

# Youth Climate Working Group Recommendations

By

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## **EXECUTIVE SUMMARY:**

In 2019, the Baltimore County Executive formed a Youth Climate Working Group to engage the County's youth in an examination of the impacts of climate change on them, the County, and our future, and to provide the County Executive with recommendations for County initiatives to combat climate change. To accomplish this, the Baltimore County Executive set forth the following charge:

- Meet with the County Executive Olszewski and other members of the administration to share and discuss their concerns about, and perspectives on, climate change and sustainability efforts in Baltimore County, including how changes in our climate impact their communities.
- Review current policies and practices in Baltimore County related to climate change and sustainability efforts.
- Provide recommendations to the County Executive regarding potential actions to address the impacts of climate change in the County.

The 21-member working group included a broad and diverse group of youth stakeholders familiar with climate advocacy and the impact of current Baltimore County climate policy. Members of the working group are high school students in public and private schools.

The Youth Climate Working Group held 4 meetings from November 2019 to February 2020. Taskforce members reviewed relevant literature and research. Three committees were formed and asked to develop recommendations around the charge set forth by the County Executive regarding 1) Environmental policy recommendations; 2) Education in schools; and 3) Public awareness and communication efforts.

The following report provides historical context for climate policy in Baltimore County, describes the work of the working group, and presents the recommendations put forth for the County Executive's consideration.

## **INTRODUCTION AND HISTORICAL CONTEXT**

The environmental movement began in the 1960s and 1970s, when the concept of climate change entered the global consciousness. Since then, although the environmental movement has met with some success, it's also been plagued with difficulties and setbacks, as global governments fail to meet emissions standards and other environmental regulations essential to protecting their populations from the devastating impacts of climate change. In the past few years, the environmental movement has welcomed a surge of youth activism. Young people have sprung into action, recognizing that their future is at risk. The Youth Climate Initiative Working Group is one group fueled by the energy of youth activists, working locally to promote change and help the environment.

Based on the information gathered over the 7-month period, the following observations and recommendations are presented for the County Executive's consideration:

### Committee 1: Environmental Policy Recommendations

1. Use public transportation as a resource to address the issue of climate change.
  - a. Release a statement from the executive's office critiquing Governor Hogan's choice to cut funding to the Maryland Transit Administration and outlining how the lack of adequate public transportation in Baltimore County contributes to climate change.
  - b. Request federal funding or use available federal funding for the development of Bus Rapid Transit (BRT) lines that would significantly reduce traffic and cut down on county CO<sub>2</sub> emissions.
  - c. Develop protected bike lanes alongside roadways in order to make cycling safer and more viable in the County. Utilize funding as proposed in the Eastern and Western Pedestrian and Bicycle Plans made by the County.<sup>1</sup>
    - i. Improve all proposed bike routes in the County to Bicycle Level of Comfort C (BLOC level C) by 2025. Focus on high-priority bike routes first, again as outlined in the Eastern and Western Pedestrian and Bicycle Plans.
    - ii. Improve County bike routes to BLOC level B by 2035.
    - iii. Create a project category in the County's budget allocated to the improvement of pedestrian and biking safety.
2. Invest in clean energy in Baltimore County and use the Department of Economic and Workforce development to promote environmental values in Baltimore County businesses.
  - a. Change language in Baltimore County's Advanced Technology Loan Fund to prioritize sustainable technology and to ensure that environmentally damaging

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<sup>1</sup> [Part Three](#)

companies are not sponsored by Baltimore County. Additionally, use these assets as a tool to develop Baltimore County's clean energy industry going forward, and release a press briefing indicating this commitment.

- b. Change language in the Building Loan Improvement Program (BLIP) to allow businesses to use loans for decreasing the environmental impact of their buildings (i.e. investing in low impact heating/AC units, water saving plumbing, etc).
  - c. Require environmental impact statements from any firm seeking a loan from the Department of Economic and Workforce Development for the acquisition or improvement of lands, buildings, plant and equipment, including new construction or facility improvement.
  - d. Allow, or increase funding in cases where it exists, grants that incentivize people and organizations of Baltimore County to:
    - i. Install rooftop solar panels (increasing the energy independence of Baltimore County inhabitants and moving away from the reliance on fossil fuels as a method of household energy use).
    - ii. Construct Electric Vehicle (EV) charging stations in commercial parking lots, and gas stations, to promote the use of cleaner vehicles and ensure the success of electric cars.
  - e. Reduce the time necessary to garner an approved application for the pre-existing Energy Conservation Devices Tax Credit from 5 years to a maximum of 2 years.
3. Prioritize the greening of the County's vehicles.
- i. Keep vehicles in mint condition and minimize the purchase of new vehicles.
  - ii. If the County requires a new vehicle, ensure that it is an electric or hybrid vehicle. Use renewable energy as the primary source of fuel for new vehicles.
  - iii. Install at least 15 EV charging stations at county establishments to be used by county vehicles and employee vehicles.
  - iv. By 2035, 50% of the County's fleet should be hybrid vehicles or EVs. By 2045, 100% of the County's fleet should be hybrid vehicles or EVs.
- b. Prohibit idling in bus loops.
- c. Designate "idle-free" zones with paint and signage by 2022, and impose a fine of \$100 or more on county employees and/or residents for idling in these designated areas.
4. Invest in clean energy within Baltimore County's own buildings.
- a. Expand the county's use of solar power within county establishments.
    - i. Install 9 Megawatts<sup>2</sup> of solar power for use within county facilities by 2025.
    - ii. Install a further 9 Megawatts of solar power for use within county facilities by 2030.

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<sup>2</sup> [Solar Benefits](#)

- iii. Ensure that the County is obtaining 100% of its electricity from renewable sources by 2045.
- 5. Prioritize the creation of a functional and cost-effective curb-side composting program.
  - a. Outsource the county’s compost to a Maryland-based private company (e.g. Veteran Compost or Compost Crew) or pinpoint locations for the creation of a public composting facility that will not interfere with residential quality of life.
    - i. In either case, create a pilot curbside residential and commercial composting program that operates on a weekly pickup basis.
      - 1. Within six months of the pilot program’s implementation, begin planning to implement the program on a County-wide basis.
- 6. Serve food sourced locally within all county establishments, including all Baltimore County Public Schools (BCPS), in order to cut down on emissions used in transportation and support local farmers. Reduce the amount of meat served in County establishments.
  - a. Maryland offers a bountiful supply of produce, and fruits and vegetables will still be accessible.<sup>3</sup> “Sourced locally” as defined here signifies found within Maryland.
  - b. Create a working plan that ensures the following percentages of foods served within county establishments are sourced locally by 2025<sup>4</sup>:
    - i. Chicken: 80%
    - ii. Watermelon: 80%
    - iii. Spinach: 50%
    - iv. Dairy: 50%
    - v. Other fruits: 25%
    - vi. Other vegetables: 25%
    - vii. Non-perishable goods (e.g. snacks): 80%
  - c. If these percentages are already met, or are met before the deadline of 2025, implement new goals that further increase the amount of locally sourced food served in County establishments.
  - d. Create a “Meatless Monday” program, where no meat is served in county establishments at least one day per week. Ensure that a vegetarian option is available on a daily basis in all county buildings.
  - e. Allocate funds to create school gardens in 90% of the County’s elementary schools.
    - i. Use school gardens within science curricula to inform elementary-aged children about the environment.
- 7. Prioritize green construction and remodeling of all County buildings.
  - a. Utilize funding intended for construction (especially for schools) to install solar panels, recycle old materials, and ensure future energy efficiency through proper insulation, taking measures including but not limited to weatherstripping doors and installing well-insulated windows.

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<sup>3</sup> [2019 FOOD GUIDE](#)

<sup>4</sup> [Maryland Grown:](#)

- b. Install a “Two Degree” program that changes the maximum and minimum temperatures for heating / cooling any County building by just two degrees Fahrenheit warmer in the summer (77 degrees maximum) and cooler in the winter (67 degrees minimum). Ensure that heating and cooling systems in the building change temperatures when unoccupied in order to save energy (i.e. lower temperatures when buildings are unoccupied in winter).
  - c. Using the electricity consumption baseline, target buildings with the highest usage in overall kWh and in “intensity” (kWh/sq. ft.) for a review of building and mechanical settings (i.e. temperature set points and run times on equipment), in order to identify opportunities to reduce energy demand.
  - d. Continue to obtain LEED certifications for new buildings.
  - e. Establish a green roof pilot program.
8. Dedicate a specific percentage of the county’s budget to sustainability and ensure that this portion of the budget is devoted to the reduction of carbon emissions and waste. This budget should be at least 5% of the total.
9. Install thermophilic anaerobic digestion facilities with a Mean Cell Residence Time (MCRT) of at least 10 days as add-ons to current waste disposal systems for at least 30% of current waste facilities by 2030. These new facilities should focus on digesting food scraps, as the payback period can be as little as three years for such projects<sup>5</sup>
- i. Such facilities will be the equivalent of satisfying the power demand of 550 to 1,200 homes per year at 100 tons of food waste per day<sup>6</sup>
10. Implement sustainability measures in county schools.
- a. Mandate recycling in county schools and facilities.
    - i. Implement recycling and waste bins that have labeling showing students how to sort waste by 2022. Alternatively, mandate and distribute posters to place above recycling bins that demonstrate how to correctly sort waste.
    - ii. Mandate composting with bins set up in cafeterias to collect food waste by 2025.
  - b. Encourage schools to seek grants based on “Green School” status to incentivise further sustainable practices.
  - c. Install efficient hand dryers in new school bathrooms and remodel existing school bathrooms to utilize hand dryers rather than paper towel dispensers by 2025.
    - i. Hand dryers are more environmentally friendly than paper towels in about 95% of circumstances.<sup>7</sup>

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<sup>5</sup> [Why Anaerobic Digestion of Food Waste at Wastewater Treatment Facilities | US EPA ARCHIVE DOCUMENT](#)

<sup>6</sup> [Why Anaerobic Digestion of Food Waste at Wastewater Treatment Facilities | US EPA ARCHIVE DOCUMENT](#)

<sup>7</sup> [Hand Dryers Vs. Paper Towels: Which Has A Larger Environmental Impact?](#)

11. Run a county-wide assessment of vulnerabilities to sea level rise and plan for a two and a half foot rise in sea level across the entire coastline (sea levels are expected to rise along Maryland's coast by 2.1 feet by 2050, and 3.7 by the end of the century<sup>8</sup>).
  - a. The county should combine armoring, adaptation, and retreat policies to combat sea level rise.<sup>9</sup> The following options may be viable within the County:
    - i. Build seawall barriers five to six feet high in key locations to decrease flooding.
    - ii. Upgrade sewage systems to be able to handle a higher level of water intake during floods.
    - iii. Raise roads further above sea level to help the drainage of water and reduce threats of tidal floods.
    - iv. Create natural infrastructure such as barrier islands, oyster reefs, seagrass, or salt marshes.
  - b. Discourage and/or prohibit construction in areas that are at a high risk of being submerged in the future (through storm surges, flooding, or sea level rise).
    - i. Possible methods of discouragement include ending subsidies for homes in flood-prone areas and halting funding for construction in flood-prone areas.
  - c. The County should create a map that clearly shows areas at risk of flooding and storm surges and require developers to distribute this map to potential homebuyers.
  - d. Apply beach renourishment programs where necessary.
  - e. Communicate with neighboring counties in and out of state throughout this planning process to create a unified plan to fight rising sea levels.
12. Establish a task force and review process that will ensure the above policies are being properly and fully enacted and enforced.

## Committee 2: Education in Schools

1. Implement an environmental literacy program in the Baltimore County Public Schools curriculum that begins in kindergarten and continues for the duration of schooling.
  - a. Environmental Literacy asserts that, with increased education about the natural world, one obtains greater “understanding, skills and motivation to make responsible decisions that considers his or her relationships to natural systems, communities and future generations.”<sup>10</sup> In other words, when a student is exposed to nature through environmental education, the exposure forms a potent connection that creates a foundational love and knowledge of sustainability. In this case, environmental education serves as the antidote to climate apathy. Environmental Literacy is the desired outcome of environmental education, and strives to provide

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<sup>8</sup> [Scientists Unveil New Projections for Sea Level Rise in Maryland](#)

<sup>9</sup> [13 Numbers 2 & 3: Armor, Adapt, or Avoid?](#)

<sup>10</sup> [What Is Environmental Literacy?](#)

its recipients with “sound scientific information, skills for critical thinking, creative and strategic problem solving, and decision-making.”<sup>11</sup>

- b. Childhood environmental literacy shapes the foundation for an environmentally oriented future adult. Environmentally knowledgeable people are 50% more likely to recycle, 31% more likely to conserve water, and twice as likely to donate funds to conservation.<sup>12</sup> And, as American society grows more urban, technologically advanced, and disconnected from the natural world, it is important to continue to instill the value of caring for the natural world in children. Children growing up in the 21st century have an indisputably different relationship with the natural world as their parents or grandparents, with generational differences and technology shaping this disconnect.
- c. We propose that the Baltimore County Government take steps to increase environmental literacy in children through implementing nature-focused lesson plans in schools starting in kindergarten. Following are three short lesson plans, designed for grades K-2, that increase environmental literacy.
- d. Lesson plan A focuses on hibernation in different animals.<sup>13</sup>
  - i. Questions posed to kids may include: What do you do differently in the winter to keep warm? What do animals do differently in the winter to keep warm? Why do animals hibernate in the winter?
  - ii. Establish the importance of hibernation and the need for appropriate habitats in which to hibernate (incorporate knowledge of habitat destruction here as well).
  - iii. Read a book about animals and winter hibernation; obtain animal skins for kids to touch.
  - iv. Summarize the lesson, and ask kids what they have learned.
  - v. Time: 15-30 minutes.
- e. Lesson plan B focuses on learning about animal tracks.
  - i. Go outside. Have kids make tracks in dirt with their shoes; observe each person’s different shoe print. Pose questions such as: why do each of us have a different shoe print? What other animals make tracks?
  - ii. Alternatively, watch a video or read a book illustrating different animal tracks. (Scatological tracks may be particularly interesting to elementary schoolers). Or, identify different animal tracks outside.
  - iii. Time: 10-25 minutes.
- f. Lesson plan C focuses on learning about how animals camouflage in the wild.

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<sup>11</sup> [What Is Environmental Literacy?](#)

<sup>12</sup> [Environmental Literacy](#) - Page 13

<sup>13</sup> [Environmental Lesson Plans](#)



- i. Begin the lesson by asking questions such as: Why do animals camouflage? Why would humans camouflage? Which animals that you know of utilize camouflage?
    - ii. Hand out worksheets with different habitats on them and tell them to draw an animal that is camouflaged.
    - iii. Alternatively, walk outside and try to spot various camouflaged animals.
    - iv. Read a book or watch a video showing camouflage in different environments.
    - v. Time: ~25 minutes.
  - g. More fantastic ideas for lesson plans can be found online (linked in this footnote and on other sites)<sup>14</sup>; educating kids about the natural world and climate change is of the utmost importance.
2. Create a Green 60 program that parallels the NFL's Play 60 program.
  - a. This program will teach younger students how to develop environmentally friendly habits in an interactive way. It will be based on the National Football League's Play 60, where football players travel to different schools to encourage students to engage in physical activity in order to reduce childhood obesity. Play 60 has been successful at decreasing childhood obesity rates in targeted schools. Green 60 would have a similar impact in terms of its goals; it will help decrease schools' carbon footprints and raise awareness of current environmental issues.
    - i. Assemble a group of volunteers from each high school, including a faculty advisor. This group will run activities for younger students. Their time should be recognized by the county as community service hours.
    - ii. Create an activity plan to implement at the school that would be facilitated by high school volunteers. These can include activities such as a recycling relay, tree planting, and interactive presentations of solutions for climate change.
    - iii. After planning, coordinate with elementary schools to confirm a time and date for these activities. Request that schools send updates of environmental activities they have done after their Green 60 session.
3. Institute a comprehensive Recycling Policy for BCPS. The implemented policy would include guidelines for all of Baltimore County Public Schools, as follows:
  - a. Schools must have recycling bins in each classroom and cafeteria.
  - b. Custodians as well cafeteria staff must be informed on the proper ways of handling the recycled waste, such as knowing when the waste in the bins can be properly recycled, as well as being informed about recycling pick up dates.
  - c. Schools should be provided with an infographic that breaks down what can and cannot be recycled.

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<sup>14</sup> [Lesson Plans for Teaching Sustainability | Teach For America](#)

- d. These same infographics should be displayed above or next to each recycling bin present within the school building to prevent any mis-sorting of waste.
    - e. Additionally, the County should display each school's quarterly energy usage, in order to educate the students, parents and staff on how much their school is using each quarter. This information should be clearly displayed on the BCPS website.
  4. Create a county wide initiative on the week of Earth Day to integrate environmental concepts across a wide range of subjects, including English, math, and science. The instructor may have liberty to customize their specific activity, as long as it follows the guidelines of each subject in the following list.
    - a. Science classes could take part in surveying and collecting data of the school itself, and research the carbon footprint of their school. Furthermore, science classes may focus on recycling efforts, types of lightbulbs used in the building and their energy consumption, and the ratio of permeable and grass covered land to developed land on the campus. With the data, students could then research ways to reduce the impact of the schools; whether by proposing new policy to the principal or to the superintendent. (Perhaps there could even be a competitive element, where students compete for the best research project to present to the superintendent.)
    - b. Mathematic classes could institute a self-survey to record the energy consumption of each student's household. The students would record the energy consumption of the class from house electricity, gas, as well as the energy consumption of the vehicles of each household. Then the students will take the average energy consumption and use an online calculator from an environmental organization<sup>15</sup> to calculate their energy consumption and carbon footprint and compare this to the national average. Then the students can personally take steps to manage their household and reduce their carbon footprint.
    - c. English and Literature classes could write a short argumentative essay on a current aspect of climate change. The possible topics here vary widely and likely would be student-determined.
    - d. Social Studies could take part in learning about the history of climate change. Subjects may include the history of early science and research on climate change, the history of committees like the I.P.C.C. or the United Nations, or climate change's influence on society (like the environmentalist movement of the 1960s and present lobbying efforts).
    - e. These different approaches to climate change from multiple classes will give students a broader understanding of climate change and the impact each student has today.
  5. Change absences caused by climate-change protest related absence from an unexcused absence to an excused absence. This eliminates the punishment for students who choose to peacefully protest climate change related issues.

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<sup>15</sup> [Carbon Footprint Calculator](#)

### Committee 3: Public Awareness and Communications Efforts

1. Implement a public forum where the community can gain insight on the efforts being made by the county to mitigate the impacts of climate change. A forum presents an opportunity to engage with the community and gain feedback, as well as start a conversation about climate change. Further details of the forum are as follows:
  - a. The County Executive should be present to discuss current and future policies as well as adequately answer any questions or concerns that may arise from the public in the discussion.
  - b. The forum should ideally be located in a high school auditorium (perhaps Carver, Dulaney, or Dundalk. Alternatively, the Towson Library may work well).
  - c. Local green groups and environmental organizations should be invited in order to promote networking.
  - d. An art showcase/competition would be held after the forum.
    - ii. If the forum is held in a High School auditorium, the art show could be held a cafeteria or gym.
  - e. At the forum, volunteers could distribute seeds, county-made stickers, and Youth Climate Initiative Working Group-written “How to help” pamphlets.
    - i. These pamphlets could also be posted on the Baltimore County website, and should include an overview of the forum as well as ideas of how to fight climate change that are County-specific.
2. The following is a mock agenda for the forum:
  - a. Attendees walk-in and receive pamphlets & stickers at entrance
  - b. Welcome and introduction to the start of the event
  - c. Individual introductions from Mr. Steve Lafferty, Mr. Johnny Olszewski, and other panel members
  - d. Small presentation regarding county policies and future initiatives
  - e. Commence Q&A with the public
  - f. Panel conclusion statements and closing
  - g. Transition to art showcase
  - h. Greetings and Thank you announcements for showcase
  - i. Art Showcase (free to roam and explore different displays)
  - j. Conclusion of event
3. Stickers have already been implemented by the Baltimore County Government. However, new designs that cater to the younger population would be most effective in expanding awareness; the County should consider manufacturing more.
  - i. In general, older children tend to appreciate the following:
    - Calm, cool colors that produce a stylish effect

- Graphics that let them feel part of a larger community-or that use symbols or codes that only a specific group understands
  - Designs that focus on content or spatial interpretation
  - Designs that let them engage with their specific interests in a fun, but effective way
- ii. In general, younger children tend to appreciate the following:
- Designs that include emotion and more extreme colors and graphics
  - Abstract elements that allow these young viewers to complete a picture
  - Accustomed to edgy, heavy, extremely immersive layouts that use color and graphics in a variety of ways
  - Prefer more detailed, deeper designs
- a. These stickers could be distributed to schools by the county. Getting students to volunteer to hand them out may be effective (utilizing the bandwagon marketing technique).
4. An art showcase/competition provides an opportunity for BCPS students to become directly involved by submitting artwork relating to climate change and the environment as a whole.
- a. Information regarding the showcase/competition should be distributed in Baltimore County Public Schools through art classrooms.
- i. Send a mass email to BCPS art teachers and principals with information regarding the competition, submissions, and the forum.
  - ii. May utilize other means of advertisement, including flyers, video announcements in schools, and social media.
  - iii. May incentivize the showcase through the provision of scholarships or small financial incentives.
5. Possible campaign ideas for the County to pursue in the future include:
- a. Raising awareness about what the county has already done to combat climate change.
- i. May do this by creating a section of the County's website devoted specifically to environmental policy that is updated regularly.
- b. Raising awareness about the County's future goals.
- c. Raising awareness around how people can help fight climate change on an individual and larger level.
- i. The County can encourage people to lobby when policy becomes a bill.
  - ii. The County can institute and publicize Meatless Mondays, highlighting making healthier choices as well as the environmental impacts of meat.
6. The County could hold a virtual forum with the same goals as the previously-described forum.

- a. Virtual Forum guests could include County Executive Olszewski, Mr. Steve Lafferty, local environmental leaders, and a representative from a local high school environmental club.
  - b. The Virtual Forum could highlight environmental initiatives around the County and emphasize ways to help the environment while maintaining social distance.
    - i. Ideas of what to highlight include:
    - ii. Use this time to opt out of junk mail.
    - iii. Rather than throwing out old or broken household objects, fix them. YouTube has many videos highlighting quick fixes for home appliances.
    - iv. Support your local flower shop and the environment by purchasing flowers/plants for a rain garden.
    - v. Let parts of your yard grow wild to collect rainwater runoff.
7. The County may create a new Instagram page, or new part of its Instagram page, called Baltimore County Cares to connect with teens and students.
- a. Include a description in the “bio” that describes Baltimore County’s commitment to the environment.
  - b. Highlight environmental initiatives across the county and opportunities for students to get involved with local organizations that are helping the environment.
  - c. Encourage followers to share pictures of them supporting the environment with the hashtag #BaltimoreCountyCares.
  - d. Post ideas for helping the environment while social distancing as well as tips for reducing waste and saving energy.
  - e. Highlight environmental clubs across Baltimore County Schools.
  - f. Post updates on the County’s latest environmental projects.