STUDENT GUIDE

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PSEG LONG ISLAND

INTRODUCTION

We have been celebrating Earth Day for over fifty years, but there is still work to be done. There is good news though! According to the Earth Day Network (earthday.org), we can still work together to create a healthier, safer and more energy sustainable future for all. You are part of the generation that can be the key to this movement, and you can bring others, like your friends, parents and teachers, along with you! In these lessons, you will learn about all the many ways you can inspire others to make a difference!

You will:

- **PREPARE BY LEARNING** about energy efficiency, renewable energy and the importance of sustainable sources of electricity. Look at what other young people like you are already doing to take action in these areas.

- **SELECT A TOPIC AND CREATE AN INSPIRING VIDEO** message to educate and encourage others to seek ways to use energy efficiently.

- **BE EM-POWERED TO SHARE YOUR MESSAGE** with your community and educate others to utilize renewable energy resources.

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Lesson One: **PREPARE**

Prepare – this means you are getting yourself ready to get something done. Your job now is to inspire others to recognize the importance of using sustainable energy now and in the future. In this lesson, you will learn important information that will be your tools to accomplish this successfully.

Activity 1: GATHER INFORMATION AND EVIDENCE

There are many things that can be done to help the environment, but you are going to focus on three main areas:

ENERGY CONSERVATION AND SUSTAINABILITY + **ENERGY EFFICIENCY** + **RENEWABLE AND NON-RENEWABLE ENERGY**

Find a partner and work together to research these three key areas. Your teacher has a list of recommended websites to explore. With your partner, select one website to review together. Use the chart below to collect your thoughts as you read the information from your selected site.

Selected Website:	
NOTICE – What did you see?	**WONDER – What were your thoughts?**

Once you have reviewed your selected site with your partner, take some time to define the terms below. You can use the information you collected in the chart above, other sources on the Internet, textbooks and any available resources to find your information. While exploring these issues, you may have come across some advanced vocabulary. If you encountered other words you did not recognize or understand, add them below to this list and define them in your own words using the same resources.

TERM	DEFINE IN YOUR OWN WORDS
Energy Efficiency	
Energy Conservation and Sustainability	
Renewable Energy	
Non Renewable Energy	
Other Vocabulary	

When you and your partner have finished describing the terms above, create a summary of what you discovered and learned. Your summary can be in the form of a written paragraph, tables or graphs or even a creative drawing. Submit this summary to your teacher to be shared with the rest of the class. As you review other classmates' summaries,ask questions about their work and take notes on information not uncovered with your own initial investigation. Remember, keep the focus on renewable energy and sustainability.

Activity 2: IMAGINE THE FUTURE

As you learned in Activity 1, there are two types of energy — renewable (solar power) and nonrenewable (coal). Renewable energy comes from sources that are naturally restored. In the simplest terms, these sources do not run out because they are constantly being renewed. However, according to the U.S. Energy Information Administration (EIA), 91% of the total energy consumed in the U.S. comes from non-renewable sources. These are sources that have a limited supply and if we keep depending on them for our energy, we could one day run out. Think about all the ways you use energy every day — energy that powers your cell phone, heats the water for your hot shower, or runs the stove to cook your breakfast. Think about how electric vehicles impact this usage.

Directions: What would your day look like without using electricity? In the boxes provided, write how you would change your day to do the following activities/tasks without electricity.

Communicate with Someone Who Lives Far Away	**Alarm Clock** *(if an adult wakes you, what would they do?)*	**Taking a Long Road Trip in Your Car**

Listen to Music	**Cook Food**	**Keep Food Refrigerated**

Activity 3: LEARN THE ISSUES

It may be strange to think about a day without power, but that is one of many concerns that make people want to work hard to come up with more available options for alternative renewable energy sources, such as solar and wind power. Let's take a closer look at the topics related to the three areas you explored in Activity 1.

ELECTRICAL ENERGY CONSERVATION

Conservation is about making choices as individuals, families, companies or even governments to change behaviors to use electricity more efficiently. This can include turning lights off when leaving a room or air-drying clothes. Solar panels can be an example of an environmentally safe way to utilize the Sun's energy and convert it to electricity. Some large organizations and governments are making changes to conserve energy like:

- Reducing the need for energy
- Requiring "green" building design
- Following "Time of Day" guidelines

These are big energy conservation moves, but individuals and communities can make smaller changes to help the effort too. Make a list of some things you and others in your community can do to be more energy efficient. How do electric vehicles help conserve energy?

ENERGY EFFICIENCY

Efficiency involves using technology that needs less energy to do the same work. Smart thermostats and energy-saving light bulbs are examples of energy efficient technology. Just like energy conservation, governments and companies are working to become more energy efficient. Local electric companies have Time of Day use rates that help consumers and impact energy usage. Check out PSEG Long Island's Time of Day program. What are some things that could be changed to make your home, school and community more energy efficient? **https://www.psegliny.com/timeofday**

RENEWABLE ENERGY

There are many sources of renewable energy that are already being used around the world. Every day, new things are being learned about these sources. List some renewable energy sources here and the ways they are being used to help the environment.

RENEWABLE ENERGY SOURCE	HOW IT IS USED TO GENERATE POWER
Example: Hydropower	*The use of fast running water to produce electricity.*

Now that you have explored the concepts a bit deeper, it is time to look at what you have learned. In preparing to create your video, focus on how energy efficiency and renewable energy positively impacts our environment. As you generate a list of possible ideas for the video, remember to focus on this theme. Provide evidence to support your message. In the next lesson, you will use these ideas to inspire others to be stewards of energy sustainability.

In the box provided, create a list of possible issues to share in your video. Include how energy efficiency and utilizing renewable energy positively impacts the environment. Do not discuss water conservation.

Lesson Two: **INSPIRE**

When you inspire others, you help them discover a desire and the ability to do or feel something. Think of a time when you have been inspired to do something by someone else. Maybe you were inspired by someone helping others. Or maybe a friend or family member volunteered with an organization and you decided to help too. Now you have the chance to inspire others in your community to begin their journey to sustainable energy.

Activity 1: FIND SOURCES OF INSPIRATION

When you inspire others, you encourage them to be enthusiastic about new ideas. Many young people, just like you, are working to make a difference now! Let's look at some of their stories.

Abbie Weeks
Abbie Weeks helped supply solar energy for an orphanage in Uganda. There are 19 other inspirational young people to read about here:
https://www.treehugger.com/meet-kids-who-are-changing-world-4868568

Hannah Herbst
Hannah Herbst founded BEACON which stands for Bringing Electricity Access to Countries through Ocean Energy. Read about her at: **http://www.hannahherbst.com** and click on "*my story.*"

Robert Sansone
Robert Sansone saw that electric car motors used non-renewable resources. His goal was to change that issue. Research him at: **https://www.the74million.org/article/teen-invents-sustainable-ev-motor**

Discuss these questions with your class or a small group:

- What do you remember most from these stories?
- What are some things these young people have done to help their community through energy innovations or other positive contributions?
- How have they inspired others to join their causes?
- What messages are they trying to share?
- How are they getting their message out to others?

Activity 2: SELECT YOUR TOPIC

If you want to inspire people like the young people in these stories, it is first important to pick a topic that you want to focus on and share with others. Look at the list you made at the end of Lesson One. Pick a topic that you think is important to share with your community, one that you think can make a difference by utilizing sustainable energy resources. Remember that your topic needs to address the overall concept of “Energy Efficiency or Energy Sustainability.” Be sure to select a topic that fits within this theme.

After you pick a topic, research it with your classmates and use the table below to collect more information. Remember to use all available resources like the Internet, textbooks, or teachers and other adults.

TOPIC:	
Why is this topic important to you?	
Why are renewable resources necessary for energy sustainability?	
Be specific, what is the focus of your video? *Examples: renewable energy vs non renewable, ways to harness energy, wind turbines, electric cars, etc.*	
What are the three most important points about this topic? Include evidence.	
What impact will sustainable energy have on the future?	

Activity 3: CREATE YOUR MESSAGE

You have picked a topic and done the research to learn more about it. Now it is time to create a message about Energy Efficiency and Sustainability that you can share with your community to inspire others.

You will create a Public Service Announcement (PSA) to share your message with others. PSAs are like commercials because they are short videos and they are often seen on television. But, unlike commercials that sell products, PSAs are designed to educate people about a cause or an issue. You will use your PSA to inspire people in your community and bring people together to take initiative to make changes now for long term energy sustainability.

When crafting your PSA, you can think about the following questions to guide you:

- What is the problem we are addressing?
- What is the evidence to support that there is a problem?
- What is the solution we are offering?
- What is the action we want people to take?

Like a commercial, PSAs are very short, so you have to communicate your information quickly and with maximum impact. Most PSAs are about 30 seconds long, and you should aim for the same length. (official submissions must be 45 seconds or less) It will take careful planning to be sure to share your important message, grab the audience's attention and stay within the time length.

Refer to the "Creating a Public Service Announcement Guide" to create, film and submit your PSA.

Activity 4: LEARN THE ISSUES AND ORGANIZE YOUR THOUGHTS USING CER (CLAIM, EVIDENCE, REASONING)

If you need help organizing your thoughts, use the CER Method-Claim, Evidence and Reasoning. Watch the short video to review what that is:
https://www.youtube.com/watch?v=N_TxYZHrmpU&t=25s

Here is an example of how you can use CER to organize your thoughts:

QUESTION: Do wind turbines help the community be more energy efficient?

CLAIM *(Write a statement that responds to the question.)*	Wind turbines help the community be more energy efficient.
EVIDENCE *(Provide scientific data to support your claim. There should be enough evidence to prove your claim is correct.)*	• Wind turbines use wind to make electricity • Wind is a renewable resource • Wind turbines do not release pollution in the air or water • About 85% – 90% of the mass of a wind turbine is made of materials that can already be recycled • Provides electricity without burning any fuel
REASONING *(Explain how your data proves your point? Add detail to your evidence.)*	Wind turbines help the community to be more energy efficient and create electricity without adding pollution to our planet. They are used to make electricity, using wind, which is a renewable resource. Wind turbines can be made from decommissioned wind turbines, as 85–90 percent of their material gets recycled after use. People do not have to rely on a non-renewable source if they utilize the power of wind turbines.

CREATING A PUBLIC SERVICE ANNOUNCEMENT GUIDE

Creating your Public Service Announcement (PSA) can help you bring your community together around a subject that is important to you.

In this guide, you will learn how to create a PSA to help you spread your message and help us become more energy efficient.

GETTING STARTED

THINK

In the previous lessons, you learned about energy efficiency, sustainability, renewable and non renewable resources, and how all of this impacts our world. You picked a topic and researched some solutions to the issues that are relevant to our lives.

In Lesson Two, you picked a topic that is important to you that you can talk about on video. Write that topic here:

When preparing your video, state your claim, provide evidence to support the claim and tie it all together with your reasoning.

TIP: Keep your focus narrow and to the point. More than one idea confuses your audience.

RESEARCH

You have done some research on your topic, but you can always learn more. For example, if your video is about windmills, research how they operate and their impact on achieving energy sustainability. Are you interested in electric cars? Talk to people who have one as part of your research. Perhaps you want to focus on the home, and how people can make a change there with energy usage. Are there companies near you that are using renewable energy sources? Including real-life examples in your PSA can make a strong impact.

TIP: Including statistics can also get people's attention, especially if you can find ones that directly relate to them, your audience.

You can turn to Google for statistics which will help strengthen your PSA. Simply type in your "Topic + how much energy is wasted." Example, "AC + how much energy is wasted" or "How much energy does the AC use?"

AUDIENCE

Who are you targeting — parents, teens, teachers or someone else? You want to make sure you know who you are talking to through your PSA and make sure that your message is clear

TIP: When it comes to your messaging, short and sweet is key!

CONTENT

Before you start filming your PSA you will want to think about your content. For example, you could write out on paper your PSA and have someone hold it up while you film. You could film the action taking place (ex. walking out of the room and leaving the light on, a Long Island wind turbine). You could do a combination of things to help you get your message across to your audience.

TIP: Don't make this too complicated. Pick something you can easily do and enjoy the process.

SCRIPT

You can create a script with a few key points to help you during filming which highlights the major and minor points that you want to make. Be sure the information presented in the PSA is based on up-to-date, accurate research, findings and/or data.

TIP: Grab a 3x5 index card and write down up to 3 talking points that you want to cover. Use the information from the table in Lesson Two to help you write these cards.

GET CAMERA READY

Before filming your PSA you want to make sure you are "camera ready." This means you will need to make sure you:

- Comb your hair.
- Plan out what you will wear.
- Review your shooting location the day before — try going by at the same time of day you plan on shooting that way you get a better idea of what happens around that time.
- Check all your equipment (smartphone is fully charged & has storage space, you have working headphones with the mic built-in, a soft cloth to clean your camera lens before shooting)
- Practice your stance, posture, and weight balance — will you be standing or sitting?

FILMING DAY

- Grab your camera (this can be a smartphone if you like)
- Find a good place to shoot (find a quiet place you can film without interruptions)
- Review your notes
- Prop your camera up (using a tripod or have someone else hold it for you, this avoids shaky videos)
- Do a test video to make sure everything is working and that your sound is good. Remember, you can use headphones that have a built-in mic so that you can get good audio — audio and video are so important for your PSA.
- Speak slowly, clearly, and loudly with good energy — you want to get people excited and passionate about your topic just like you are!

  TIPS:
  - Keep your video short, 30 seconds ideally, but absolutely no more than 45 seconds. Also, make sure that you have a location that doesn't have a lot of noise and has good lighting.
  - Be sure to have a clear call to action — tell people exactly what they need to do next as it relates to your PSA. *Example, "Turn off the lights when you leave a room" or "start thinking about switching to solar power."*
  - Use hand gestures to add energy
  - Make direct eye contact with the camera so your audience feels like you are looking directly at them.
- Hit the record button — and action!

Once you have recorded your PSA you will want to review it to make sure you covered everything you wanted to before packing everything up.

If you need to do any editing feel free to use your favorite editing program (need a suggestion? iMovie for those with Apple products, Windows Movie Maker for PC products and Capcut).

*Make sure you use the correct PSEG Long Island logo! ▶

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