



To: Ministry for the Environment

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## **Submission in response to: Crown Minerals Amendment Bill**

**Engineers for Social Responsibility Inc. (ESR)** is an independent group of engineers who consider that being knowledgeable in the field of technology means that they also have a special obligation to the public at large in matters that relate to engineering, or that can be addressed using engineering approaches. Given the urgency of the issue, for some time now the organization has been particularly focused on how to respond to the climate crisis by reducing emissions and concentrations of greenhouse gases in the atmosphere.

The key authors of this report are members of ESR with strong experience and qualifications in engineering, and a broad knowledge in relation to global heating, what is causing it and how it can be addressed.

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This submission relates to the Crown Minerals Amendment Bill, on which public submissions opened on 26 September 2024.

### **Further oil and gas exploration will take us in the wrong direction**

Following strong support from the public and the scientific community, in 2018 amendments were made to the Crown Minerals Act 1991 that limited new petroleum exploration permits to onshore Taranaki, prohibited surface access to conservation land for permits in onshore Taranaki except for minimal impact activities, and explicitly restricted applications for petroleum exploration permits to public tenders.

What is being proposed in the current Bill is that these amendments be reversed.

ESR is strongly opposed to reversing these amendments, for several reasons.

#### **1. Rapid action needed to move away from fossil fuel use**

Scientists have made it very clear that our whole future is in jeopardy because of climate change. As a result, the 2016 Paris Agreement called for limiting the world's temperature rise to 1.5 degrees C above pre-industrial levels, if possible, and to no more than 2 degrees C. Based on this, the IPCC then called for emissions reductions for greenhouse gases (ghgs) of 43% below 2019 levels by 2030 and 60% by 2035.

Based on the available information, New Zealand is nowhere near being in line to meet these IPCC targets, and Climate Action Tracker has rated our response so far as “highly insufficient”. To achieve much faster progress on this, we need to be very rapidly moving away from fossil fuel use.

The Ministry for Business Innovation and Employment (MBIE)’s May 2024 Climate Impacts of Policy Assessment reportedly concluded that undoing the oil and gas exploration ban would result in an extra 51 million tonnes of emissions by the year 2050. This is exactly the way we don’t want to be going.

If further oil and gas exploration becomes permitted again, and is successful, then there will be strong pressure for these fossil fuels to be commercially available, which will be taking us in completely the wrong direction.

## 2. Development of renewable options is also a less expensive way forward

Besides removing the serious damage that ghg emissions are inflicting on us and our planet, even at current carbon charge levels there are other options that can provide energy at lower cost than fossil fuels. For example, the cost of recovering wind and solar energy is falling and giving a more economic alternative.

In contrast, developing new offshore oil and gas recovery is expensive, and reportedly typically takes around 16 years to achieve. By that time we will need to be largely out of fossil fuel use, so starting then to exploit these potential fields would be very seriously inappropriate.

We need to be rapidly increasing our carbon charge levels, which will make renewable energy options even more cost effective. For example, the carbon charges under our emissions trading scheme (ETS) have recently been around \$50 / tonne CO<sub>2</sub>-e, while under the European ETS they have recently been the equivalent of around NZ\$129, and the Swedish carbon tax has recently been around the equivalent of NZ\$216. It is not surprising that these countries have made much stronger progress in reducing emissions than New Zealand has.

We need to be increasing our use of these lower cost renewable-powered energy options to reduce our fossil fuel use. Higher carbon charges will help motivate this change.

## 3. Coal use can be rapidly reduced without replacing it with natural gas

The MBIE’s May 2024 document reportedly concluded that with increased flows of natural gas the country could burn less coal.

For many processes there are other options for moving away from coal than switching to natural gas. For example, for the supply of low- and medium-temperature process heat coal can typically be replaced by using electricity. The dairy industry, which uses primarily these low- and medium-heat level processes, is currently one of our largest coal users, but could move to this electricity option if our carbon charge was adequate to make it economically viable.

Other options for moving away from coal use include the use of solar heat in low-temperature cases, or heat generated from burning wood waste. The latter does release CO<sub>2</sub> into the atmosphere, but this is re-captured when the next source of combustible timber is grown.

We need to rapidly increase our carbon charges in order to drive a reduction in our coal use, with perhaps Government assistance being made to some industries so they can implement the necessary changes.

#### 4. Reliable electricity generation can be achieved without fossil fuel use

The MBIE's May 2024 document reportedly also concluded that having larger gas supplies available would allow the electricity industry to burn less coal, and make the electricity supply more stable. But to rapidly reduce our ghg emissions we need to be moving to a renewably powered electricity system that can also give us a highly reliable electricity supply.

The reason we are so slow in getting out of the use of fossil fuels, and particularly coal, to generate electricity is because of the way the electricity market currently operates. Each half hour, electricity suppliers make bids to sell into the electricity grid, and the successful ones all receive the same price per kWh as the highest bidder, which is very often the fossil fuel-powered Huntly Power station.

Because of this, other electricity suppliers benefit strongly from having Huntly in the mix because it pushes up their profits. This is very likely the reason why a lot of consented windfarms remain unbuilt. And there have also reportedly been cases in the past where hydro operators spilled water out of dams so as to keep Huntly in the market.

One option to achieve reliable electricity generation without the need for fossil fuels, is to move to much stronger development of wind and solar options, so hydro power, including possibly also pumped hydro systems, can be used as a backup when wind and solar power supplies are low.

Another option is to return to the possibility of using tidal power for generation. This is a very reliable energy source. In the early 2000s, a tidal station was planned for the Kaipara Harbour, north of Auckland, with potential to supply 200,000 homes, but the project was abandoned – very likely because the way our electricity market works did not make it possible to predict that the project would be profitable.

Also in the early 2000s, a trial tidal turbine was planned for Cook Strait. If successful, the plan was to then install sufficient turbines to provide a significant part of the power then coming from Huntly. But this project was also abandoned, very likely for similar reasons to those relating to the Kaipara project.

In order to start achieving a much more rapid move away from fossil fuel use for electricity generation, including both coal and natural gas, we need changes in how the electricity market operates. It will then be possible to move reasonably rapidly to a reliable renewably-powered electricity system, with no more fossil fuel use.

#### 5. More rapid move needed to electrically powered vehicles

In Norway, reportedly over 90% of new vehicles recently sold have been electric. There have been various incentives put in place to achieve this, but the strongest one is probably that there is a heavy tax on the purchase of petrol- and diesel-powered cars.

In New Zealand, in 2023, the market share of new fully electric and plug-in hybrid cars was reportedly somewhat over 27% of the market. This is way below what Norway has achieved. One reason is that we do not have sufficient financial incentives in place to encourage the move to electric vehicles. For example, the Clean Car Discount (CCD), an initiative of the previous Government to make low emissions vehicles more affordable, was terminated on 31 December 2023.

Moving more quickly to the use of electrically powered vehicles will result in a reasonably rapid reduction in our need for petrol and diesel fuels, and the emissions they generate. Besides removing the need for further offshore oil and gas exploration, it will also reduce the large amounts of revenue we currently spend on importing these vehicle fuels.

#### **6. Without strong action, New Zealand's reputation will be seriously at stake**

We are already making much weaker progress on reducing our emissions than many other developed countries are. If we continue down this path, we could have problems exporting to some countries, with the possibility of the need to pay carbon charge adjustment fees on our exports, or possibly losing altogether our ability to export to specific countries.

In this respect, re-opening our offshore oil and gas exploration is a critical step in the wrong direction.

#### **Period for preparation of submissions is far too short**

The Government is representing the people of New Zealand, and hence needs to listen to and take on board their opinions on various matters. Allowing only four days for the public to prepare submissions on a proposed bill is far too short a time. It should be at least 30 days.

Prior to the oil and gas exploration ban being put in place in 2018, there were reportedly 7,000 public submissions, of which 85% were in support of the ban. Making the current submission period only four days long, can be expected to strongly reduce the number of submissions opposing the lifting of the ban, but that is a totally undemocratic way of proceeding.

#### **In summary:**

We very strongly recommend that the ban on offshore oil and gas exploration not be removed. Instead, we need to be taking very rapid action to reduce our emissions by moving away from the use of fossil fuels.

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On behalf of the National Committee of Engineers for Social Responsibility Inc

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