

**A series of short articles from Mackay Conservation Group (MCG) gives us some 'on the spot' information and opinions on concerns in their environment!  
(December 2019)**

**Hydrogen in lieu of Coking Coal to make steel**

By Mackay Conservation Group (MCG) - <https://www.mackayconservationgroup.org.au/>

There is no doubt that Queensland's coal mines produce a product that can't be surpassed. It has low levels of impurities and most of it is able to be made into coke. We can't make steel without coking coal. That may be about to change and it could benefit Queensland tremendously.

Recently, the world's largest steel manufacturer began industrial scale experiments to find a way to make steel using hydrogen rather than coking coal.

The main purpose of coking coal in steel production is to combine with oxygen atoms released when iron oxide is heated to very high temperatures. In the process carbon dioxide is produced. The problem with carbon dioxide is it adds to the global warming problem.

German steel manufacturer, ThyssenKrupp, wants to change the basic chemistry of steel production by using hydrogen in their blast furnaces. They want to reduce their carbon emissions by 30 per cent by 2030 and by 100 per cent by 2050.

Over the next few years ThyssenKrupp will continue experimenting, adding more and more hydrogen to its blast furnaces and less and less coking coal. Their aim is to be a supplier of "green" steel to companies like Volkswagen and Toyota that have ambitions to produce zero carbon vehicles.

ThyssenKrupp isn't alone. In September, Rio Tinto partnered with China's biggest steel maker to begin investigations aimed at producing steel with hydrogen. It's likely that in the next decade or so demand for coking coal will be in serious decline.

Fortunately, Queensland has an alternative to our high-quality coking coal. In the Sunshine State we have more hours of cloud free sky than most parts of the world. The few nations that beat us on that score are either politically unstable or a long way from global markets.

Queensland can become a world leader in the production and export of hydrogen made with solar and wind power, not just to replace coal in steel production but as a fuel for many industries. It's an opportunity that may pass us by if we don't jump on the hydrogen train early.

Saudi Arabia has already recognised the shift in business and government policy on carbon dioxide. They are developing plans to become the world's leading clean fuel producer. For the sake of our economy we should aim to surpass them.

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**Iceland or Ice Land?**

By Mackay Conservation Group (MCG) - <https://www.mackayconservationgroup.org.au/>

Iceland is an interesting country. It has a population of 340,000 people, about the same as the population of Mackay and Townsville combined. Its land area is just more than the Mackay-Isaac-Whitsunday Region.

The Global Financial Crisis saw Iceland's banking system collapse and the Icelandic economy went into free fall. Economic output slowed rapidly and the unemployment rate doubled. Ten years later, Iceland has the world's highest average income. While Australia's GDP has stagnated, Iceland's has been on a rapid growth trajectory.

According to the CIA's World Factbook, Iceland's abundant renewable energy has led to a boom in investment by power hungry industries such as aluminium smelting and information technology. In addition to industry, Iceland has built a thriving tourism economy. All that has happened in a sparsely populated place, isolated from other countries by hostile oceans and on the edge of the arctic circle.

Our region has fantastic resources that we can turn to our advantage. We have more sunny days than most parts of the world. The wind blows consistently and we produce renewable power from sugar cane waste.

The Great Barrier Reef is a huge drawcard, attracting hundreds of thousands of visitors to our region each year. Yet we haven't really developed a regional tourism focus, integrating the Whitsunday Islands and reefs with the rainforests or an outback experience that showcases the landscapes and cultural life of the hinterland.

The mines of our region require rehabilitation and, according to mining company calculations, at least \$12 billion will be required to do that work. Our rivers and streams also require restoration work to prevent pollution and restore habitat, again amounting to billions. There are many opportunities in transitioning our economy.

Like many regional cities and towns, Mackay has a problem with illicit drug use. If we face another economic downturn like we did in 2014 then there will be people who seek an escape from their problems through drugs. That's an outcome we should be avoiding at all costs.

Mackay has a serious choice to make. We could try to emulate Iceland and develop a thriving modern economy based on renewable energy, tourism and rehabilitation of the landscape. Alternatively, we can watch the coal industry decline with no plan for the future.

One choice offers a sustainable prosperous economy, the other a future of increased unemployment and despair. Iceland or Ice Land, which would you prefer?

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### **Irwin's Turtle**

By Mackay Conservation Group (MCG) - <https://www.mackayconservationgroup.org.au/>



One of Mackay's unique species is Irwin's Turtle. Back in 1990 the famous naturalist Steve Irwin and his father Bob were fishing near the Bowen River when Bob spotted an unusual white-headed turtle. They caught one, photographed it and returned it to the wild. Later the pair sent the photos to experts for identification. It turned out the turtle they found had never been recorded by scientists.

Irwin's Turtle is very good at hiding from scientists. It took another three years before a second was found and a proper identification made. The scientists who described the turtle named it *Elseya irwini* in honour of the pair who first alerted the scientific community to its existence.

Irwin's Turtle has a very limited range, perhaps only 25 square kilometres in total. It inhabits the Bowen River and tributaries such as Urannah Creek where the water is clean and free flowing. These turtles require well oxygenated water and sandy banks to survive.

Irwin's Turtle has evolved in isolation for 150 million years. We have known it for less than 30 and we could wipe it out in a decade. Very little is known about Irwin's Turtle's life cycle or the extent of its habitat, yet we may send it to extinction by building a dam on Urannah Creek.

If the Urannah Dam project goes ahead, making the river muddier during construction and restricting the flow of water after the dam is completed, Irwin's Turtle could be sent to extinction. The sandy banks found along the streams will be flooded, so the places where these unique turtles lay their eggs will be lost.

Recently, it was announced that the federal government is spending another \$10 million to make the Urannah Dam project "shovel ready". It's very difficult to understand why. Over the past 50 years 18 studies have been undertaken into the viability of a dam at Urannah Creek. Each and every one of them have found that it doesn't make economic sense.

Over the past few years politicians who back the project say that it will help farmers irrigate their crops. This recent announcement confirmed what Mackay Conservation Group's belief that the water would be given to the mining industry. Find out more about Irwin's Turtle and the unique environment of Urannah Creek at <https://urannah.com.au/>.

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### **Our Legacy**

By Mackay Conservation Group (MCG) - <https://www.mackayconservationgroup.org.au/>

Australians like me who were born in the 1950s or 1960s have done very well in general. When we were young job prospects were good, university education was free and life looked pretty rosy.

Today many of us are retired, or soon will be, and we're thinking about enjoying the fruits of the opportunity's life has given us. Embarking on an adventure, caravanning around Australia seems like a great way to retire. Who wouldn't want to set up camp beside a pristine beach, sipping a tasty beverage while watching the sun set over the Indian Ocean?

When I speak with today's young people, many of them don't have those ambitions. The catastrophic effects of climate change are here already and will grow worse as we pump more carbon-dioxide into the atmosphere.

One intelligent young man I met recently said that he could not see any point in pursuing a career for the next forty years. He said the most positive thing he could do was to become a climate change activist. He hoped that with enough public pressure governments would eventually see reason and finally start act on climate science. He's not alone. I have met many young people who think the same way. That's why they are taking action such as organising global climate strikes, blockading traffic and disrupting coal shipments.

A psychologist told me that she has been witnessing a new form of mental distress among young people who realise their future is bleak in the face of a climate disaster. The usual psychotherapy techniques don't work. You can't tell a young person that they are overreacting to climate predictions when the world's leading scientific experts tell them that urgent action is essential to avoid a catastrophe.

Another young woman confided that she decided to not have children because she's so uncertain and worried about the future they will face. It is a sad fact that she is more than likely right unless we act now.

Us baby-boomers will leave a legacy to our children and grandchildren. We may be thought of as the generation who knew better but chose not to act. A much better legacy would be to join young people and build community demands for action. We have the resources and the time to do that if we choose to do the right thing. Let's do it.

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## **Taxation**

By Mackay Conservation Group (MCG) - <https://www.mackayconservationgroup.org.au/>

A few months ago, I lay in the dust in the Gibson Desert. Every tiny movement caused excruciating pain. I had tripped over a rock and broken my femur.

Fortunately for me, Australia has a world-class medical system. Despite being 1,000km south-east of Alice Springs, an ambulance was able to reach me and within hours I was transported by air to a public hospital for emergency surgery.

The ambulance, the aircraft and the hospital were all funded by taxpayers, something that I will remain eternally grateful for. Each step I take in future will happen because taxpayers' funds were put into emergency health care.

Not many of us like paying tax but we do want our roads to be well maintained. We also want our schools to have enough money to ensure that kids can achieve their full potential. We want a fire truck to arrive in time when our house is burning down. Our taxes pay for those essential services.

I wasn't thinking about taxation as I lay in the burning sun in the Gibson Desert but since then I have thought often about how much I benefited from the taxes we all pay.

The mining company Adani has a different view of taxation. Adani wants to shirk its responsibility to contribute to the welfare of Queenslanders. Adani thinks taxes should be optional.

Right now, the Queensland Government is in behind-closed-doors negotiations with Adani so it can avoid paying royalties on the coal it digs up. That could be for five or ten years. Hundreds of millions of dollars that could benefit Queenslanders won't be available.

There will be less money in the Queensland treasury for schools, hospitals, emergency services and looking after elderly people.

Adani's tax avoidance deal is unique. No other coal mining company has been granted a royalty's holiday.

The deal is also being negotiated on unfair terms. Before the federal election Adani ran an expensive television, radio and print advertising campaign criticizing the Queensland Government for properly assessing their project.

Adani is holding a gun to the head the government. The threat is that if the government doesn't make the deal Adani wants, then they will face an onslaught of advertising during next year's state election.

Adani should pay its fair share of tax and pay it on time. There must be no special deals for Adani that disadvantage other Queenslanders.

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## **Yellow Crazy Ants**

By Mackay Conservation Group (MCG) - <https://www.mackayconservationgroup.org.au/>

The Whitsunday Region with its beautiful rainforests and spectacular islands attract hundreds of thousands of visitors each year. Most of them are welcome but there is one particular type of visitor that we wish had never arrived.



Back in July it became public knowledge that an infestation of Yellow Crazy Ants had been found around Shute Harbour. Investigations have revealed that they have established themselves in the Conway National Park and on land outside the park.

Yellow Crazy Ants have caused severe disruption to natural systems. On isolated Christmas Island several species of crab have evolved unique behaviours. The Christmas Island Red Crab spends most of its life on land, only returning to the marine environment to breed in a spectacular annual mass migration. The red crabs recycle nutrients such as leaf litter, a role that is essential to maintain the health of the island's forests.

After Yellow Crazy Ants were accidentally introduced to the island the population of red crabs plummeted. The ants spray formic acid as a defence mechanism which blinds the crabs and leads to their death.

It's not just Christmas Island where Yellow Crazy Ants have become a problem. In the Cairns hinterland more than 1,400 hectares have become infested with the ants. A multi-million-dollar eradication program has been undertaken for a decade but the problem continues to grow.

Water is no barrier to Yellow Crazy Ants. A colony on the move can form into a "raft" and float downstream. They enjoy wet weather as it gives them an opportunity to establish themselves far from their original site of infestation. People in the Cairns region fear the ants finding their way into rivers and streams that flow into the vicinity of the city. Once they are established in suburbia it becomes impossible for people to use their backyards in the face of the pain inflicted by swarms of ants. Outdoor pets can also be killed by the ants.

Tourists are unlikely to visit Whitsunday national parks or islands where they will suffer pain and debilitating attacks. In Cairns cane farmers are particularly concerned about the ants because they have a mutual relationship with scaly insects that damage crops. The insects produce a sugary sap that the crazy ants feed upon. The residue can encourage the growth of mould and other diseases in sugar cane.

It's essential that government acts now to eliminate this threat.

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