

SHARING THE PLANET

Renewable Energy in Our World

Fourth Grade

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ABSTRACT

The fossil energy is effective and the most common source of energy in the planet, but it produces pollution. If we want to change the health of our planet, we must replace fossil energy with clean renewable energy as soon as possible. Awareness about alternative energy, more specifically, clean renewable energy must be a priority to make better choices and support the development of new clean technologies. A website with available information about clean renewable energy and experiments related to how this kind of energy is produced, would increase the community awareness about how accessible the clean energy is. We have discovered through our research that the more common clean renewable energies are solar, wind and hydraulics energy, and the technology associate to produce those energies are simpler that we thought, in consequence, the goal to replace fossil energy is really feasible just willing to make the change.

INTRODUCTION

Do you know what renewable energy is?

Renewable Energy is a type of energy that uses resources that nature will replace like sun, wind, or water, but does not use materials like coal, oil, or gas. The energy that uses those materials is fossil energy, but this energy produces pollution.

We investigated about different types of clean energy that are commonly used as substitution of fossil energy. Clean renewable energy comes from natural resources that do not damage the environment and the three energies with more extended uses are: Solar, Eolic and Hydraulic Energy. We want to create awareness in our community because understanding how simple, accessible, and clean is this energy, we could make better choices. We implemented two actions. The first action was a workshop with the students of 3° grade where we made together a windmill and then we explained basic concepts of renewable energy. The second action was publishing a website with key definitions of renewable energy, experiments related to Solar, Eolic and Hydraulic Energy, consumption of energy and source of energy in Colombia. The website allows us to keep our main objective to create awareness about clean renewable energy and reach the total population of Gimnasio Femenenino Community.

MAIN BODY

Our PYP theme is about sharing the planet. Our central idea is People make choices to create opportunities that change communities. The title of our PYP is renewable energy in our world. An energy resource is something that can produce heat, power life, move objects, or produce electricity. Energy resources can be roughly classified in three categories: renewable, fossil, and nuclear. Renewable energy resources are forms of energy that are naturally replenished on our planet. Renewable Energy is a type of energy that is clean and comes from natural resources or processes that are constantly replenished. It is very common mix up renewable energy with alternative energy, and it is not the same as Alternatives that are energies that do not use oil, coal, or gas, but this does not mean that they are clean energies or renewable.

What had we learned so far about Renewable Energy?

We had learned a lot of things about Renewable Energy. We have learned about solar energy, Eolic energy, hydroelectric energy, how batteries can charge with Renewable Energy and the types of Renewable Energy that exist.

Hydropower or Hydraulic Energy:

In Colombia, more than 80% of the electricity comes from Hydropower source. Hydropower is an energy produced by water; people have used this energy for several years. The hydroelectric energy is formed by dams that block a river to

make a reserve, when the water is released the great pressure behind the reserve causes the water to go down and a turbine is the one that makes the energy.

That is what we call hydroelectric power; Hydropower uses turbines and generators to convert this movement into electricity. As well the hydropower is about the 7% of electricity, making it the largest source of renewable power, and this energy produces less pollution and in some places such as Norway and Quebec get most of their electricity this way.

Eolic Energy:

Humans have been using Eolic energy for a long time. For example, sailboats are driven by the wind in movement, a windmill works with the wind movement producing electricity. This means that wind is air in motion. To be clear, wind is a natural renewable resource because it never runs out. A disadvantage of this resource is that it is randomly obtained because it depends on a natural phenomenon.

Solar Energy

The Earth capture a lot of solar power, ten thousand times more power than the population of the planet needs nowadays. It means that total fossil energy could be substituted by solar energy. Solar energy, as part of renewable energy, means the capacity to transform sun's properties, like light and heat to be used in the human daily life needs. The solar energy can be taken in three different ways or

technologies: Heating, systems, Furnace systems, Solar Cells; being this last technology the most common used or known between all the Solar Energy Technologies. The Solar Energy Technology uses the light of the sun instead of the heat to produce electricity. These cells are called Photovoltaic cell or PV because they can turn sunlight into electricity. The PV are very common in semiconductors like copper and silicon being the last one used for commercial solar cells, because silicon is sand compressed, a very abundant material in the planet. A solar cell produces a small quantity of electricity, a solar panel, that is a group of solar cells is able to produce the amount of energy needed for a house or a building.

ACTION

The actions of our group are to communicate through a website related to renewable energies and a workshop with the students of 3rd grade in order to create awareness about how accessible and simple these technologies could be.

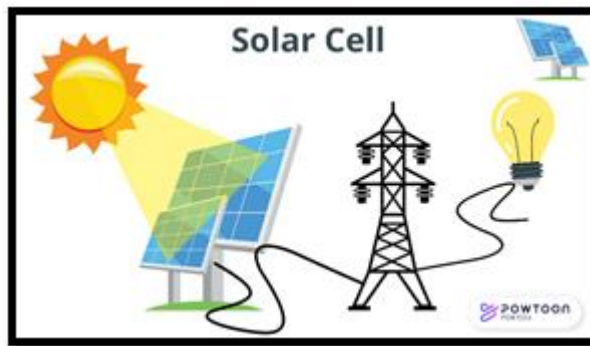
The website has information about renewable energy, it is easy to access for the entire school community, so they become more aware of how important renewable energy is. We followed several steps to make a website. First, we investigated about renewable energy to understand the concept. Afterwards, we defined the content, and definition of the energy, an easy experiment to understand how these technologies work. We also included information about uses of energy and consumption of energy in Colombia. We made our own Videos, images, infographics were selected over written information to make the information more accessible to all the educational level in the community. The written information was designed to be accessed on an interactive way to make it catchier and more enjoyable for the visitor.

The other action was to introduce renewable energy to third graders through a workshop where the students made a windmill with paper, having a practical approach to the Eolic Energy, complementing the experience with videos and speeches about renewable, Eolic, Hydropower and Solar Energy, closing the experience with a session of questions and answers about the topic.

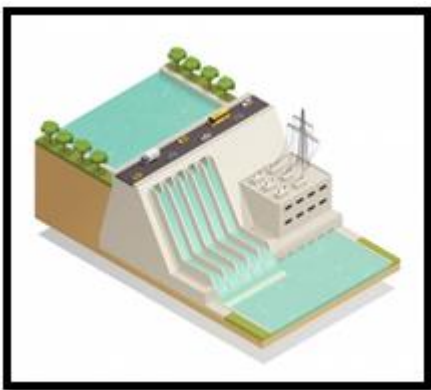
CONCLUSION:

Fossil energy is effective and the most common source of energy in the world, but it produces pollution. If we want to change and heal our world, we must replace fossil energy with clean renewable energy as soon as possible. Renewable energy can help us in different ways, such as collecting energy for a whole day with sun rays or being able to refresh ourselves for a whole day with a fan or being able to use the energy of water to make a whole city work. Clean Renewable Energy is simple technology, accessible and sometimes cheaper than fossil energy. It is our responsibility as a community to make better choices and push our leaders, as well, to substitute, soon, the fossil energy that represent more than the 70% of the energy used in the world by clean renewable energy.

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