



2023 Environmental Literacy Summit

West Virginia Environmental Literacy Update

Building Green Career Pathways

Guidance Documents:

- [The West Virginia Clean Energy Jobs & Economic Impact Report for 2022](#)
- [WV Clean Energy Jobs Potential](#)
- [WV Energy Future](#)
- [WV Energy Information](#)
- [WV Clean Cities Program](#)
- [WVBE Policy 2520.13](#)
- [Discover Your Future](#)
- [Eastern Community and Technical College](#)

Accomplishments:

- Expanded programs in spite of limited support
 - Programs with noted applicable content
 - Natural Resources Management
 - Agriculture
 - Energy and Power
 - Wind and Solar
 - Pre-Engineering
 - New age engineering
 - Advanced Manufacturing
 - Solar Entrepreneurship

Key Partnerships with CTE:

- Eastern Community and Technical College (Wind)
- Solar Holler (Solar partner)
- WVU Engineering
- Marshall University Aquatics - algae power
- SREB - Dev. Curriculum - Energy and power
- DNR
- Forestry
- Department of Agriculture
- [WVDE Career and Technical Education](#)

Challenges:

- Expanding beyond traditional energy sources and changing community mindset

Opportunities within WV:

- [NUCOR](#)
- [FASForm™ plant](#) - Mason County, WV
- [GreenPower Electric School Buses](#) - South Charleston, WV
- [Form Energy](#) - Weirton, WV

Major Funding Programs:

- Perkins Funding
- State Dollars

[Exemplars \(slides\)](#)

High Impact Actions for Sustainable Schools

Guidance Documents:

- Chesapeake Bay Watershed Agreement - [Environmental Literacy Goal](#)
- [City of Charleston Green team](#)

Accomplishments:

- [WV Electric School Bus Pilot](#)
- [Calhoun County Schools to install solar](#)
- Petersburg School - Solar
- [Marshall University - First commercial composting facility](#)
- [WV Recycling Coalition](#)

Opportunities:

- [Monongalia County Schools - Designing Renaissance Academy](#) - Goal for Net Zero - Exploring Wind, Solar, and Geothermal
- [Electric School Buses](#)

Key Partnerships

- Cacapon Institute
- Experience Learning
- Potomac Valley Audubon
- [Green Building Alliance](#)
- [Monongalia County Schools](#)

Challenges:

- All decisions regarding construction are made at the local level
- Local / regional support required to construct green schools

Major Funding Programs:

- County Level Funding
- WV Sustainable Schools

[Exemplars \(slides\)](#)

Climate Change

State and/or National Guidance Documents (i.e. climate action plans, resilience and adaptation plans, or energy plans):

- Executive Order (White House)
- WVBE Policy 2520.3C
 - *Climate change is included, to a small degree, along with all the other K-12 science standards related to Earth and Space Science, Biology, Chemistry, and Physics, in the current West Virginia College- and Career-Readiness Standards for Science (Policy 2520.3C). It is the responsibility of County Boards of Education to adopt instructional resources that address these standards, as well as to ensure that the standards are included in classroom instruction.*

Accomplishments:

- [West Virginia Climate Change Professional Development](#) Project

Opportunities for environmental literacy work to support climate action, resilience, or energy goals:

- WV Science Adventure School
- NOAA at WV High Technology Foundation - Climate and Weather Research / Data Collection
- Regional and Local informal educators

Key Partnerships

- WVSTA - West Virginia Science Teachers Association <https://wvsta.org/>
- [West Virginia Climate Change Professional Development](#) Project
- WV High Technology Foundation / NOAA
- <https://wvclimate.org/>

Challenges:

- Expanding beyond traditional thinking and changing community mindset

Major Funding Programs:

- Local funding for science

[Exemplars \(slides\)](#)

Student Environmental Literacy (MWEE)

Guidance Documents:

- 2022 ELIT Report - West Virginia

Accomplishments:

- WV OLN provided a 2-day summer teacher professional development workshop to Eastern Panhandle school districts
 - Approximately a dozen teachers have completed MWEE 101 certification
- 2022-2023 School-year had several excellent MWEEs
 - Eagle School Intermediate: Students wrote letters to the Director of Parks and Recreation about the need for a riparian buffer and then planted 10 trees at a local park.
 - Tomahawk Intermediate School: Students monitored water quality of a local stream and painted a public service announcement mural under a bridge at a public access point to educate about clean water.
 - Pleasant View Elementary School: Students established brand new tree nursery on campus and are growing native trees which will be planted throughout the county in future. Students are designing a mural about the importance of trees to watersheds to paint at the nursery.

Opportunities:

- Several organizations offer assistance to schools for MWEE completions via field experiences and action projects
- WV OLN has offered summer teacher professional development

Key Partnerships:

- WV OLN (Berkeley, Jefferson, Morgan Co. Schools and several NGOs- Cacapon Institute, Experience Learning, Potomac Valley Audubon Society, Wind Dance Farm)
- Additional support from Eastern Panhandle Conservation District, MS4 programs (Berkeley Co. Stormwater, City of Martinsburg Stormwater), WV DEP Youth Environmental Program

Challenges:

- Environmental literacy not embedded in curriculum/SOLs (SOL in VA = WC CCRS in WV)
- Teacher buy-in can be limited. We have found the greatest success in MWEE completion comes from finding a champion teacher that encourages MWEE to other teachers.
- Teacher and administration turnover. Champion teacher matriculation

Major Funding Programs:

- US EPA Chesapeake Bay Funding via WV DEP (contract recently secured as of October 2023)

[Exemplars \(slides\)](#)

State Network Updates

West Virginia Outdoor Learning Network (WV-OLNI):

- New MWEE Grant program in development, managed by Cacapon Institute
 - Funding from US EPA Chesapeake Bay Funding via WV DEP

For questions, please contact:

- Frank Rodgers, Cacapon Institute: frodgers@cacaponinstitute.org
- Erika Klose, WV Department of Education: eklose@k12.wv.us

Breakout Notes (also available in separate document in this folder)

Building Green Career Pathways

How can/should Elit programs and themes be infused in existing workforce/CTE programs?

- Adapt E-lit ideas to be program relevant to the existing program.
 - E.g. ingrain learning of alternative energy into existing electrician certifications
- Consider the people, are we asking already overworked teachers to do additional work?
 - Can't expect it to be teacher-pushed, needs to be pushed by state/non-profit
 - Make it PD, remove as many barriers as possible, to make it as easy as possible for teachers
 - Existing E-lit PD has low-attendance and is only attended by "champion teachers"
- Connect CTE to high school curriculum at a systemic level.
 - Needs to be accessible for students
 - Embedded into high school curriculum or bused to a facility like a partner Community College.
 - Questions about increasing access to accessibility?
 - Is there an existing CTE network in WV? Env or otherwise, that we can tap into?
- Before talking about CTE, E-lit themes need to be incorporated into teaching standards at large.
 - Already incorporated to a small degree in science standards, but there are potential to work into literacy & math standards.
- Cultural Hesitancy

- Teachers can be intimidated by science
 - There are also a number of incredibly passionate teachers, how do we grow them as teacher leaders to bridge gaps and advocate for standards. Cultivate an opportunity for THEM to have an impact beyond their classroom. USING FUNDING DISPLAYED IN SUMMIT SLIDES
- Making ideas/themes locally relevancy

Where do you want to be in 10 years?

- There needs to be more systemic support for teachers, there is so little available to make this easier at a district/state level.
 - Potential to create and expand partnerships with federal entities (US DoE) & non-profits, universities.
- Current youth corps do great work and are valued by their collaborators, but they are UNDERVALUED in terms of pay, benefits, housing, etc. that LIMIT who can participate & don't compensate them for the value they do. "Feels like a house of cards" should be properly supported and expanded.

Partners that need to be incorporated to make this happen?

- A lot of funding in the state is LIMITED to Chesapeake watershed counties. There is interest outside of these counties but there are spending restrictions that limit growth of these efforts.
 - Disconnect: We want state standards but are inherently limited in their work to certain parts of the state.
- Need to establish a state-wide funding network to share opportunities.

3 Action Steps

- Do some digging to find who/what organizations & partners are out there to connect to
- Set Up a convening with OLN partners and whoever is identified above
- Convene to build relationships & begin building out meaningful steps (standards, funding sources, etc.)

High Impact Actions for Sustainable Schools

- Student involvement where possible
- Who were the big players in CTE?
 - Huge overlap between CTE & High Impact Actions, one perpetuates the other.
- FFA
- Waste Management currently absent from breakout poster, most schools don't even recycle let alone compost, huge potential here for growth. Connected to Sustainable Food Use.
- Cooperative extension (county, state, federal)
 - WVU connection to Morgan County, use as model? Connect to students & teachers
- Geothermal - Clean energy path, there are already a number of schools on geothermal.
- Calhoun County, Peterburg school have some solar programs going on
- Eastern community & technical college has a renewable energy program

Who needs to be engaged to best further these actions?

- West Virginia - Department of Education
 - Erica Klose

- WV DNR
 - Linda Carnell
- Do the county superintendents have a gathering that we could tap into?

What can we do within the state to advance these actions in the next within the next year?

- Target community partners (connect with WV DoE)
- Connect WV DoE to existing local networks
 - TARGET CTE

Beyond 2025

What we want from CBP

- These in-person events are great but its hard to process the blast of information into something meaningful
- Would love CBP to provide support for a decentralized network
 - <https://www.baybackpack.com/>
 - This is great for MWEES & Environmental Literacy District Planning
 - Mlssing CTE stuff
 - What if CBP developed and advocated for a standard
 - Potentially highlight Case studies or lesson plans of regional examples that we would like folks to chase, rather than developing a watershed wide thing and trying to enforce it.
- Network on-boarding?
 - MWEES is an uneven term, doesn't mean the same thing to each state.
- ROLN (Regional Outdoor Learning Network)

Contact Info

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