



Mātanga Āhuarangi Hurihuri

Climate Change Expert Talk

Instructions:

Use these notes alongside the presentation:

- **He aha rā te hirahira o te Āhuarangi Hurihuri?**
What's the big deal about climate change?

Introduction

Te Rā – the Sun – is the primary heat and energy source for the Earth. Almost every living thing relies on it to survive in one way or another.

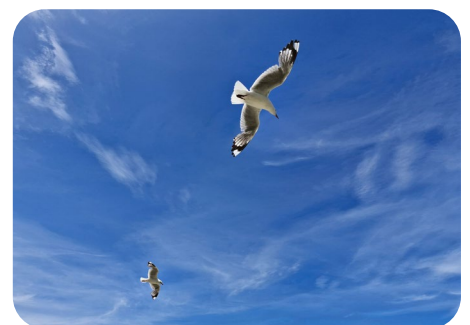
Millions of years ago, when the dinosaurs (including our own tuatara) roamed the Earth, the climate was much warmer than it is today.

However, a few thousand years ago, the climate was much colder. Large parts of the world were covered by ice. But these changes happened very slowly, over many millions of years.

Over the past 100 years the temperature on Earth has gone up very quickly, which means the climate is changing quickly. This is a problem as it will be a challenge to adapt to the new conditions and even harder to try and slow the warming down. But we can do it - we love a challenge! And we need to do it, as so many people, animals and plants around the world will be affected if the temperatures continue to increase so quickly.

What is climate change and global warming?

The Earth is wrapped in a blanket of air called the atmosphere. The atmosphere is made up of layers of gases. Sunlight passes through these layers of gas and warms everything on Earth. These gases are called greenhouse gases because they act just like a greenhouse, helping to keep our planet warm. We need them otherwise we would be living on a planet that has an average of 18 degrees C.



What does all this have to do with us?

There are more and more of us in the world, and we are producing more and more carbon dioxide. Carbon dioxide is an invisible gas that is all around us. It is one of the most damaging of the greenhouse gases.

Unfortunately, we are releasing far too much carbon dioxide into Earth's atmosphere. These gases are getting trapped in Earth's blanket of air, and they are making the Earth hotter. This is known as global warming.

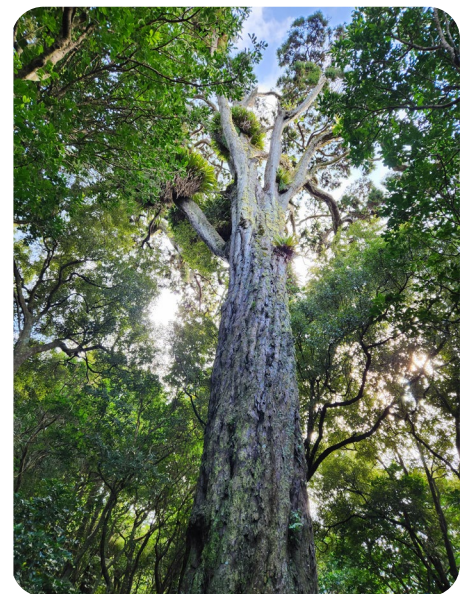
Carbon dioxide is pumped into the atmosphere every day by vehicle traffic on our roads. Most cars, buses and trucks run on fossil fuels, petrol or diesel, and this produces tons of carbon dioxide.

Vehicles are the second biggest source of carbon dioxide emissions worldwide. In New Zealand it is the biggest source of carbon dioxide, so it is the one where we can make the most difference. We can do this by reducing our use of fossil fuelled vehicles.

Carbon dioxide is also made when we burn fuels like coal, gas, oil and wood. Power plants burn fuels to make electricity. In New Zealand we are fortunate that about 75% of our electricity is made by renewable sources such as hydro, solar and wind.

However, it still means that one quarter, 25%, of New Zealand's power is made from fossil fuels like gas, oil and coal. So, every time we leave lights or appliances on that we are not using, we are adding to the carbon dioxide that's caught in the blanket of gases that surrounds our planet.

Another problem is that all around the world, forests are being destroyed. We need the forests because they soak up carbon dioxide. Unfortunately, the trees are cut down to make way for farms that produce products we want to buy and to make room for towns and cities.



What effect is global warming having?

As the Earth is heating up, climates are changing all around the world. We can expect more storms, hurricanes, floods, frosts and heat waves.

In some areas, like the West Coast of New Zealand, rainfall will increase and cause flooding. In other areas, like the East Coast of New Zealand, rainfall will decrease and cause droughts.

People in many different parts of the world will be short of water. Countries around the equator will be badly affected. The ice at the North and South Poles is melting and sea levels are rising due to this, and the warming of the oceans. This will cause severe flooding in some parts of the world.

Kiribati is an example of this in our own Pacific Ocean. It is an island-nation, and it looks like the people will not be able to live there by the end of the century.

Many species of animals are also endangered as a result of global warming, due to habitats changing so quickly. They may not have time to adapt. Polar bears are a great example.

What can we do to help?

Fortunately, there are lots of things that we can do to decrease the release of carbon dioxide in the atmosphere.

For example:

- Leave the car at home. Walk or cycle or use public transport.
- Switch the television off rather than leave it on stand-by.
- Put on a jersey rather than turn up the heater.
- Replace light bulbs with LED bulbs.
- Take a shower instead of a bath.
- Plant a tree or 10.
- Reduce the amount of stuff you buy, reuse stuff and recycle it.
- Avoiding single use plastic, eg, plastic bags, plastic water bottles.



Conclusion

So, you see, although global warming is changing our climate and it will have consequences for all of us, there is a lot that we can do to make a difference individually and as a community. There are two aspects to it:

- Firstly, by developing good habits today we can help keep our communities and our precious planet a good place to live, for everyone.
- Secondly, by understanding how our planet operates, we can learn how to adapt and be part of creating innovative solutions to cope with our changing climate.

Both are very important roles we can play.