

Energy Savers Plan

Sustainable Living Through Energy Efficiency

By 4th Grade at Washington Episcopal School

Supported by STEM Teacher Ms. Owens

We are a N-8th grade school located in the
Washington, D.C. area.

In STEM, we learned about energy and
environmental responsibility.



We Learned about Energy in STEM

We classified types of potential and kinetic energies discovering the science of energy

We learned about fossil fuels and renewable energies

We learned about greenhouse gasses and the impact of power generation

We were thrilled President Biden wrote back to 1 of us sharing concerns about the environment

We explore electromagnetics and turbines

We studies the power grid and electricity generation in the U.S. and locally

We discovered our carbon footprint and how its calculated

We did labs, experiments, and challenges around energy

We did an energy audit at school with a specialist from NEED and we worked with Pepco on home audits and materials

We wanted to help be more sustainable so we developed the Energy Savers Plan

We met with the principal, spoke to students and teachers, even neighbors, family, and friends to teach and inspire them participate in our plan

We made energy inventions, held an energy fair, and displayed our learning even inviting parents

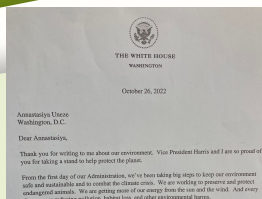
We made signs to encourage and remind our community to reduce energy use

We provided energy saving materials to classrooms thanks to the Exelon Project we entered

We collected data before and after our plan and will analyse and re-collect data throughout the spring

We've been busy, but it is important and needed work that must have lasting adoption

in our community and beyond because we are inspiring an energy reduction movement!



Some of our Work and Experiences

We used scientific thinking and skills to conduct and analyze

School Energy Audit



We educated our School
Community
Met with Principal
Teachers
Staff
Students



Home Energy Audit



Energy Fair



Did you know that a **large percentage of energy is wasted?**

Transporting energy from electricity generation to homes and businesses, hot incandescent light bulbs, cars idling, overcharging devices, leaving on the lights, leaky windows and doors, water waste, overheated hot water heaters, warming the oven, and so much more. Waste is all around us.

Americans spend billions on wasted energy each year. That equals lots of metric tons of greenhouse emissions in the U.S. just for wasted energy!

Study from Natural Resources Defence Council Discovery Channel video <https://www.youtube.com/watch?v=HnCBur0WS8w&t=2S>
<https://erc.co.org/spooky-statistics-about-energy-and-water-waste/>

Whoa!

That is expensive and terrible for the environment!

Problem: We knew we needed a plan to address the energy waste crisis!

We wanted to include more than us in the plan. We wanted to include our whole school community and then through them spread our message to friends, neighbors, and the larger community!



Our Goal: Reduce Energy Use at our school and in our community!

We Decided Our Plan Must:

1. Include everyone (N-8th graders and staff.)
2. Not cost too much to do (our plan saves money.)
3. Make change immediately.
4. Was easy to get everyone's participation. (We knew if our ideas were simple people were more likely to adopt our ideas and keep doing the new behaviors. We didn't want only facilities or just our class to instal changes we wanted everyone making changes in their everyday life. We wanted people to actively help the Energy Savers Plan by learning about and adopting sustainability behaviors forever!)



The Big Overview and Desired Result: The Energy Savers Plan

This community energy challenge influences and reduces energy waste in our school and beyond to combat climate change

Educate and inspire other to join our mission to reduce energy waste and greenhouse gasses!

Implement energy reducing change in the school

- Turn off lights
- Unplug devices
- Make signs
- Provide energy efficient equipment (one touch power strips)



Details and Plan Method for Successful Results:

These included data collection and analysis



Create Innovative Solutions

Create inventions that use renewable energy or generate their own electricity using electromagnets and turbines.



Use Less Energy

Turn off lights, ride bikes, not cars, seal leaky windows and doors, turn down hot water heater, take shorter showers, and more. We counted almost 200 doors to put "turn off light switch" reminders on.



Unplug Devices

Appliances and devices draw energy when on we need to unplug devices they don't pull power and waste it! We counted classrooms and charging ports.



Change and Adjust

Provided free LED light bulbs to replace incandescent, change shower head and faucets to energy efficient less flow

Every method reach beyond our classes. We had displays, met with classes and staff, talked to the head of school, our families and friends, made reminder signs, provided materials and more. We challenged everyone to join in and help us

Creative Innovative Solutions

We made inventions that use renewable energy sources or created their own power. 4C

We presented the ideas and shared with the school community and our families.



Creative Innovative Solutions

We made inventions that use renewable energy sources or created their own power. 4B

We presented the ideas and shared with the school community and our families



Creative Innovative Solutions

We made inventions that use renewable energy sources or created their own power. 4A

We presented the ideas and shared with the school community and our families



Uses of Energy and How to Use Less Energy

We explored ways we use electricity and other energies daily

We brainstormed ways to conserve energy usage

- Turn off lights, ride bikes, not cars, seal leaky windows and doors, turn down hot water heater, take shorter showers, and more.
- We each shared and adopted behaviors to help use less energy.
- We educated and inspired others to do the same.
- We talked to students and staff about energy reduction and made stickers to remind people in our community to turn off lights.
- We talked to the head of school about our ideas and had a discussion about adopting new energy saving commitments like solar and LED lighting to use less energy.



Unplug

- After learning about phantom power we decided that devices need to be unplugged so they don't draw energy when not in use.
- We each shared and adopted behaviors to unplug devices.
- We educated and inspired others to do the same.
- We talked to students and staff about unplugging devices and made stickers to remind people in our community.
- We talked to the head of school about our ideas and had a discussion about phantom power.
- We bought and gave out power strips to with a power off button to stop drawing energy. We gave out these devices to classroom teachers.



Changed and Adjust

- After we did a school energy audit we were ready to do a home energy audit.
- We conducted tested for wasted energy use with shower heads, faucets, the hot water heater, refrigerator, and lightbulbs.
- We shared results and got new energy efficient shower heads, faucets, and lightbulbs if needed and learned to adjust the temperature of the hot water heater and fridge if it save energy usage!



How we can measure the impact and performance of the Energy Savers Plan?



- At the end of the year we want to **meet with the head of facilities** and see if they see a difference in the energy usage in the school. We can also see if the energy savings is reflected in the **energy bill**.
 - We can **audit** the rooms in the building and see if lights are being turned off and if charging stations are getting unplugged.
 - We want to **interview students and staff** and hear if they are **adopting energy saving practices** at school AND at home. We want to ask them if they have **shared** their new understanding about energy saving **behaviors with a friend, neighbor, or family**.
- *If we discover we can improve the impact or participation in of the Energy Savers Plan we will make adjustments and do so!



We have ESP that the ESP is ESP!

(We have ESP that the Energy Savers Plan is Energizing Student Potential.)

Slowing Global Warming by Reducing Energy waste one student, one school, one community at a time!

We hope you'll join us too!

Thank you!

From Washington Episcopal School's 4th Grade



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