

CONSERVATION AND ME



Bringing Energy Solutions To Schools (BEST Schools Program)



SPEAKER INTRODUCTION

- ❑ Victor “Voltage” Torres
- ❑ Guam Power Authority for 9 years
- ❑ Mechanical Engineer
- ❑ Engineers **design, build, and maintain** many complex systems and structures, from buildings to software.
- ❑ While there are many engineering professions, there is one consistent engineering mindset: to innovate.
- ❑ You can be an **Engineer** too!





ABOUT GUAM POWER AUTHORITY

- ❑ Established in 1968
- ❑ Serving Guam for 54 Years
- ❑ In 2015 GPA Launched the Energy Sense Program
- ❑ BEST Schools Since 2017, GPA has secured federal grants for Energy Efficiency at GDOE
- ❑ Energy Efficiency starts with you!



SYLLABUS

- 1) What is Electrical Energy?
- 2) Where Electricity Comes From
- 3) How Guam Power Authority Makes Energy!
- 4) What is Energy Conservation?
- 5) How You Can Conserve Energy!
- 6) Energy Efficiency!
- 7) What is Water Conservation?





WHAT IS ELECTRICAL ENERGY?

- Electrical Energy is moving Energy
- It is the flow of tiny particles called electrons
- Electrical energy can be seen in nature. A bolt of **lightning** is a large number of electrons flowing through the air all at once!
- **Guam Power Authority** produces and controls electrical energy for you to enjoy!

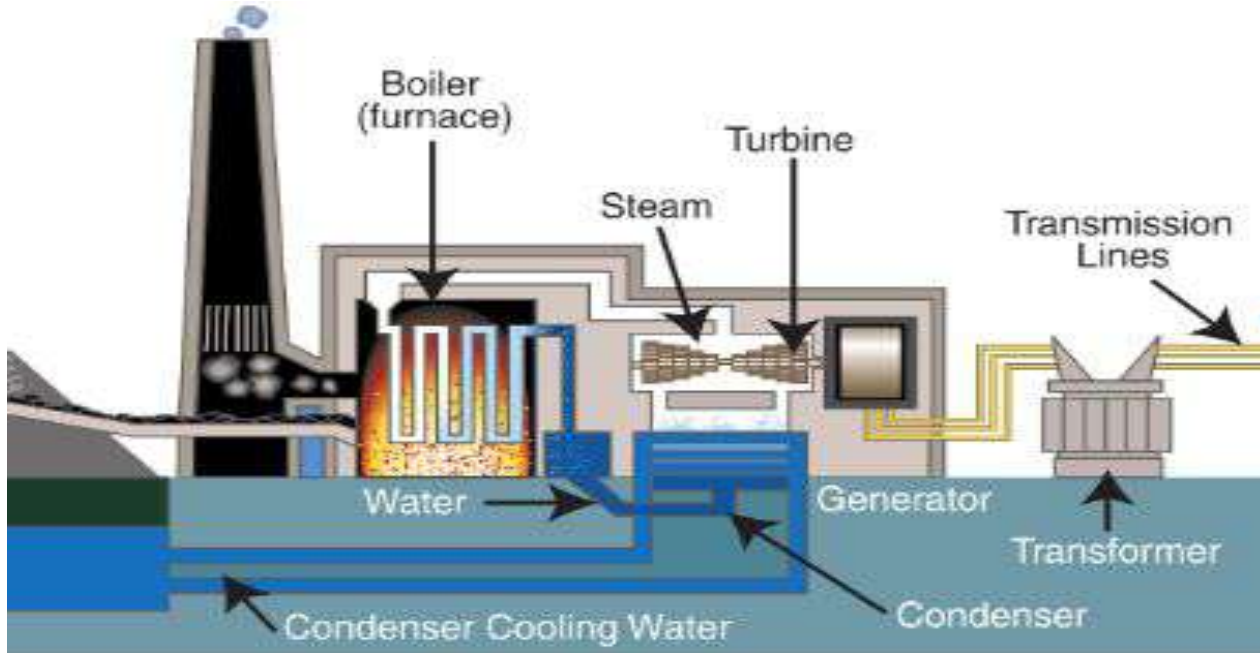


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WHERE ELECTRICITY COMES FROM

- 1) The Electricity we use every day is generated at power plants
- 2) It then travels through electrical transmission lines
- 3) Finally it is delivered to school and your home!





NON-RENEWABLE ENERGY SOURCES!

- Fossil energy sources are “non-renewable” resources
- Formed when prehistoric plants and animals pass and were gradually buried by layers of rock
- Over millions of years, different types of fossil fuels were formed.
- Over time, fossil energy sources will deplete and humans will need to find alternatives





HOW GUAM POWER AUTHORITY MAKES ELECTRICAL ENERGY (CONT.)



Wind Turbine!



The Sun!





RENEWABLE ENERGY SOURCES!

- Energy from a source that is not depleted when used, such as wind or solar power.
- Also known as “Clean Energy!”

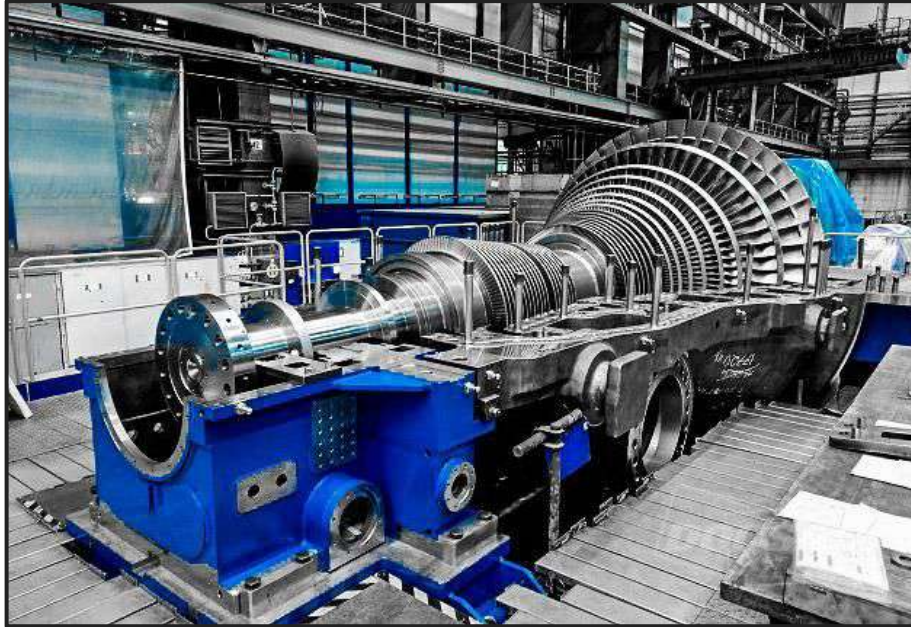




HOW GUAM POWER AUTHORITY MAKES ELECTRICAL ENERGY



Steam Turbines!



Giant Diesel Engines!





WHAT IS ENERGY CONSERVATION?

Energy Conservation is the prevention of wasteful use of energy, especially to ensure its continuing availability!





WHY IS ENERGY CONSERVATION IMPORTANT?

- Lower your monthly power bill!
- Lessen demand for new power plants
- Reduce dependence on fossil fuel imports
- Promote heart, lung, and brain health!



ENERGY CONSERVATION AT HOME

1. Turn OFF the Air Conditioner on when nobody is home!
2. Use Fans to cool your space
3. Turn OFF Lights When You Aren't in the Room
4. Unplug!
5. Keep Windows and Blinds Closed
6. Enjoy a no-cook meal





CONSERVATION AT SCHOOL

1. Make sure lights are off when a room is empty
2. Ask teacher to set the Air Conditioner to 74°F
3. Ask teacher to unplug the TV when not in use
4. Limit going in-and-out of class!
5. Recycle



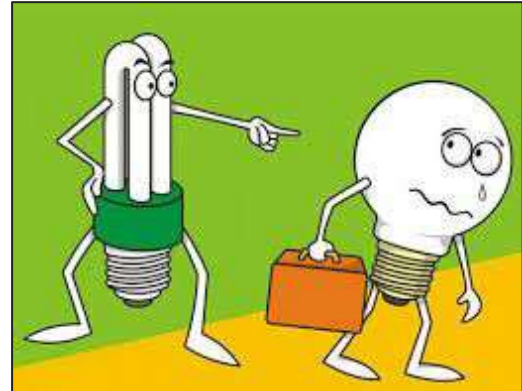


ENERGY CONSERVATION VS ENERGY EFFICIENCY

- **Energy Conservation** is the prevention of wasteful use of energy, especially in order to ensure its continuing availability.
- An example of energy conservation is turning a light off when not in use.



- **Being Energy Efficient** means using technology that requires less energy to perform the same function.
- An example of energy efficiency Using a light-emitting diode (LED) light bulb that requires less energy than an incandescent light bulb to produce the same amount of light!



ENERGY EFFICIENT APPLIANCES



A/C

Check your SEER

LIGHTS

LED is LOVELY

CLOTHES WASHER

ENERGY STAR

CLOTHES DRYER

ENERGY STAR

WATER HEATING



Visit www.gparebates.com to apply online!

WHAT IS WATER CONSERVATION?

Water conservation means enjoying water efficiently to reduce unnecessary water usage. Water conservation is important because fresh clean water is a limited resource, as well as a costly one.



WATER CONSERVATION TIPS!

- Turn off water while brushing your teeth
- Limit showers to five minutes
- Install water saving showerheads
- Check faucets and pipes for leaks



QUESTIONS

