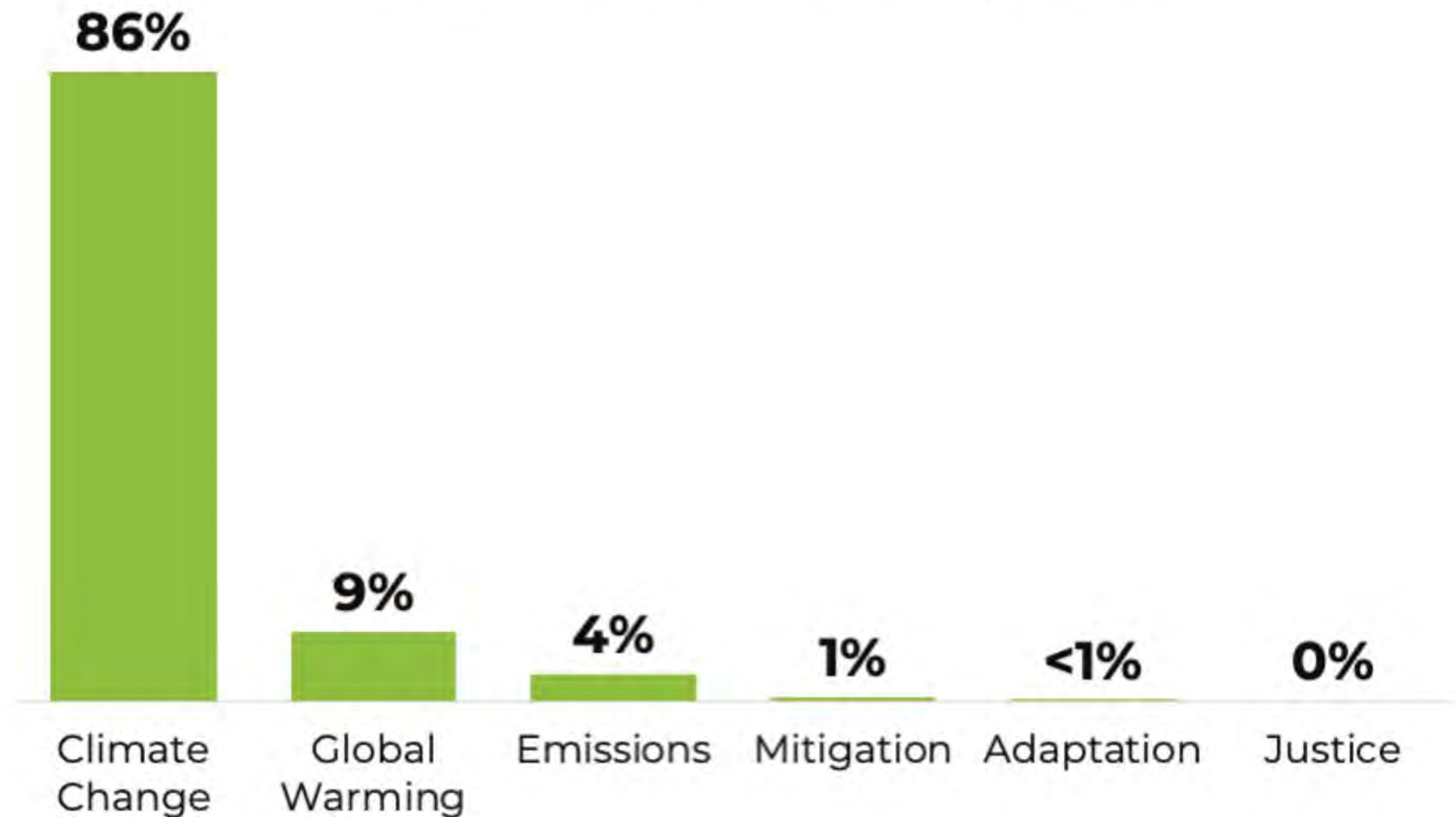
*Results are for exact term matches. Total number of standardized references = 58

"collaborate with students from other countries to **develop possible solutions to an issue of environmental justice, including climate change** and water scarcity"

— **New Jersey social studies standards, 2020, n.p. (emphasis added)**

"Emphasis is on **understanding and using American Indigenous knowledge systems to describe regional impacts of climate change** to Minnesota. Examples may include the water cycle and how precipitation change over time impacts cultural practices related to nibi ("water" in the Ojibwe language); or the decline/ species loss of wigwaas ("paper birch" in the Ojibwe language and an important tree in Anishinaabe culture) due to climate stressors like drought or changes in snow cover.

-North Carolina social studies curriculum framework, 2021, p. 18-19 (emphasis added)
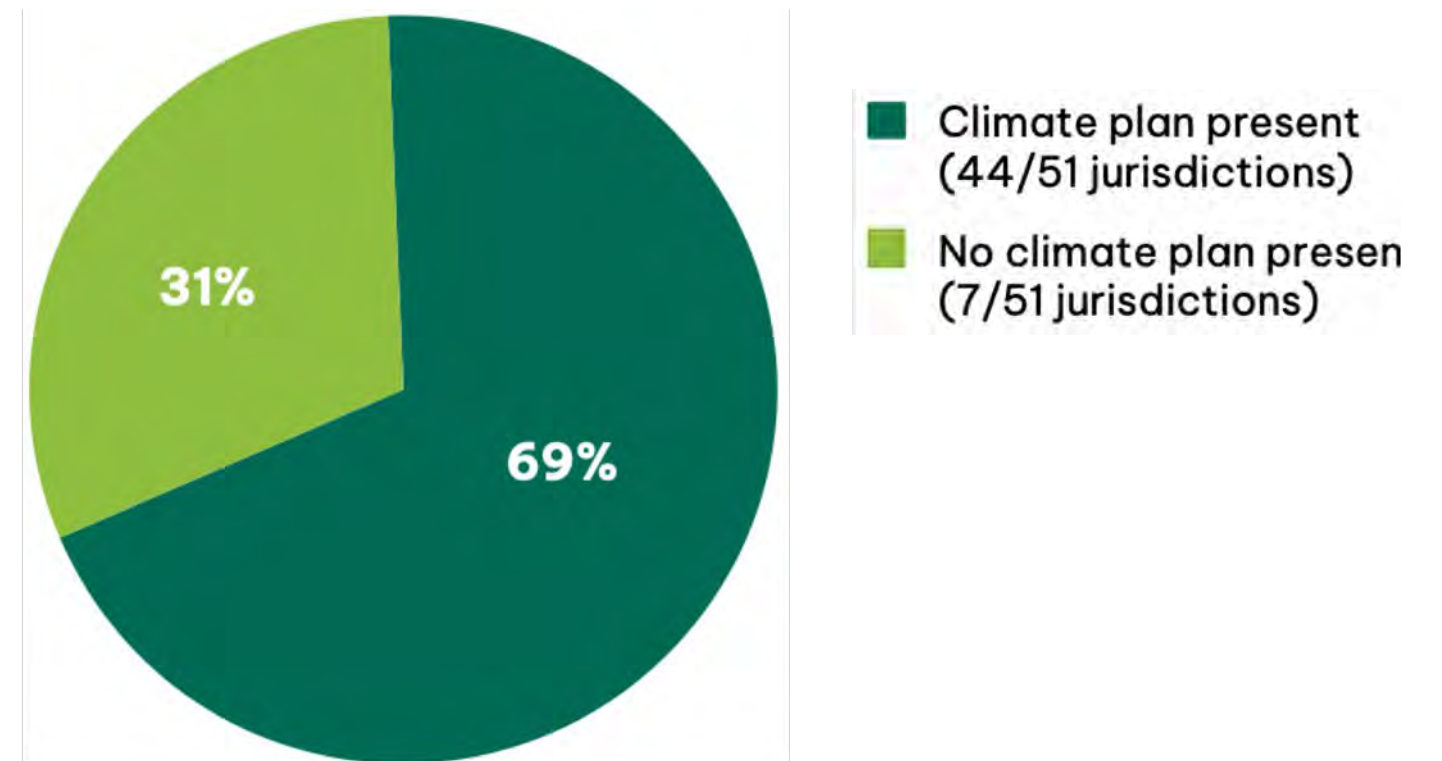
State political affiliation, presence of a climate change plan, and whether or not a state had made a broader commitment to climate change correlated with to what extent climate change content was included.

Percentage of climate change content by a political affiliation

57% 43%

- Red states (27/51 jurisdictions)
- Blue states, plus Washington D.C. (24/51 jurisdictions)
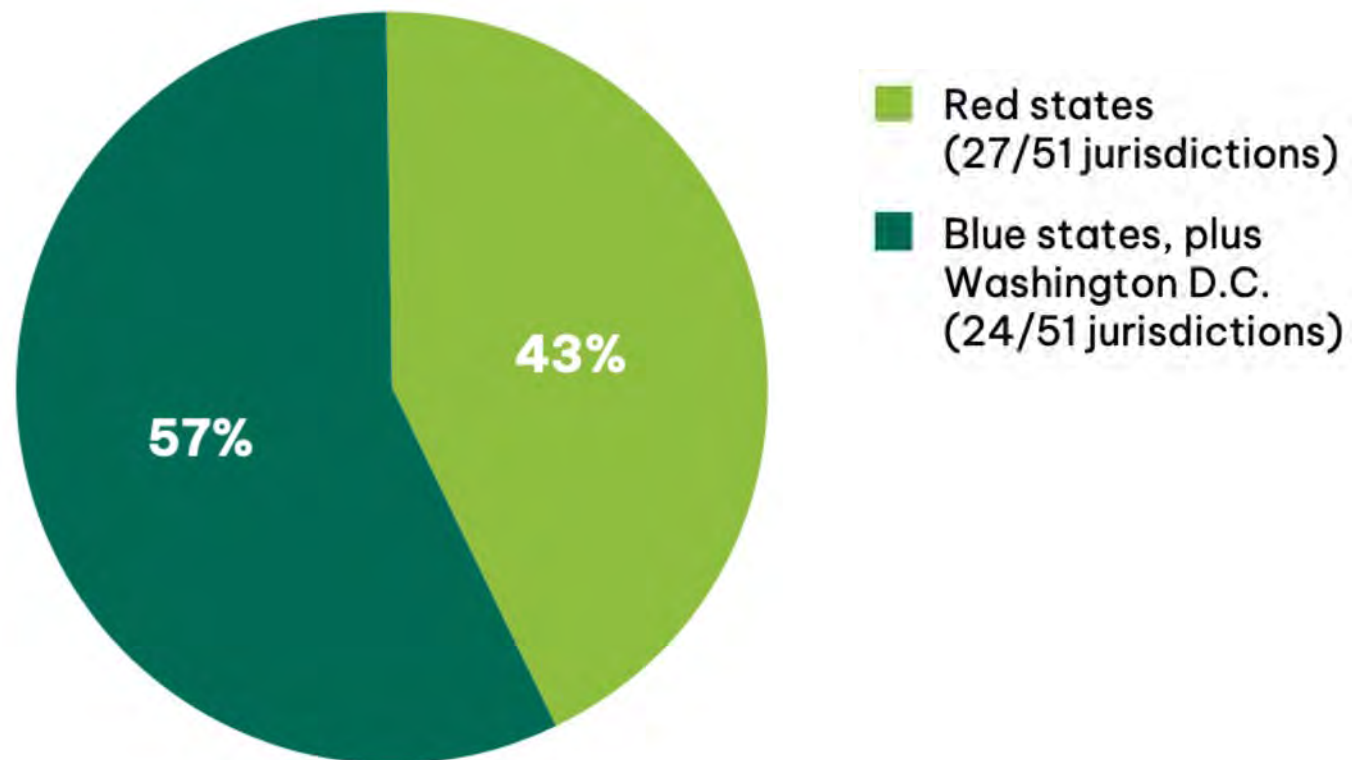
Percentage of climate change content by a climate plan presence

31% 69%

- Climate plan present (44/51 jurisdictions)
- No climate plan presen (7/51 jurisdictions)

RECOMMENDATIONS

- Increase the quality and quantity of climate change content across all education policies

- Update and increase the number of environmental literacy plans

- Include a stronger focus on climate justice, climate action, and Indigenous knowledges in all education policies

- Include a focus on both climate change mitigation and adaptation in all education policies

- Provide policy support, such as funding, professional development, and staffing to help advance enactment of climate change education policy
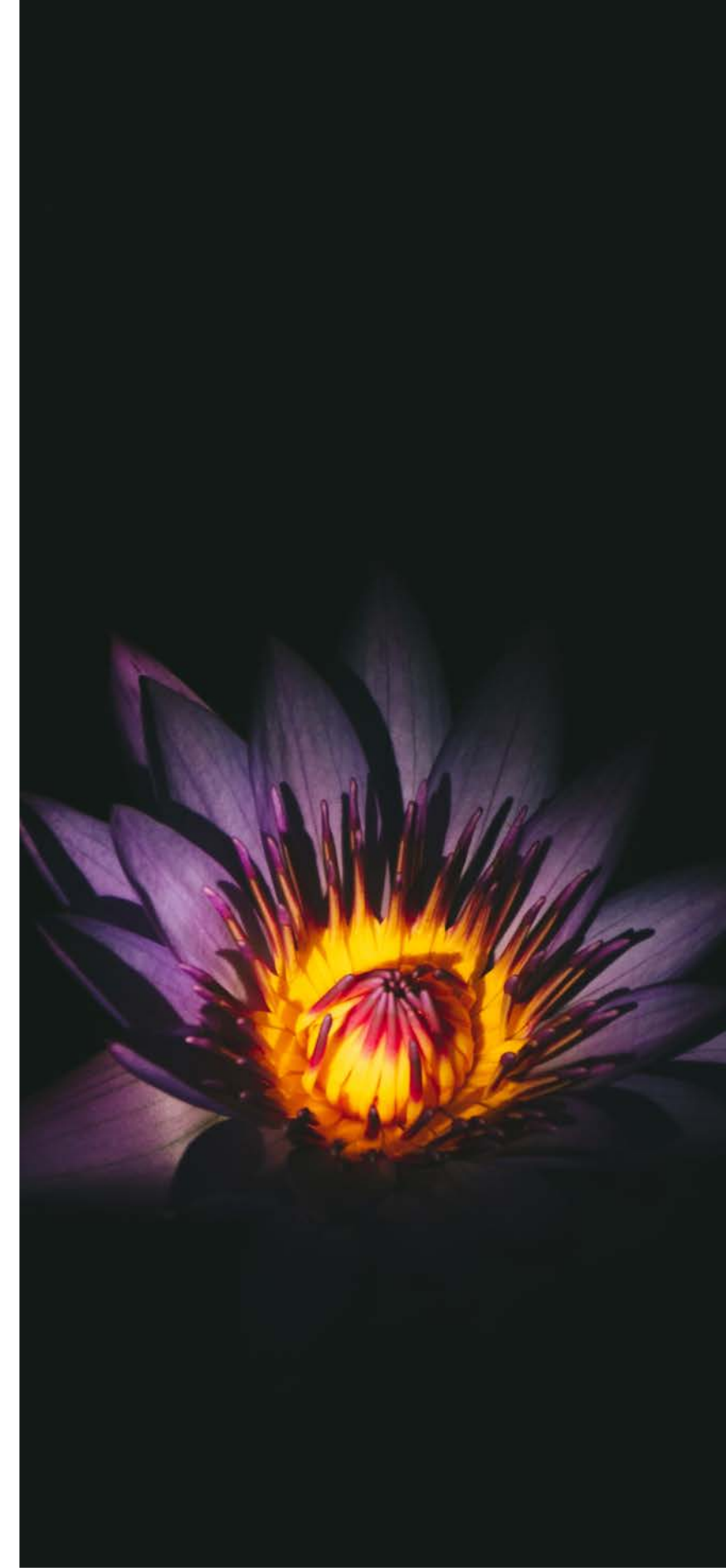
POLICY IMPLICATIONS

Governance	- Declare a **climate emergency** or pass a climate change education resolution - Include climate change in **strategic planning policies**, as well as mission, vision, and value statements - Develop a **climate action plan** with measurable targets for all whole institution domains - Issue guidance to districts for teaching climate change education, such as **professional development** - Support the development of **teacher networks** for resource-sharing - Employ **climate change education staff**
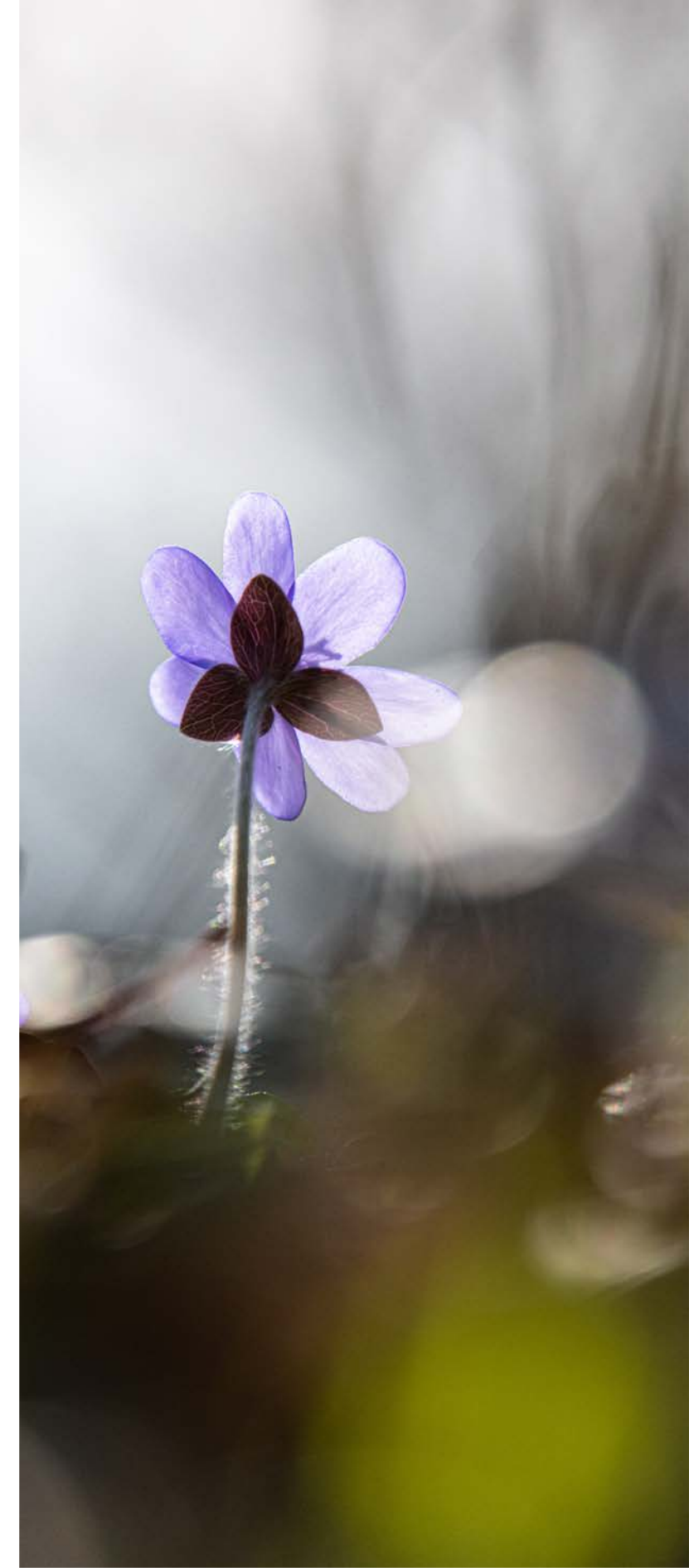
POLICY IMPLICATIONS

Teaching and Learning	• Require and support the inclusion of **climate change content in all subjects** • Develop policies that provide space and recommend pedagogies to **build socio-emotional resilience** to support student emotions related to climate change. • Develop guidelines for the inclusion of climate change education in standards and curriculum frameworks that **incorporate all holistic learning dimensions** • **Connect districts with Indigenous educators** who can teach students land-based education • Publish **guidance on what educators need to know before taking classes outside** with sample lessons and curriculum connections

POLICY IMPLICATIONS

Facilities and Operations	- Require districts to have **climate action plans (CAPs)** and/or ensure CAPs have more weight in operational guidelines **Move towards renewable energy** in state buildings and encourage districts to do the same - Create **grants for underfunded schools** at risk for climate impacts to develop climate change **mitigation and adaptation plans/projects** - Encourage districts/schools to **incorporate school/district climate action** within their facilities and operations **into classes** - Develop policies that promote **sustainable transportation, reduce water consumption, and promote sustainable food and waste management**

POLICY IMPLICATIONS

Community Partnerships	- Partner with local government or organizations to **develop climate solutions and upgrade infrastructure** - Work with community partners to provide **climate change education support** for districts/schools and **publish a list of potential partners** - Create grants that assure **priority funding if districts/schools apply with a community organization** to address climate change **Engage with local industries** to understand the effects of climate change **to ensure education promotes a 'just transition'** - Provide funding for an **annual symposium where students can share their learning about climate change** with family, peers, and local community

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K-12 Administrators and teachers can take the survey here:

https://bit.ly/3Tji5ZG

ee
PRO™

The hub for environmental education professional development

Entire webinar collection is available online:
https://naaee.org/eepro/learning/monthly-webinar-series

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We strive to host webinars that are relevant to our network and cover a wide variety of cutting-edge topics. Please take a few minutes to fill out this short survey⊘.

eeWEBINARS: Bringing New Ideas and Innovation to the Field of EE

Each month, NAAEE offers hour-long webinars on topics of key interest to environmental education professionals in formal and nonformal settings that will help raise the bar on the quality of EE programs, expand the scope and reach of these programs, social movements, and improve the way we communicate about our field.

ee360 naaee
Affiliate Network

Webinars typically take place the fourth Tuesday of every month, with some flexibility based on speaker availability. **Scroll down this page for a snapshot of past speakers and topics and then click the webinar title to watch the recorded session!** The NAAEE monthly webinar

conferfence.naaee.org

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**19th Annual
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Symposium**
OCT. 11–12

EDUCATING
FOR CHANGE

Education We Need for the World We Want

Dr. Robin Wall Kimmerer

Author:
Braiding Sweetgrass-- Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants

Thursday, October 13

Leander Lacy, Lacy Consulting

Ranata Koch Alvarenga, 30U30 2022

Julie Packard, Monterey Bay Aquarium

Nick Okafor
Sidewalk Labs

Gerry Ellis, GLOBIO

Sheila Ridge Williams, Lab School
University of Minnesota

Jack Baker, 30U30 2022

You are going to love Tucson!