

Seniors Climate Action Network Newsletter

September 2021

This Newsletter is the latest in an occasional series. It includes articles on various topical issues related to climate change, and links to other material available on-line.

Emissions Trading Schemes — fit for purpose or a peculiar practice?

After years of little progress we are eagerly anticipating real action on controlling and lowering green house gas (GHG) emissions. We have the Climate Change Response (Zero Carbon) Bill, and the Climate Change Commission has been established and it has started to deliver on its mission. Companies and corporations are clamouring to show they are 'greening up'. It is encouraging to witness the change in attitude towards the need for climate action and there is a growing determination to ensure that actions do actually deliver measured results in line with the pathway towards limiting global warming to +1.5 degrees. In doing this it will be important to call out instances of greenwashing. Greenwashing is a form of marketing spin in which green PR and green marketing are deceptively used to persuade the public that an organisation's products, aims and policies are environmentally friendly.

It is likely that greenwashing will increase in the near future. In parallel it is likely that companies will search for ways to circumvent and invalidate measures designed to lower GHG emissions, and so enable 'business as usual'. Emissions trading schemes have been shown to be vulnerable to lobbying and gaming to make them less effective. It is important that we understand emissions trading schemes, and monitor their operation.

The New Zealand Emissions Trading Scheme

The New Zealand Emissions Trading Scheme (NZ ETS) has been chosen to be the main tool used to help lower greenhouse gas emissions in New Zealand. The Climate Change Commission advises the Government on the appropriate emissions budgets, which in turn determines the NZ ETS parameters to use. The Government Environmental Protection Authority (EPA) manages the administration of the NZ ETS. They ensure compliance with the Scheme and provide reports and market information. They also operate the New Zealand Emissions Trading Register, where transactions take place.

'Emissions trading' is a market-based approach for reducing emissions of greenhouse gases. The NZ ETS is known as a 'cap and trade' scheme. It puts a price on emissions by charging certain sectors of the economy for the greenhouse gases they emit. On an annual basis these sectors must submit an emissions return to the Government. They must then surrender New Zealand Units (NZUs — also known as carbon credits) or other emission units accredited by New Zealand, to match their direct greenhouse gas emissions or the emissions associated with their products. An emission unit can either represent one metric tonne of carbon dioxide, or the equivalent of any other greenhouse gas.

There are two main ways a business can obtain NZUs; the Government allocates NZUs to businesses — that is known as the 'cap' — and a business can purchase NZUs at a quarterly auction run by EPA. To lower emissions in a sector the cap is lowered.

The Government can also issue NZUs to businesses that remove carbon from the atmosphere. It is important that these generated NZUs are robustly verified.

The NZ ETS does not require households to surrender emission units. However, households feel some of the effects of the Scheme as the businesses that are involved pass NZ ETS costs on to consumers. The point of obligation in the NZ ETS (that is the participant in the scheme) is as far upstream in the supply chain as possible. This means most businesses in New Zealand are not required to be participants in the NZ ETS.

The Climate Change Commission and the Government are putting a lot of faith in NZ ETS doing a lot of the 'heavy lifting'. This is a matter of some concern. New Zealand's initial ETS was a fiasco, particularly because of the use of dodgy international carbon units. Following a review of the scheme a revised scheme has been put in place that aims to address the identified problems. Whether the current NZ ETS cap and trade system is going to be effective is a matter for debate. The concern is that with the heavy reliance on the Scheme to actually deliver the necessary changes we cannot afford another failure. Time is very limited; any delay in dropping actual GHG emissions will have very serious consequences as we work to avoid more than 1.5 degrees rise in global temperature. It is very important that we critically monitor the performance of the NZ ETS, and be prepared to adjust its operation swiftly when/if problems arise.

This [report](#) from Motu gives an historical perspective on NZ ETS.

Some ETS jargon explained

In discussions about ETSs the terms 'carbon offset' and 'net zero' often come up.

'carbon offset' refers to a product or process that removes GHG from the atmosphere or increases GHG storage, or removes the production of GHG pollution in a process. Generated NZUs (NZUs that are issued by Government in 'payment' for removing GHG from the atmosphere) can be considered offsets. One common offset is the planting of trees. As noted above it is very important that these offsets go through a rigorous validation process. A more detailed explanation can be found [here](#).

The term 'net zero' was used by climate scientists to describe scenarios when the entire atmosphere of the planet — not an individual company or country — was, on balance, no longer building up greenhouse gases. It is now commonly used by organisations to make dubious climate claims of net zero relying on problematic 'carbon offsets' to make the books look better than they are. In essence these claims can often be seen as 'greenwash'. See [flawed](#) and [myths](#).

NZ ETS watch points

Some organisations, such as the New Zealand Initiative, seem to believe getting our GHG emissions down is simply a matter of lowering the cap (issuing fewer NZUs) over time, while others believe that the NZ ETS will be 'gamed' by the sectors and businesses, and little actual reductions GHG emissions will occur. We need to look beyond the greenwash to see what actually happens.

Possibly the most common greenwash associated with ETSs involves forestry. While we have an urgent requirement to greatly lower GHG emissions a newly planted tree does little to assist in decarbonisation — rather it is a good longer term capture mechanism. In addition there remains the concern that the trees could be cut down in future without a proper resulting payment for the pollution then released. This [article](#) discusses some of the pitfalls.

California was one of the first jurisdictions to implement a comprehensive ETS. The Californian scheme was held up as an exemplar but recently there has been some critical commentary: see [California1](#) and [California2](#). We need to be aware of the potential pitfalls, and be prepared to act if problems are encountered.

The European Union implementation of an ETS provides further useful experiences which could help New Zealand avoid pitfalls. See [European Emissions Trading](#)

Conclusions

We can't buy our way out of the climate predicament through offsets — we must actually lower the level of GHGs in the atmosphere.

ETSs have the potential to be an effective tool to guide our GHG pollution downwards. However they are complex systems. In consequence there are many potential opportunities for their operation to go awry or to be deliberately subverted. There are possibilities for distortions to be introduced through lobbying and the exploitation of loopholes.

With the heavy reliance on the NZ ETS for lowering our GHG emissions we must ensure it operates effectively. We must evaluate the actual reduction in pollution as the real measure of success. It will be important to call-out any instances of greenwashing, and eliminate such behaviour. It is encouraging to see that our [media](#) are keeping an eye on the operation of the NZ ETS.

Hydrogen

There has been quite a bit of excitement about hydrogen recently. Is hydrogen the magic bullet we have been hoping for, or is it a false lead. Last year the Government awarded \$20 million from the provincial growth fund to a joint venture project between New Plymouth company Hiringa Energy and Ballance Agri-Nutrients, to produce hydrogen. Earlier this year the Government announced a \$20 million investment for Hiringa to build a network of hydrogen fuel stations. This [article](#) examines these initiatives, and the economics and utility of hydrogen in general.

Energy

When considering the mess we have got into with climate change it is all too easy to become mired in despair. In consequence people often look for the positive stories to perhaps provide some more balance. Unfortunately sometimes in doing this we can end up accepting and/or promoting views which are unrealistic, or just plain wrong. The stories about replacing fossil fuels with renewables are a case in point. This [article](#) provides some reality to the energy equation. We are going to have to live with much lower energy resources as we transition to renewable energy sources.

Posing the questions and getting authoritative answers.

Frequently asked questions, along with answers, can be an effective way of conveying information and providing education. [Here](#) is a good example provided by Richard Heinberg of the Post Carbon Institute.

Breaking Boundaries

Breaking Boundaries is a film narrated by David Attenborough. It is available on Netflix. It is about planetary boundaries, and how close we are to the edge and tipping points. It has terrific graphics and outstanding photography. It introduces one of the most important scientific insights of our time, how the modern world was established, and notes that our civilisation has depended on stable conditions. The film asks ‘are we at risk of destabilising our planet — will we break through Earth’s boundaries?’. We have already breached some boundaries. Well worth viewing, and it has some excellent ideas about what we can do; we still have a chance.

Our Planet

Copied below is an article written by Patricia Scott, a co-founder of SCAN.

Earth, the story of a living planet

When we first saw the image of planet Earth in space it had a dramatic effect on how we thought about our cosmic home. The astronauts who first saw it spoke about the beauty of the blue-green planet but also of its fragility and vulnerability. A new name for the Earth was spaceship Earth. 50 years on the cosmologists scan the night skies with their sophisticated telescopes searching for planets around other suns in other galaxies, always asking the question, “Could they support life?” Humans are now space explorers. But how likely was it that life could or would arise on Earth when it first formed?

4.5 billion years ago the solar system developed from a spinning disc of cosmic dust left over from the super nova that gave birth to our sun. From burning gases to molten rock, the Earth slowly cooled forming a hard crust which allowed the oceans to form. Enveloped in a blanket of methane, ammonia, and carbon dioxide, it was hostile to life as we know it. And yet within 1 billion years anaerobic bacteria had appeared in the shallow oceans, first as dense mats and then forming many distinctive shapes. A characteristic of living organisms is their need of energy. These bacteria got their energy from the chemical reactions in the rocks on the ocean floor and the vents releasing hot gases. Myriad species of bacteria had the Earth to themselves for perhaps a billion years. Then a significant new form of bacteria appeared, cyanobacteria, or blue-green algae,. Their green colour came from the emergence of the wonder molecule we call chlorophyll, which is able to capture light energy from the sun and convert it to the chemical energy that holds the molecules of carbon dioxide and hydrogen together in a molecule of glucose. Cyanobacteria use the sun’s energy to split the hydrogen from a molecule of water. That process, called photosynthesis, continues today and every day in every plant and is the source of all our food.

The byproduct of photosynthesis is the gas, oxygen, the other half of the split water molecule. As the populations of cyanobacteria multiplied the amount of oxygen in the atmosphere increased. Single and then multicellular oxygen-breathing animals evolved which got their energy from eating the plants or decomposing them. 500 million years ago the biodiversity of the planet flourished; millions of species evolved, increasing in complexity, until the Earth was a multitude of ecosystems each with their own unique interacting communities of plants and animals; soaring forests and tropical jungles, giant kelp forests, and coral reefs, swarming with swimming, creeping, flying, running, burrowing creatures, all living together in self organising ecosystems. From deep oceans to high mountains, frozen glaciers to scorching deserts, living ecosystems emerged. The Earth had come alive.

No longer can we divide the ecosystems into living and non-living components, how can we separate the water and the fish, the mountain and the lichens, the sky and the soaring raptors, the soil and the micro-organisms? Within the ecosystems and between them, there is constant interaction with the atmosphere, the climate, the winds and ocean currents; the whole protected from cosmic radiation by a giant magnetic shield. The planet Earth's sphere of activities extend from its atmosphere to its subterranean depths. The elements like carbon and nitrogen, sometimes alone, sometimes part of complex molecules, constantly cycle between air, plants, animals, oceans, rivers, lakes, bacteria, fungi, soils and rocks even from tectonic plates to volcanoes. Earth's rhythms extend from Circadian to lunar, from seasonal to annual, from millennial to aeons. This living Earth has become a self-regulating stable entity, not unlike a living organism itself.

The Age of Low Tech

As we ponder how to transition to a sustainable future some people put their faith in (yet to be developed) technological solutions. Others have taken the view that the solution lies in living a more modest lifestyle. The book *The Age of Low Tech* by Philippe Bihouix is in the latter camp. Here is a [review](#) of the book.