

What's the Buzz about Net Zero Education?



December 14, 2023

Recording: <https://youtu.be/dzwBrSjjTSw>

Webpage: <https://thegeep.org/virtual-workshop-whats-buzz-about-net-zero-education>

eePRO post: <https://eepro.naaee.org/learning/virtual-workshop-whats-buzz-about-net-zero-education>

Speakers:

- **Nicole Ardoin**, Associate Professor, Stanford University, United States
- **Judy Braus**, Executive Director, North American Association for Environmental Education (NAAEE), United States
- **Tzu-Chau (TC) Chang**, Professor, Graduate Institute of Environmental Education, National Taiwan Normal University, Taiwan
- **Kathayoon A. Khalil**, Associate Vice President of Conservation Learning at New England Aquarium, United States
- **Jen Kretser**, Director of Climate Initiatives, The Wild Center, United States
- **Christina Kwauk**, Research Director, Unbounded Associates, United States
- **Shaun Martin**, Vice President, Climate Change Adaptation and Resilience, World Wildlife Fund, United States
- **Martha Monroe**, Professor, Associate Director, University of Florida, United States
- **Ginger Potter**, Senior Education Specialist, Office of Environmental Education (OEE), U.S. Environmental Protection Agency, United States
- **Alan Reid**, Professor, Monash University, Australia
- **Bill Scott**, Emeritus Professor of Education, University of Bath, United Kingdom

Welcome!

From Rick Reynolds:

Hi all! Rick Reynolds, Founder of Engaging Every Student, Oregon, USA :)

From Gillian Pineau:

Gillian Pineau, Syracuse NY!

From: Rick Reynolds:

Thanks! Such an important topic :)

From Joan Haley:

Joan Haley, Institute for Sustainable Schools, Shelburne Farms, Vermont

From Jordan Cummings:

Hi Everyone! Jordan Cummings - Pioneer Valley Regional School District, Northfield, Massachusetts

From Joanna Johnson:

Joanna Johnson; Sustainable Learning; calling from Asheville, NC

From Whitney Stohr:

Whitney Stohr — Kids Rise Fund — Olympia, Washington

From Tony Pascall:

Hey y'all! Tony Pascall, Oklahoma Forestry Services!

From Natasha Yates:
Natasha Yates from Red Wing, Minnesota USA

From Jefd Geist:
Hi everyone! Jeff Geist from Duke Farms in New Jersey

From Rebecca Hampton:
Hi Rebecca Hampton from Keep New Zealand Beautiful.

From Denise Dumouchel:
Denise Dumouchel, seventh grade science, Oregon Episcopal School, near Portland

From Carol Pierich:
Hi! I am Carol Pierich. I live in Maryland but teach for the American Museum of Natural History in New York.

From Taylor Zavala:
Howdy, Taylor Zavala From Quinta Mazatlán- Urban Sanctuary in South Texas- Happy to be here!

From Heather Delagran:
Heather, Montreal :)

From Nina Hamilton (she, her):
Hello hello! Tuning in from Durham, North Carolina, from the GEEP/NAAEE team. Thank you all for joining us!!

From Deepika Joon:
Deepika from Germany

From Erica Dobbelsteyn:
Hello Everyone! I am Erica and environmental educator from Nova Scotia Canada :D

From Molly Piwonka:
Hi everyone! I'm Molly Piwonka an Environmental Instructor with Evergreen Heritage Center in Mt. Savage, MD.

From Joan Haley:
Love this quote

From Madeline Halvey (she/her):
Hi everyone! Madeline from NAAEE and joining from rainy Florida!

From Kottie Christie-Blick:
Greetings from New York. I'm Kottie Christie-Blick, a Climate Change Education Consultant.

From Maríana Lazcano-Ferrat:
Hello! Mariana Lazcano. Grad student at Universidad del Medio Ambiente. Sinaloa, Mexico

From NAAEE Staff (Carrie Albright, she/they):
Love all of these greetings—from coast to coast, and across the pond! Welcome everyone!

From Aneese Williams:
Hello, I am Aneese Williams and the Environmental Management Systems Coordinator at the City of West Palm Beach.

From Pavithra Priyadarshini Selvakumar:

Hi, I am Pavi from Oklahoma, USA
From Nina Hamilton (she, her):
Learn more about GEEP at thegeep.org, and NAAEE at naaee.org
From Conner McCarthy:
Hi, I'm Conner McCarthy, joining from Gateway National Recreation Area in New York
From Ivy Weng:
Ivy from APRC, joining from another side of the ocean in Taiwan!
From Lee Jowett:
Hello, Lee Jowett here - Climate Change Education Researcher at Sheffield Hallam University, UK
From Norman Levesque:
Norman from Environment & Climate Change Canada, Scientists-at-Large programme
From NAAEE Staff (Carrie Albright, she/they):
Explore Martha's eeWORKS piece on climate change education→
<https://naaee.org/programs/eeworks/climate-change>
From Richard Tusabe:
Hello good people, I am Richard (CEE-Change Fellow) attending in from Uganda. I am happy to be here. Looking forward to get energized with this net zero buzz.
From Linden Reid:
Hi all -- I'm a field biologist and EE educator from Milwaukee, Wisconsin in the US!
From Bashiru Koroma:
I am Bashiru Koroma from Sierra Leone
From Catherine Price:
Hi this is Catherine from Nashville, TN!
From Bashiru Koroma:
Thank you Judy
From colm downes:
Hello everyone, I'm Colm (UK) based in Jakarta - passionate about integrating Climate Change Education into language education, especially English language education -
<https://www.linkedin.com/in/colm-peter-downes-61380b4/?originalSubdomain=id>
From Bashiru Koroma:
A
From Roberto Muñoz:
C
From Roberto Muñoz:
woohoo
From Bashiru Koroma:
woooo
From Nina Hamilton (she, her):
All that forest cover!
From Judy Braus (she, her) NAAEE:
Congrats to all who got right! :-) Taiwan also has a 2050 target, along with the UK and others.
From Roberto Muñoz:

Suriname, Panama, Guyana and Comoros
From Judy Braus (she, her) NAAEE:

Great examples, Shaun!

From Bashiru Koroma:

wonderful analogy

From Roberto Muñoz:

We humans are made of Carbon too

From NAAEE Staff (Carrie Albright, she/they):

Please share your questions about the who, what, where and 'huh' of net zero in the chat!

From Nina Hamilton (she, her):

Thank you Shaun for breaking this all down into digestible pieces!

From Roberto Muñoz:

I wish we can get at least to 2030, I can't imagine reaching 2050 or 2063 at the pace the World is going 😞

From Roberto Muñoz:

We have to plant more trees 🌳🌳🌳

From Bashiru Koroma:

simplified

From Bashiru Koroma:

can we get to climate neutral

From Martha Monroe:

Can we afford not to?

From Judy Braus (she, her) NAAEE:

Everyone will get a copy of this to help with these many confusing terms! :-)

From Rick Reynolds:

Great presentation! Thanks

From Tony Pascall:

Can't wait for this presentation!

From Catherine Price:

Is drawdown the same as climate positive or carbon negative?

From Martha Monroe:

Drawdown is the act of reducing, so in terms of climate change, it is the process of reducing our contribution to atmospheric greenhouse gases. It doesn't suggest a timespan, or a target.

From Roberto Muñoz:

please show again the page with the links?

From Roberto Muñoz:

Thank You so much Ms Judy

From Rick Reynolds:

Same question! Is there a way to calculate how much carbon each tree might absorb (by size over time)?

From Martha Monroe:

Rick, Yes, there are ways to calculate how much carbon a tree sequesters, and there are numbers for various forest types and even ecosystems. You can find those activities in [CLEAN](#) (and probably elsewhere) and in the [Project Learning Tree \(PLT\) module curriculum, "Southeastern Forests and Climate Change"](#)—you can download that for free after registering on their website. Details will be in the materials we send. [Other PLT curriculums can be found here.](#)

From Kottie Christie-Blick:

Check out my website, <https://kidsagainstclimatechange.com> if you're looking for resources for your classroom.

From Conner McCarthy:

Is there viability in long term underground carbon capture/storage?

From Roberto Muñoz:

We have to change a lot of our human activities, like walking more, using our vehicles as less as possible and try to reduce our waste production in general. The best example start from Home.

From Catherine Price:

Check out Carbon180 for some information about carbon capture. CEE Change fellow Cortni is doing some great work there as well!

From Vanessa Barela, (she/her) NMPED:

How might living schoolyards help this if we had federal support?

From Martha Monroe:

Reforestation a schoolyard (planting trees where none existed) could enable the school to obtain carbon payments, but an existing set of plants will not sequester additional carbon in a way that would count. Living schoolyards might make it easier for teachers to help students connect to nature, however, which is another benefit.

From Richard Tusabe:

Great presentation Shaun for breaking down the whole science in just a simple relatable understanding. I think also checking on our consumption styles will help us get there a bit quickly. Sometimes our consumption styles are a bit wasteful and hence taking us back to more carbon emissions.

From Rick Reynolds:

And grasslands, seagrasses, etc. can absorb a lot, too...

From Bashiru Koroma:

Our Agricultural system is also a critical factor

From Judy Braus (she, her) NAAEE:

Thanks to everyone for the resources and links. You will all get a copy of the chat, so don't worry about missing something.

From Roberto Muñoz:

Thank You Mr Shaun

From Nicole Ardoin:

Thank you Shaun for such a helpful overview—great way to set the stage for today!

From Rick Reynolds:

Yes, Bashiru! "Kiss the Ground" is a fabulous new documentary about soil's role...and ag and ranching. It's on Netflix.

From Roberto Muñoz:

I'm from Puerto Rico PR so here we can relate a lot with the Island of Taiwan in many ways.

From Roberto Muñoz:

I'll check that documentary too. Thank You Sir Rick Reynolds for the suggestion

From Bashiru Koroma:

Thank you Rick, I will make a check

From Rick Reynolds:

Thanks so much, Martha, and enjoy, Bashiru! The film is really entertaining and inspiring, too :)

From Roberto Muñoz:

I wish I could also access a copy of that info too, Ms Martha Monroe. Which website?

From Rick Reynolds:

<https://cleanet.org/resources/42478.html>

From Martha Monroe:

Robert, You can find those activities in [CLEAN](#) (and probably elsewhere) and in the [Project Learning Tree \(PLT\) module curriculum, "Southeastern Forests and Climate Change"](#)—you can download that for free after registering on their website. Details will be in the materials we send. [Other PLT curriculums can be found here.](#)

From Nina Hamilton (she, her):

Learn more about Taiwan's Pathway to Net-Zero Emissions in 2050 here:

https://www.ndc.gov.tw/en/Content_List.aspx?n=B154724D802DC488

From Nina Hamilton (she, her):

And about the GEEP Asia Pacific Regional Center here: <https://geepaprc.org/>

From Roberto Muñoz:

Grateful for all this links! 😊👍

From Roberto Muñoz:

I missed the first hour but I'm very honored to be here, Ms Judy and to All the special panelists

From Rick Reynolds:

<https://sfcc.plt.org/section5/activity13/>

From Bashiru Koroma:

can we have these presentations

From Roberto Muñoz:

That's an amazing museum! Love it

From Judy Braus (she, her) NAAEE:

Yes, you'll get a copy of the recording and the videos. We'll check with Shaun about his presentation! Thanks, Bashiru.

From Kristian Gareau:

I love the "tinkering studio." It seems like everyone has a lab or a hub, so it's nice to hear different framing :)

From Catherine Price:

Would be curious to hear how young people are grasping all of the different definitions around net zero!

From Jen Kretser (she/her) The Wild Center:

If you are interested in learning more about youth climate summits, please visit our website www.wildcenter.org/youthclimate or email: jkretser@wildcenter.org

From Taylor Zavala:

Awesome, thank you Jen!

From Roberto Muñoz:

I missed the last link you presented at the end Ms Jen. Thank You very much for your beautiful work with the Youths

From Jen Kretser (she/her) The Wild Center:

@roberto please reach out jkretser@wildcenter.org or visit www.wildcenter.org/youthclimate

From Roberto Muñoz:

Will do! I appreciate it

From NAAEE Staff (Carrie Albright, she/they):

These are the Guidelines for Excellence Kathayoon mentioned:
<https://naaee.org/programs/guidelines-excellence>

From Bashiru Koroma:

equity

From Bashiru Koroma:

human right

From NAAEE Staff (Carrie Albright, she/they):

What does it look like to center climate justice? Please share your thoughts with us!

From Christina Kwauk:

Discussing issues of power (inequitable distribution)

From Bashiru Koroma:

inclusion

From Deepika Joon:

Voices of those most marginalized represented

From Roberto Muñoz:

sustainability

From Rick Reynolds:

I'm going to have to leave for a meeting in a few, but thanks everyone and I look forward to the recording! Here's a free new educational video game and educator training program we're working on <https://engagingeverystudent.com/matty>. I'm interested in everyone else's initiatives, too: rick@engagingeverystudent.com. Or you can keep in touch here: <https://www.linkedin.com/in/rick-reynolds-04b4668/>

From Tony Pascall:

We have limited time and resources. Where and with whom are we targeting our efforts?

From Judy Braus (she, her) NAAEE:

Thanks, Kathayoon. This is so important to the work of all educators!

From Molly Piwonka:

Focusing on climate justice could mean researching local impacts of global warming and how it affects various different communities differently in order to find ways to equal out the playing field and make sure everyone has the privilege to a healthy planet.

From Judy Braus (she, her) NAAEE:

Thanks, Molly. That's an important point!

From colm downes:

Findings ways to include issues in climate change education that government / leaders might prefer were left out

From Judy Braus (she, her) NAAEE:

Great job, Jen and Kathayoon! :-)

From Natasha Yates:

Start teaching in preschool

From Roberto Muñoz:

yes! the younger the better. 4-5 to above

From Judy Braus (she, her) NAAEE:

Yes to starting early and connecting young people to nature and focusing on service and care.

From Natasha Yates:

Yes, Jen. Get children outside connecting to nature as nature from the beginning.

Nature-based. There are many barriers in the USA to getting children outside in natural environments.

From Bashiru Koroma:

how can we bridge the information barrier in countries like Africa

From Bashiru Koroma:

?

From Denise Dumouchel:

Starting early with humanity and the wonder of our diversity is also important, towards (climate) justice.

From Nina Hamilton (she, her):

Really great points. Thank you both!

From NAAEE Staff (Carrie Albright, she/they):

As you have a moment, check out some of NAAEE's Climate Change Education research and resources, including landscape analyses of climate change education in K-12 and Higher Education: <https://naaee.org/programs/climate-change-education>

From NAAEE Staff (Carrie Albright, she/they):

If you missed the first hour, you will receive the full recording as well as the slides and resources directly to your inbox in the coming week!

From Roberto Muñoz:

That 2050 Campus looks amazing!

From NAAEE Staff (Carrie Albright, she/they):

If you're just re-joining after the stretch break, we are hearing from Alan Reid, Professor and Dean at Monash University, Australia. His presentation on the challenges and opportunities of net zero will be shared with you as well.

From NAAEE Staff (Carrie Albright, she/they):

Read more from Bill here: <https://blogs.bath.ac.uk/edswahs/>

From Judy Braus (she, her) NAAEE:

Everyone will get a copy of the recording and chat after the workshop! So don't worry! :-
)

From Roberto Muñoz:

The copy will be send to our e-mails?

From Nina Hamilton (she, her):

Yes, we'll be sending this out via email to everyone who registered!

From Roberto Muñoz:

Excellent! Thank You, Nina.

From Judy Braus (she, her) NAAEE:

Thanks for those thoughts, Bill. And thanks for all you've done to advance environmental education in the UK and globally!!

From Bashiru Koroma:

Thank you in advance Nina

From Roberto Muñoz:

We can't stop nor give up until every school and every community are engaged on this important topics to reach the goals of net zero challanges

From Judy Braus (she, her) NAAEE:

Such an important issue, Ginger. We know that educators don't feel confident or informed about climate and don't have support from the top!

From Sarah Johnson:

I so appreciate you raising all of this Christina

From Sarah Johnson:

#CarbonColonialism

From Kottie Christie-Blick:

Please contact me if I can help you to provide professional development for your teachers so they feel comfortable teaching climate, grades 1-12:

<https://www.kottiecb.com>

From Richard Tusabe:

The submissions are really a vibe here, this is a great fuel- for renewing our kind of thoughts and understanding about climate change Education. I also think it is very important to basically not handle climate education as a single notion in say a school, but being able to simply blend climate education, net zero education in the core subjects that are taught in schools....because these schools already have a certain curriculum they are following so far and that's what is paying them, so, I think Climate Education should blend in like the way "Entrepreneurship" came in into our curriculum say here in Uganda. And for the group of people outside the schools, climate education should come in an incentivized way!,,, the people out there care much about life survival, trying to make them adapt to knew ways of thinking, it should be a thing that touches down into their livelihood streams.... I think the whole trajectory should come with an empowerment to survive...

From Martha Monroe:

Thanks for those thoughts Richard. Very helpful!

From Judy Braus (she, her) NAAEE:

Thanks for that comment, Ritchie! So important to think about the link between climate change education/net zero and the link to livelihoods and understanding local context and disparities around the world.

From Natasha Yates:

With early childhood, establish connections and empowerment not fear.

From Judy Braus (she, her) NAAEE:

Love the additional tool in the toolbox!

From Denise Dumouchel:

Absolutely, Natasha!

From Ruby Estrada:

decarbonization of city fleets underway too

From Judy Braus (she, her) NAAEE:

Great points, Christina. And I think we need to take a holistic view of education--policy, operations, curriculum, training, etc. :-)

From Judy Braus (she, her) NAAEE:

We need to play the lottery!

From Natasha Yates:

We can also remember to vote for leaders who are pro-education and pro-environmental education. There are many candidates who are not.

From Taylor Zavala:

Massive thank you to all for opportunity- signing off. Look forward to receiving all presentations. Cheers!

From Judy Braus (she, her) NAAEE:

Yes to mainstreaming as part of what we already do.

From Ruby Estrada:

great panel!!

From Nicole Ardoin:

Thank you, Bill! And thanks to co-panelists!

From Ruby Estrada:

Thank you!

From Nicole Ardoin:

Climate One podcast

From Tony Pascall:

TIL climate podcast is great- 15 minutes and there are teacher tools for each episode

From Joan Haley:

Thank you. Great to hear the different perspectives.

From colm downes:

Thank you very much Bill and the co-panelists for a wonderful discussion today. Really inspiring and thought provoking. Here are some thoughts on integrating Climate Change Education in language education: <https://www.linkedin.com/pulse/climate-crisis-english-language-teaching-elt-colt-peter-downes-mldpc/?trackingId=%2F4LDYs6FTjSi8ELj%2BREosg%3D%3D>

From Nicole Ardoin:

eeWORKS reviews, especially Martha's on climate change education!

From NAAEE Staff (Carrie Albright, she/they):

What an incredible, thought-provoking conversation today. Thank you to all of our panelists and facilitators—This was a fantastic springboard into the next steps of net zero education!

From Roberto Muñoz:

Very informative and interesting. Thank You to Everyone from Puerto Rico 🤝🌳 PR

From Deepika Joon:

Thanks for such a good session

From Ruby Estrada:

Thank you, Judy! Thank you, Martha!

From Ruby Estrada:

Thank you, Ginger!

From Jordan Cummings:

Thank you all so much!!

From Ruby Estrada:

Great panel!

From colm downes:

Thank you all very much - great workshop

From Ravhee BHOLAH:

Thanks for a great webinar. Thanks Judy and all panelists

From NAAEE Staff (Carrie Albright, she/they):

Additional resources at <https://naaee.org/programs/climate-change-education>

Other questions and answers from the workshop:

- What are the other options besides net zero? Is there something even more ambitious to address? **Decolonization and Decarbonization and Decapitalism?**
- Can Net Zero goals be achieved if dominant large corporations don't educate themselves? **We can help them! What could be worse than corporate officials unable to answer questions from a third grader?**
- What is the most effective action students can take to promote net zero in society? **Work collectively toward civic engagement.**
- How can I be a partner? **You can stay connected with the GEEP network by signing up for [GEEP News](#) and joining the [Global EE group](#) on NAAEE's eePRO (it's free to sign up!).**
- Are there already published K-12 curricular units available for this concept? If so, does it integrate UN SDGs? **Search on [CLEAN.net](#).**
- What are some mathematic education activities that could be done around Net Zero? **Yes, measure carbon in a tree and extrapolate to the forest, the state, the nation. Then compare to carbon emissions.**
- How can classes, K-12, connect with each other to encourage net zero activities. Where to find a partner class? NAAEE site? **Try the NOAA Stewardship program and join the eePRO climate site.**

- Tips for engaging pupils in Net Zero Education given work overload of teachers. **Build it in to what you already teach.**

