easy access english

Solutions simples accessibles et sur mesure pour réussir en anglais

Carbon Neutral



EAE Learning objectives for this lesson

Review some verbs with dependent prepositions. Learn words for comparing and contrasting things and practice using them. Comprehension activities.



Activity One - **Discussion** -Ask and answer, with your partner:

1. Do you think that the world will be carbon neutral within our life times?
2. Do you feel concerned by the carbon emissions you cause?
3. What do you do in your daily life to try to reduce your carbon footprint?
4. What do you think will really motivate governments to reduce carbon emissions?

Activity Two - **Comparing things..**
Here are some useful transitional words for comparing things:
Compare:
in the same way, by the same token, similarly,likewise,in similar fashion,
Contrast:
and yet, nevertheless, nonetheless, however, on the contrary in contrast , on the other hand,at the same time

With your partner, compare the possible different methods you could use for travelling to work each day. Use some of the words above.

Activity Three - **Reading**.
1. Read the article, practicing your intonation and stress.
2. Then, with a new partner compare the different types of energy source to each-other using the expressions from activity two.

From Fossil reliance to Carbon Neutral.

Currently, 85% of the world's population is reliant on fossil fuels. While the fossil fuel industry is the leading contributor to climate change, it is also a finite source that will be depleted. In order to continue on, humans must find other sources of energy to rely on. So, what sorts of alternatives are available?

1. Wind Power

When the blades on windmill are exposed to wind forces, they begin to rotate the turbines, converting the kinetic energy in the wind into mechanical energy. This then powers a generator to create electricity. Wind power is a clean energy source, and costs about 7 to 15 cents per kWh to produce. Wind turbines can stand 328 feet tall and higher, making lots of open space a necessity to generate electricity.

2. Solar PV



Solar photovoltaic panels are table to convert sunlight into usable energy for your home. The benefit to solar is the ability to install panels on your roof and turn your own home into a clean energy source while eliminating your current electricity bills, adding equity to your home, and allowing you to save money while doing so. The cost per kWh for electricity from solar power is about 12 cents on average in the US

3. Hydroelectric

Hydroelectric power uses the energy from flowing water to generate electricity. Typically water is trapped into a reservoir or dam. When released the flow of water rotates a turbine, which in turn powers a generator to create electricity. The average cost per kWh to operate hydroelectric power is 3 cents making it the least expensive form of clean energy.

Now let's compare these with some fossil fuel sources.

Coal

Burning coal produces heat which turns water into steam, which is then used to power a turbine, in turn powering a generator and producing electricity. Burning coal also results in the emissions of toxic greenhouse gases and localized air pollution. This contributes to global warming, smog, acid rain, asthma, heart disease, cancer and much more.

Natural gas

Natural gas is released through a process called hydraulic fracking, in which water, sand, and other chemicals are forced at high pressure under the surface of the earth. Fracking results in increased earthquakes where the earth has been opened up through this process. Though natural gas produces less emissions than other fossil fuels, it still emits toxic emissions when it is burned.

Comparing All Your Energy Options

Comparing the costs of different forms of energy can become a bit convoluted when you're thinking about the cost going into building a power plant, transmission of energy, distribution, etc. The leveled cost of energy is a good indicator to compare the real costs of these forms of energy**.** Renewable forms of energy cost much less than fossil fuels without subsidies or external cost factors included.

Not only is renewable energy cheaper to operate without the added costs from harmful emissions, they are also safer and cleaner forms of energy. The release of greenhouse gases such as carbon dioxide and other emissions from fossil fuel energy generation are the drivers of human induced climate change. Climate change is causing worldwide drought, crop failure, famine, increasing natural disasters such as earthquakes and floods, and rising health risks in children and adults due to air pollution and water contamination. If we continue to exploit fossil fuels and release toxic emissions we will continue to see the harmful results to our health and planet.

When it comes to our energy independence and security, renewables again provide a safer and more reliable domestic form of energy, without the risks. With renewable energy, we are decreasing the need to rely on foreign ties for our energy sources, without contributing to climate change.

(Source - https://blog.pickmysolar.com/solar-wind-hydro-fossil-fuel-alternatives).



Activity Four - Role Plays.

1. You are selling innovative solutions for supplying energy to the public. You have an appointment with an elderly couple to try and explain the options. The couple are quite set in their ways and don't really believe what you are saying. So you try to prove that it's true by explaining how the new energy producing solutions work. You compare your solutions to others.

2. You have invented a new type of solar panel which can re-charge electric cars in just a few hours by simply being placed on top of a parked car. You sell your idea in a presentation to the bank which you want to borrow money from to launch your new venture. The bank officials ask a lot of questions and appear skeptical. They are not concerned by climate change and don't think people will be interested in your offer. You compare your invention to other ways of powering cars.

3. Your teenage son tries to persuade you to buy an electric car. He compares the different characteristics of cars on the market and tries to tell you that it's really the best option. You are hesitant because you don't really see the necessity.

4. Your wife wants to instal a new veranda covered in solar panels. She has an idea for a swimming pool, heated by these panels. You think that it's a bad idea, too expensive and maybe even dangerous. She compares the different options for pools and verandas and tries to get you to agree.

Activity Five - Dependent Prepositions.

It can be hard to avoid making mistakes with prepositions in English, because many verbs are followed by specific prepositions. They are called dependent prepositions because their choice depends on the verb and its meaning. Here are some examples of verbs with their dependent prepositions. On the next page you will find a text with gaps in it. With your partner (please do not prepare at home), fill the gaps in the text with the correct prepositions (don't look at the verb list when you do this).

To complain about
To fail to
to account for
the lead to
to hint at
to stem from
to intend to
to find a solution for
to insist on
to comment on
to take responsibility for
to be responsible for
to object to

to resort to
to opt for
to be interested in
to be based on
to be capable of
to be concerned about
to be involved in
to consist of
to apologize for
to apply for
to prepare for
to protect from
to believe in

to approve of
to be based on
to respond to
to prepare for
to rely on
to succeed in
to belong to
to object to
to deal with



People complain ……. the governments inaction on climate change and their failure ……. take the drastic measures necessary to respond ……. the health and environmental issues at stake. However are people prepared to take responsibility ……. these issues themselves? When it comes to increasing the price of diesel for example, even knowing that a lot of health problems in the world stem ……. inhaling diesel particles, people don't approve ……. new laws. Many people object ……. contributing to positive change. They want to protect their children ……. the ill effects of pollution, but they don't necessarily want to be involved ……. making a change in their own lives. They don't apologize ……. their own actions which contribute ……. climate change, they rely on their government to solve problems.

Activity Six - Big Yellow Taxi - JONI MITCHELL

Read the lyrics and listen to the song (sing along if you know it).

They paved paradise
And put up a parking lot
With a pink hotel, a boutique
And a swinging hot spot
Don't it always seem to go
That you don't know what you've got
Till it's gone
They paved paradise
And put up a parking lot
They took all the trees
Put 'em in a tree museum
And they charged the people
A dollar and a half just to see 'em
CHORUS
Hey farmer farmer
Put away the D. D. T. Now
Give me spots on my apples
But leave me the birds and the bees
Please!
Don't it always seem to go
That you don't know what you've got
Till it's gone
They paved paradise
And put up a parking lot
Late last night
I heard my screen door slam
And a big yellow taxi
Took away my old man
CHORUS
CHORUS
They paved paradise
And put up a parking lot
CHORUS



Questions - What do you think the song writer is concerned about?
What is she referring to when she says 'you don't know what you've got 'till it's gone?'
Can you relate to the lyrics in this song?

