

Building a Bridge

*between scientists and policymakers
in West Virginia*

Brooke Eastman

Science Policy Fellow

Bridge Initiative for Science and Technology Policy,
Leadership, and Communications

AGU 2022 Fall Meeting

Science Leads the Future

Chicago, IL

December 12, 2022

BRIDGE

**WVU's Initiative for Science and Technology
Policy, Leadership, and Communications**

Translating the work of WVU researchers to
policymakers to fulfill WVU's mission as West
Virginia's R1 Land Grant University.



**So our research at WVU
can benefit communities
and inform policymaking**

BRIDGE

scitechpolicy.wvu.edu

Our Team



Director, Joan Centrella



Consultant & Study Director, Deborah Stine



Postdoc Fellow, Brooke Eastman



April McGinnis
Ph.D. Candidate, English



Rachel Hostetler
Ph.D. Candidate, Neuroscience



Griffin Bradley
M.A. Student, Political Science



Christian Shockey
M.A. Student, Political Science

Project Manager, Moriah Taft

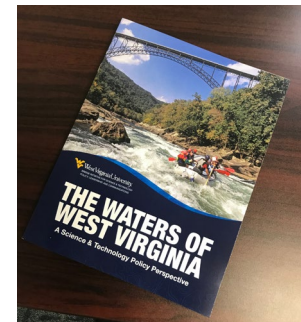
Many more grad student volunteers!

Fellows

WV S&T Policy Grad Fellows

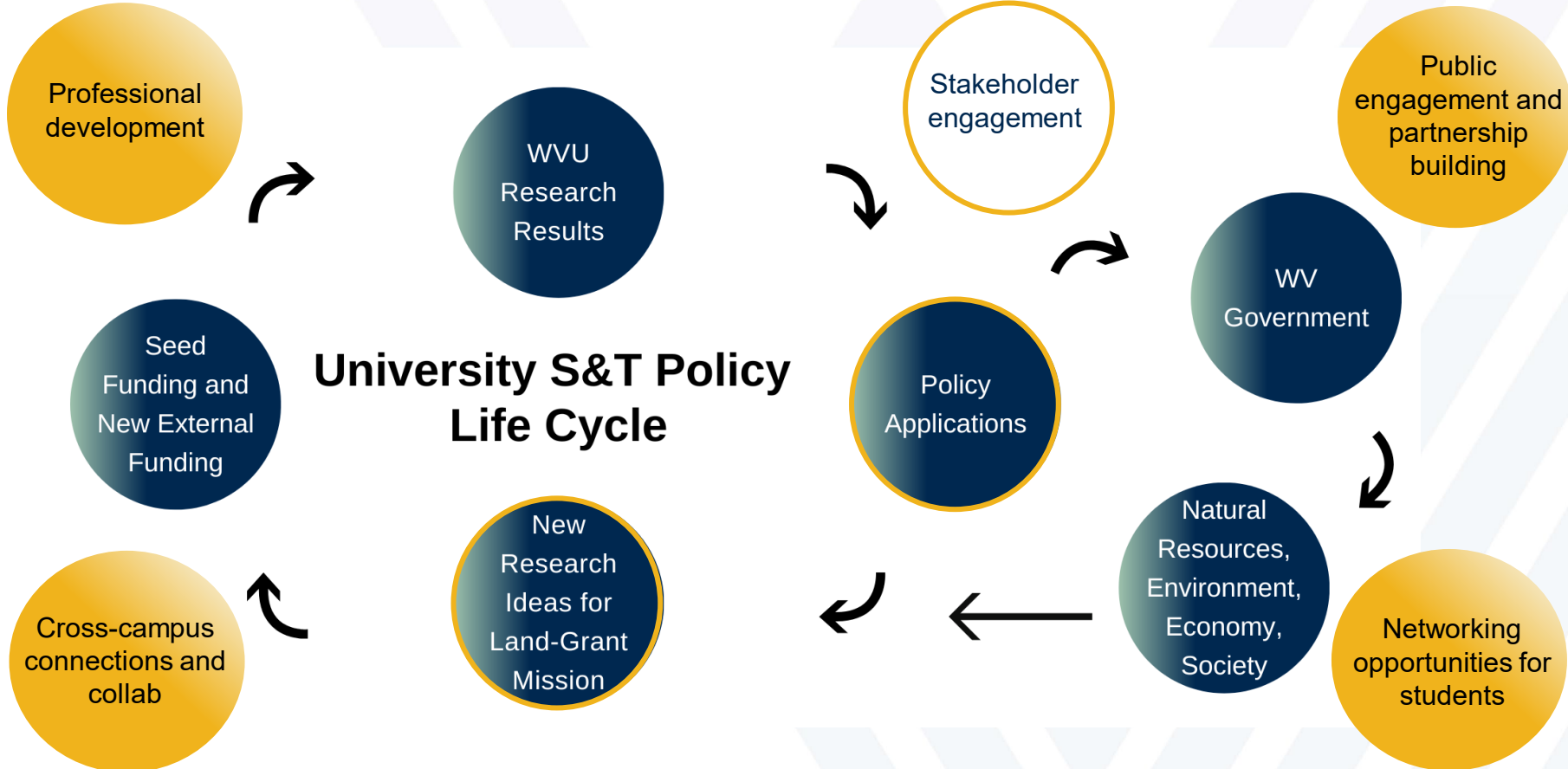
Bridge Faculty Fellows

Study Projects



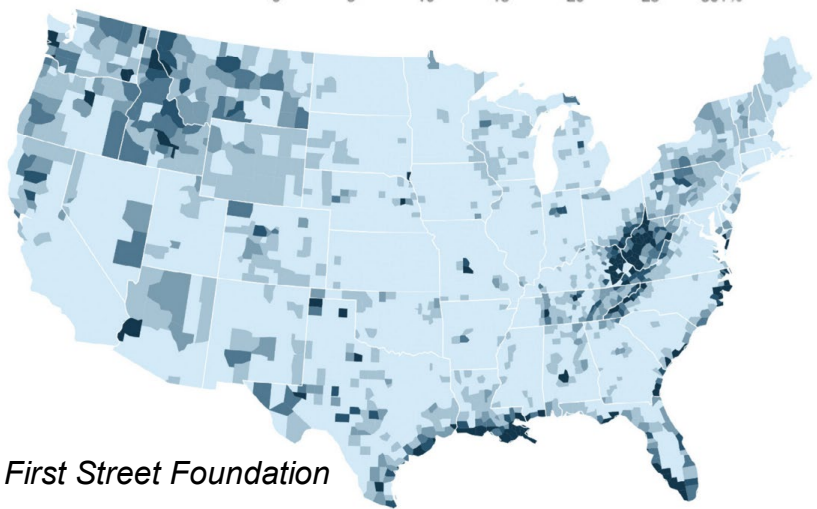
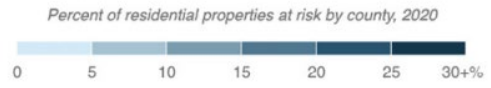
CARBON DIOXIDE REMOVAL AND WEST VIRGINIA

Coming soon: Healthcare Access

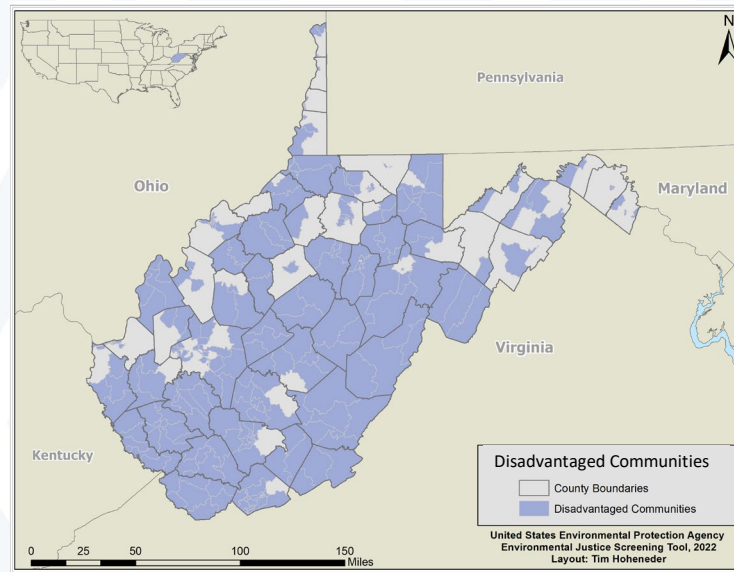


Rural communities, especially energy communities, are disproportionately impacted by and vulnerable to climate change

Where People Are At Risk For Flood Damage

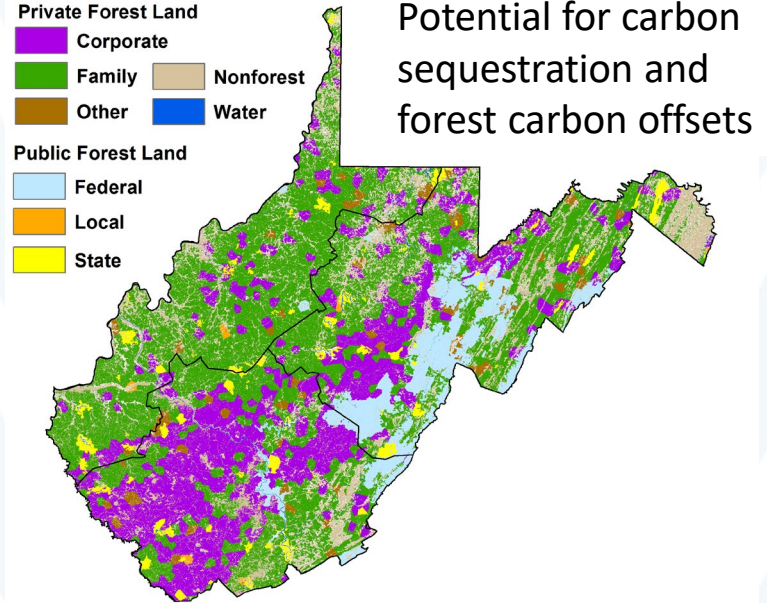
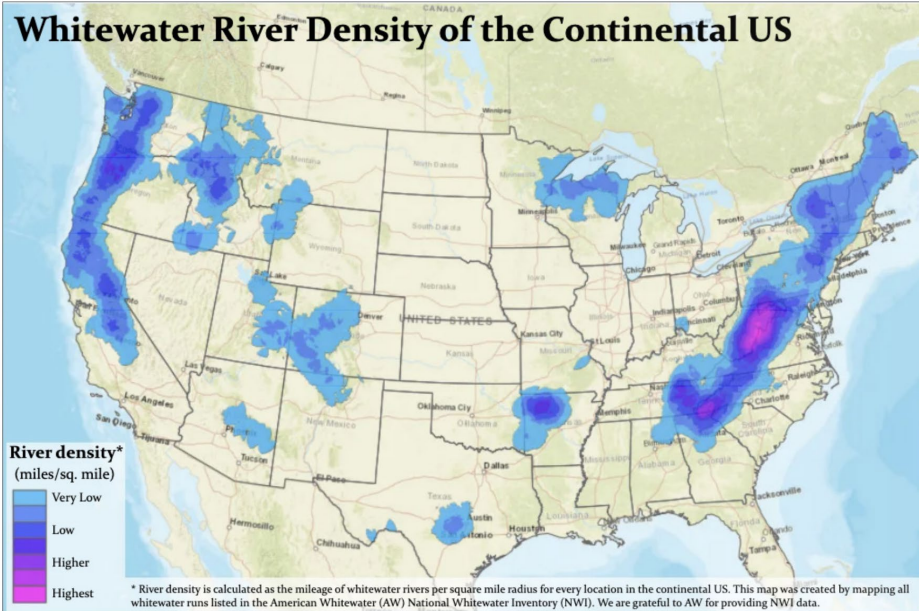


First Street Foundation



FACT SHEET: The Biden Administration's Historic Investments To Create Opportunity and Build Wealth in Rural America

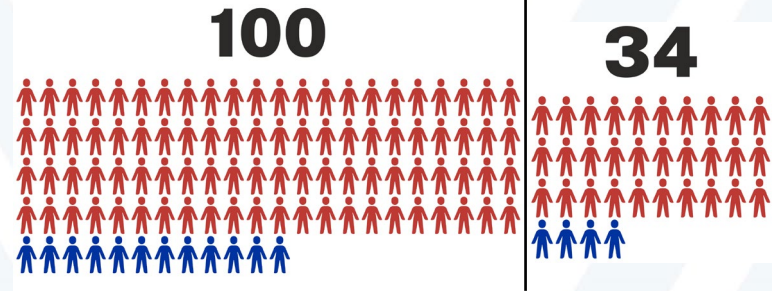
» BRIEFING ROOM » STATEMENTS AND RELEASES



To successfully mitigate and adapt to climate change, we must bring rural communities along with us

The WV Legislature

- Republican supermajority in both Chambers
- 60-day Regular Session January - March.
- Joint [Interim Sessions](#) occur once a month between Regular Sessions
- Both Chambers maintain a majority and minority caucus and leadership structure
- Legislators paid \$20,000/year, and \$150/day per diem during extension or Special Sessions.



How do we craft our messages
and present scientific evidence
to the unique population that makes up
the WV legislature?

Retail politics

Charleston Gazette-Mail

State officials want to learn more about forest carbon offsets set up through California carbon cap-and-trade program

By Mike Tony mtony@hdmediallc.com Dec 7, 2021

Bill restricting length of carbon offset agreements approved by WV House energy panel

By Mike Tony mtony@hdmediallc.com Feb 7, 2022

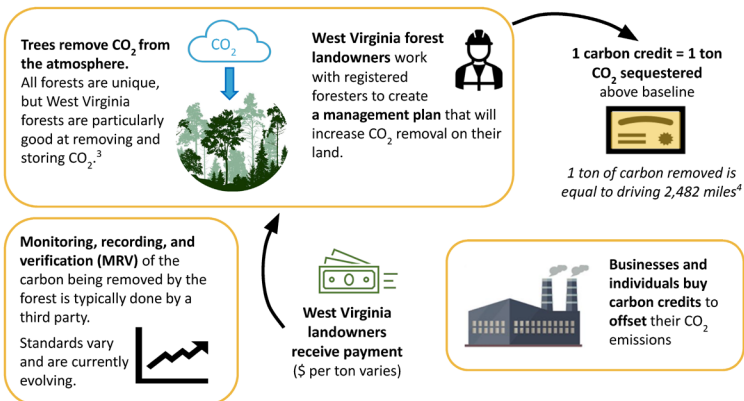
Wood products industry worried about timber supply

Corporate landowners want to sell credits

Small landowners want to learn more

Forest carbon markets and West Virginia

- The **12 million acres**¹ of West Virginia forest are a valuable natural resource that can remove carbon dioxide (CO₂) from the atmosphere, presenting a potential economic opportunity.
- **1 metric ton** of CO₂ taken up by managed forests can be sold as **1 carbon credit** to companies and individuals interested in **offsetting** their carbon emissions.
- To date, **almost 28 million credits**² have been sold to corporate landowners in West Virginia, and programs exist to facilitate **family forest owner** participation.



Market Background

Several cost-share programs exist to help landowners develop the required forest management program.

Numerous third-party entities exist that purchase, sell, broker, measure, and verify carbon credits.

Currently, the carbon market is driven by private industry and the free market, and is largely unregulated.

The monetary value of a ton of carbon fluctuates, and has increased in recent years. Demand for carbon offsets is expected to increase.

- Forest carbon offsets 101
 - What is a carbon credit?
 - What is a carbon offset?
 - Who buys them?
 - Who gets paid?
- 28 million credits already sold in WV
- Variable, evolving market and program protocols and terms
 - What's what?

Current Forest Carbon Storage Economic Opportunities in West Virginia

Program Name	Acreage Requirement	Pricing	Term Agreement Duration	Harvest Allowed?
California Air Resources Board (CARB)	40+ <i>(not profitable <2,000 acres)</i>	Variable, depends on market \$20-\$100+ per acre per year ¹	25-year credit term & 100-year monitor term	Yes
Family Forest Carbon Program ²	30-2,400	Depends on acreage, forest condition, management plan \$50-280/acre	10-20 years	Yes
Working Woodlands Program ²	2,000 +	Variable, depends on carbon credits market	Variable, long-term easements (e.g., 40 years)	Yes
NCX ³ National Capital Exchange	None	Variable, landowner bids. Ex.: \$8/acre in 2020 PA bid ⁴	1 year	No

Source: West Virginia University, 2022; based on data from [Forest Carbon Works](#)¹, [The Nature Conservancy](#) and [American Forest Foundation](#)², [NCX](#)³; [Penn State Extension](#)⁴

FREQUENTLY ASKED QUESTIONS

Can landowners harvest timber while in a carbon offset agreement?

In most carbon offset programs, harvesting is allowed. In fact, many programs *require* that the landowner owns the rights to their timber, and certain harvest practices may increase the number of carbon credits produced. However, one program in West Virginia, Natural Capital Exchange (NCX), *does not* allow harvesting during their 1-year contracts.

How long are forest carbon offset agreements?

As shown in the table above, this depends on the specific program. Contracts can vary from 1-125 years. Landowners are not allowed to participate in more than one carbon offset program.

What are the land and management requirements to participate?

All programs have different requirements for the land. Most require a forest management plan from a registered forester. Many consider the minimum tree cover, % of native species, number of acres, etc. Landowners participating in the Managed Timberland Program are currently still eligible to participate in carbon programs *that allow timber harvests*.

What if a landowner wants to change or end their carbon offset agreement?

For most contracts, early termination requires the landowner to pay back the carbon credits they received and a termination fee. The fee covers the cost of monitoring and enforcing carbon credits on forest lands, which can cost over \$250,000¹. If the land is bought, sold, or inherited, the new owner must uphold the contract, or the previous owner must pay back the carbon credit payments and fee.^{2,3} In the event of a natural disaster that kills trees and removes carbon from the land, landowners are not penalized, however the contract may be terminated.

Is participation in the carbon market by landowners voluntary?

Yes, participation in carbon markets for landowners is *always* voluntary. Some confusion comes from hearing about voluntary versus compliance markets. These refer to the *whether* the companies buying offsets are doing so voluntarily, or if they are *required* by law to offset their emissions such as for businesses operating in California.

¹[Kelly and Schmitz, 2016](#); ²[CARB](#); ³[The Nature Conservancy and American Forestry Foundation](#)

Questions? Contact us: scitechpolicy@mail.wvu.edu

- What programs are available in West Virginia?
 - What are the terms
 - How much \$\$\$ can landowners make?
- FAQs and concerns/fear of the unknown
 - How will this affect timbering and wood products industry?
 - Why is CA's market called "mandatory/compliance"?

The Bridge Initiative for Science & Technology
Policy, Communications, and Leadership

FUTURE GOALS

- Engage communities and other stakeholders early and often
 - Building networks
 - Community & stakeholder engagement → co-creation
- Develop a trusted relationship with state legislature

I would love to chat with all of you about how you are successful in these strategies!



Thank you!

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