

BUILDING A RICHER AND MORE SUSTAINABLE NEW ZEALAND

A POLICY PLAN FOR THE UPSTREAM PETROLEUM SECTOR



CONTENTS

Executive Summary	3
Infographic Summary	4
Why Is Natural Gas And Oil So Important To New Zealand?	6
A Day In The Life: Thanks To Natural Gas And Oil	7
Economic Policy	8
Environmental Policy	10
Regulatory Policy	13
References	15
PEPANZ - Who We Are	16
Our Members	16
Our Staff	18



EXECUTIVE SUMMARY

A policy plan to help New Zealand's oil and gas industry deliver major economic, environmental and social benefits:

- Recognise the role of natural gas as a key tool in transitioning to a lower emissions world by enabling renewable electricity and displacing coal.
- Allow new exploration permits beyond just onshore Taranaki. New developments could generate tens of billions in revenue for New Zealand and help the world lower emissions.
- Create a dedicated sovereign wealth fund to invest the proceeds from new petroleum developments.
- A comprehensive, globally connected Emissions Trading Scheme (ETS) should be the Government's main policy tool for reducing emissions.

- Avoid policies that shift economic activity overseas to jurisdictions with less strict environmental policies. This leads to worse economic and environmental outcomes for New Zealand.
- Update legislation to specifically allow Carbon Capture and Storage (CCS) technology to be used in New Zealand.
- Update standards and legislation around decommissioning and offshore financial assurance to ensure workability.
- Create a clear and logical policy framework for creating new marine protected areas.



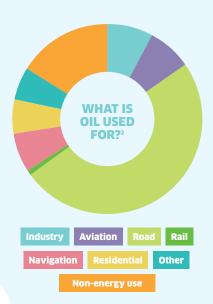
Infographic summary



Electricity generation

Non-energy use Industrial use

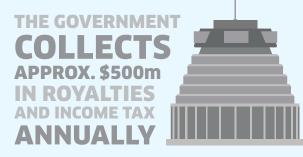
Residential Commercial





A GROWING WORLD **POPULATION MEANS WE WILL NEED MORE ENERGY FROM ALL SOURCES**





NATURAL GAS HAS





OUR INDUSTRY CONTRIBUTES TO NEW ZEALAND'S ECONOMY ANNUALLY

COMES FROM OIL & GAS





OUR INDUSTRY











KEEPS ELECTRICITY
BILLS DOWN BY
SUPPORTING RENEWABLES









EXCELLENT TRACK RECORD OVER 50 YEARS





STRONGLY REGULATED HEALTH, SAFETY & ENVIRONMENT BY GOVERNMENT AGENCIES



WHY IS NATURAL GAS AND OIL SO IMPORTANT TO NEW ZEALAND?

Life as we know it today wouldn't be possible without the energy provided by natural gas and oil.

Together they provide over half of New Zealand's total energy and keep our society and economy running.

Around 400,000 New Zealand homes, schools, hospitals and businesses rely on natural gas and LPG.³ It provides energy for cooking, heating and hot showers and powers many of our factories and industries.

Natural gas and oil contribute around \$2.5 billion to the economy per year and employ up to 11,000 people at peak times. Most fields pay 42% of profits to the Government, generating around \$500 million per year in royalties and taxes.⁴

Natural gas keeps electricity prices down by providing a back-up to variable renewable sources, such as on cold winter nights and/or when the hydro lakes are low.

It's also helping us transition to a lower emissions world by replacing higher emitting sources like coal, which has twice the emissions.

Importantly, both natural gas and oil have a wide range of uses that don't involve burning and releasing emissions. This includes medical and cosmetic products, building materials, fertiliser, plastics and clothing.

Thanks to our industry, Taranaki is one of the wealthiest regions in New Zealand and there is potential in other regions for new developments. High paying jobs, increased exports and major community sponsorship are just some of the potential benefits.

In this publication we explain the settings that can help our industry deliver major economic, environmental and social benefits to New Zealand.

The future of natural gas and oil

- The global population is expected to reach <u>9 billion</u> by 2050⁵ and will be increasingly wealthy and urbanised. This means energy from all sources will need to increase for people to live better lives.
- Global demand for natural gas is expected to grow 45% by 2040.⁶
 Countries like Australia and the US are becoming major exporters to meet demand from Asia.
- Oil and gas are still expected to supply <u>half</u> of the world's energy needs by 2040.



A day in the life: thanks to natural gas and oil































ECONOMIC POLICY

Allow new exploration permits beyond onshore Taranaki

Discoveries from new exploration could bring enormous benefits to New Zealand and the world. A single new discovery could be worth many tens of billions in Government revenue, create thousands of new jobs and help the world lower emissions by displacing coal with natural gas.⁷

In April 2018 the Government announced an end to new exploration permits beyond onshore Taranaki. However, since then a number of new factors have arisen that warrant reconsideration of that decision:

- Official data shows there are just 11 years of natural gas reserves left (at current levels of demand).⁸
- The NZIER has modelled the economic cost of the decision at \$28 billion with minimal impact on emissions.⁹
- Official advice from the Ministry of Business, Innovation and Employment (MBIE) has stated it is more than likely to increase emissions.¹⁰
- The Interim Climate Change Committee
 has recommended against a target of 100%
 renewable electricity because of the cost
 of replacing natural gas, which in turn is
 counter-productive for lowering emissions
 by raising the price of electricity.
- A proposal from a private company to use carbon capture and storage technology in a major project in Taranaki shows natural gas can be used with zero emissions.

Because of these factors, the decision should be reversed so that new exploration beyond onshore Taranaki can proceed.

Invest the proceeds for New Zealand

A dedicated fund to invest the proceeds from oil and gas developments would benefit future generations and deliver long-term benefits.

At present royalties are simply paid into the Consolidated Fund (effectively the main bank account of the Government) along with other government revenue such as income taxes.

As petroleum resources are publicly owned by New Zealanders, we think this income would be more appropriately dedicated to long-term investments.

Future Governments could decide how to use the revenue from such a fund which could include investments into infrastructure, education, science and technology.

A relevant example is Norway which has a dedicated fund from the revenues of oil and gas now worth over \$1 trillion and holding 1.3% of all global shares.¹¹





International investment is required to maintain and increase the economic and environmental benefits from our sector. However, confidence in New Zealand as a place to invest has significantly reduced since the April 2018 decision. Even changing this decision would still require further work to rebuild confidence.

Attracting investment has always been a challenge given New Zealand is:

- Competing with other countries for investment.
- · Geographically isolated.
- Relatively underexplored beyond Taranaki.

Some ideas to improve this could include reviewing the royalty rate for new developments and considering some flexibility, along with international advertising and promotion. Cross party support from major political parties would also be a significant help.



9

ENVIRONMENTAL POLICY

Recognise the crucial role of natural gas in lowering emissions

Natural gas has a major role to play in lowering emissions by replacing higher emitting energy sources like coal (which has twice the emissions), encouraging electrification by keeping electricity prices down, and producing hydrogen at lowest cost. Emissions can also be captured and prevented from entering the atmosphere.

This is a major reason why global demand for natural gas is on the rise with a 45% increase expected by 2040.¹²

Substitution of coal with natural gas has helped the UK to reach their lowest level of emissions since 1890 – 36% below 1990 levels.¹³

In New Zealand coal is still widely used for many industrial purposes which could be switched to natural gas. Exporting natural gas to Asia for the same role could see a major drop in global emissions.

Natural gas also plays a key role in keeping electricity prices down by backing up intermittent sources, and in doing so encourages industrial users to electrify and further lower emissions.

In conjunction with the ETS and carbon capture storage, this means natural gas can have a long and effective role to play in New Zealand's energy future. 14

Keep the Emissions Trading Scheme (ETS) as New Zealand's main policy tool in reducing emissions

PEPANZ supports the ETS as New Zealand's key policy for reducing emissions because it encourages this to happen in the most efficient way possible and at least possible cost to New Zealanders.

It creates a direct financial incentive for people to invest in technologies and practices that reduce emissions, and also encourages forestry planting which helps absorb emissions.

Various studies (including the joint 2018 Nobel Prize winner for economics) have shown that emissions pricing is the most cost-effective way of reducing emissions.¹⁵

A comprehensive ETS

To achieve effective emissions reductions, PEPANZ supports the ETS applying to all gases and sectors including agriculture.

At present the agricultural sector is responsible for just over half of New Zealand's greenhouse gas emissions but will not become subject to the ETS until 2025 and even then at a 95% discounted rate.

It would be preferable to incentivise all sectors of the economy to lower emissions rather than certain sectors having to carry the burden.

An internationally connected ETS

In order to avoid businesses simply relocating from New Zealand to avoid the ETS (known as 'carbon leakage'), it's crucial the ETS evolves in line with similar schemes in other countries.

This especially true for our trading partners and competitors. If industries like methanol production were to leave New Zealand because the ETS was too onerous and relocate to another country to use coal, global emissions would increase and we would lose the economic benefits as well.

International trading of credits

International trading of quality carbon credits would mean that New Zealand businesses could purchase foreign 'credits' to make up for domestic emissions they might create.

For example, if Australia could reduce emissions for a lower cost than New Zealand, it would make sense for New Zealand to purchase emissions reductions made by them rather than trying to reduce our own domestic emissions by the equivalent amount at a higher cost.

Economic modelling commissioned for the Ministry for the Environment on the Zero Carbon Bill shows access to these credits would dramatically reduce the cost of lowering emissions for New Zealand. The report by NZIER finds the difference could be as much as \$15 billion by 2050.¹⁶

Avoid expensive and inefficient climate change policies

All policies aimed at reducing emissions should consider how effective they are at achieving that goal and at what cost.

In general, supply side policies like ending new exploration permits beyond onshore Taranaki tend to be highly expensive with very limited (if any) impact on global net emissions.¹⁷

'Picking winners' such as subsidising particular forms of energy or transport is also proven to be an expensive way of reducing emissions, given that the Government rarely has a better idea than the market of the most efficient way of doing this.

The same applies to proposals to extend the scope of the Resource Management Act to consider the effects on climate change a project would have. This would cause inefficient Government interventions to a problem dealt with much more effectively under the ETS.

A flexible Zero Carbon Bill

PEPANZ supports the intent of the Climate Change Response (Zero Carbon) Bill to lower emissions.

The issue of 'carbon leakage' as outlined above should be specifically considered by the Climate Change Commission, and there should be flexibility to take into account new developments such as new technologies or actions by our trading partners.

Energy security and economic impacts should also be carefully considered in any recommendations made by the Commission.

A regulatory regime for Carbon Capture and Storage (CCS)

Carbon capture and storage (CCS) is the process of capturing carbon dioxide (CO₂) emissions from large sources such as power plants and storing them where they cannot escape into the atmosphere, usually deep underground in geological formations (often in former oil and gas reservoirs).

Large scale CCS is a reality today and can remove as much as 90% of carbon dioxide from major projects. There are currently 21 active, large scale projects around the world with capacity to capture 37 million tonnes of CO₂ per year.¹⁸

At least one project has been proposed for New Zealand by the company 8 Rivers which would use CCS in producing electricity, fertiliser and hydrogen from natural gas with zero emissions. This project could be worth billions and potentially be the biggest ever investment into New Zealand.

Currently there is no specific legal framework enabling CCS to be used in New Zealand. According to the Productivity Commission's report Low Emissions Economy the current law "is not set up to deal with the complexities of CCS, and acts as a barrier to the uptake of these technologies". 19

We recommend the Government introduce a comprehensive regulatory framework so that it can be deployed in future.²⁰

Allow funding for Carbon Capture and Storage (CCS)

In 2018 the Government launched a 'Green Investment Fund' to reduce New Zealand's greenhouse gas emissions. However, any funding for CCS projects is explicitly excluded "given existing legislation is not adequate to manage the risks of CCS and it is not currently viable to undertake these projects in New Zealand."²¹

An enabling regulatory regime as advocated above would solve this problem. Therefore, it would make sense for the Green Investment Fund to remove this prohibition once a new regime is in place.

How we can use natural gas with lower emissions

- Replacing coal with half the emissions.
- Using carbon capture and storage technology.
- Offsetting emissions through planting trees.
- Encourage electrification by keeping the price of electricity down.
- Non-energy uses such as plastics, building materials and medical products.

REGULATORY POLICY

Crown Minerals Act reform

The Government has signalled it will review the Crown Minerals Act saying it must be "future proofed" to ensure a "just transition".²²

The first step is a draft Minerals and Petroleum Resources Strategy which is an attempt to outline a 10-year strategy aimed at "transitioning our minerals and petroleum sector to a more socially and environmentally responsible sector that better supports our future."

At time of writing it remains to be seen what changes will be proposed to the Act. However, we recommend the 'promotion' purpose is retained in the Act as a responsibility of the Crown, given the enormous economic, social and environmental benefits new developments could bring.

Improve the integration of regulatory systems

The petroleum industry is subject to extensive and in some cases overlapping regulatory frameworks, especially in relation to how Crown regulations interact with local planning rules.²³

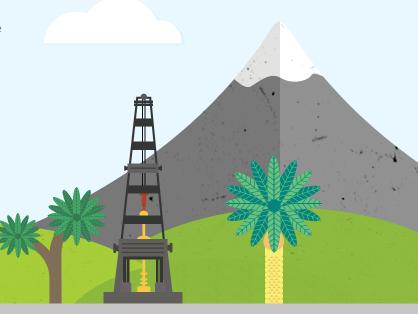
There are also a number of areas where there is uncertainty as to how an issue is managed under the Resource Management Act 1991 when they are already controlled under regulations made under another framework. Examples include the management of hazardous substances and well integrity.

Increase the ability
of iwi and hapū to
constructively engage
with government and
operators on petroleum
exploration and
development activities

Like many other sectors, our industry has increased its engagement with iwi, hapū and communities over recent years. While the intent to consult is positive, it does place an increasing workload and burden on some parties which is especially difficult for smaller groups.

The Government should explore options for better co-ordinating the engagement requirements across government to reduce the burden on iwi, hapū and communities. This could include:

- running its own engagement processes in a way that better facilitates face-to-face engagement with iwi and hapū;
- providing tangible support to iwi and hapū to help to create better engagement structures.



Update the EEZ Act to remove an anomaly

Under the Exclusive Economic Zone and Continental Shelf (Environmental Effects) Act 2012 (EEZ Act), exploratory drilling requires non-notified consent from the Environmental Protection Authority. However, one small part of that process – drainage under regulation 16 of the EEZ Discharge and Dumping Regulations – does require notified consent.

It is not logical to have separate conditions for activities which are essentially part of the same process. It is very inefficient for both industry and the regulator and there is no clear public policy reason for this one activity to require a notified consent, given the effects are at most minor and temporary. It also runs directly against the stated policy intent in the relevant policy discussion documents.

This anomaly is the reason for public hearings in Dunedin in July 2019 over proposed exploratory drilling which focussed only on the potential discharge of just 250ml of liquid into the ocean. The total cost of the three-day hearing was \$51,000 which was covered by the company, however the wider cost in time and resources is likely to be much higher.

A minor amendment to the relevant regulations would easily fix this anomaly.

A clear and logical policy framework for marine protection

PEPANZ supports a strategic policy framework for marine protected areas. This should be consistent and based on a robust scientific understanding of our marine environment and the species in need of protection.

A science-based approach like this would help provide certainty to local communities and businesses. We understand this approach is supported by a broad range of marine scientists, NGOs and iwi.

Updated and workable financial assurance requirements for offshore operators

For many years PEPANZ has supported a higher level of financial assurance for offshore operators. While any incident is extremely unlikely, it's important to be prepared.

The Government has consulted on a new upper limit of \$1.2 billion for operators, however we understand no current operator will be liable for this maximum amount based on risk assessments under the proposed regulatory framework.

Whatever limits are decided on, it is crucial that 'market standard insurance' is accepted by the regulator as a means of demonstrating that assurance.

New decommissioning rules

New regulations are currently under development for decommissioning of oil and gas infrastructure in the exclusive economic zone.

PEPANZ supports the proposed case-by-case basis underpinned by a comparative assessment, public consultation, and a presumption for removal of offshore installations.

We would however like to see a definition of 'decommissioning' included to provide certainty around when the requirements apply. We also want to see health and safety included as a key consideration.²⁴







REFERENCES

- **1.** Energy in New Zealand (2018), Ministry of Business, Innovation and Employment
- **2.** Key World Energy Statistics (2018), International Energy Agency
- **3.** Gas Association of New Zealand: http://www.gasnz.org.nz/uploads/may2018/ban.php
- **4.** New Zealand Petroleum and Minerals: https://www.nzpam.govt.nz/our-industry/value-benefits/ and Venture Taranaki *The Wealth Beneath Our Feet* (2015) https://www.martinjenkins.co.nz/assets/Home/Thewealth-beneath-our-feet-next-steps.pdf
- **5.** United Nations: World Population Prospects 2019: Highlights (2019) https://www.un.org/development/ desa/en/news/population/world-populationprospects-2019.html
- **6.** International Energy Agency World Energy Outlook (2018). https://www.iea.org/newsroom/news/2018/november/world-energy-outlook-2018-examines-future-patterns-of-global-energy-system-at-a-t.html
- 7. See for example this report into the Barque prospect near Oamaru which estimates \$32 billion in Crown revenue over the lifetime of the field: Barque Field Development Economic Impact Assessment (2017) MartinJenkins https://www.nzog.com/dmsdocument/333
- **8.** Ministry of Business, Innovation and Employment: Petroleum Reserves 2019 (https://www.mbie.govt.nz/building-and-energy/energy-and-natural-resources/energy-statistics-and-modelling/energy-statistics/petroleum-reserves-data/
- 9. New Zealand Institute of Economic Research (NZIER) Economic impact of ending new oil and gas exploration permits outside onshore Taranaki: A regional CGE analysis (2019)
- **10.** Ministry of Business, Innovation and Employment: "Regulatory Impact Assessment: Proposed changes to the Crown Minerals Act 1991" https://treasury.govt.nz/publications/risa/regulatory-impact-assessment-proposed-changes-crown-minerals-act-1991
- **11.** "Norway's sovereign-wealth fund passes the \$1trn mark", The Economist 23rd September 2017. https://www.economist.com/finance-and-economics/2017/09/23/norways-sovereign-wealth-fund-passes-the-1trn-mark
- **12.** International Energy Agency *World Energy Review* 2018

- **13.** "UK carbon emissions drop to lowest level since 19th century, study finds" *The Guardian* 7 March 2017
- **14.** See the PEPANZ publication "Powering to 2050: A Vision for Natural Gas" for more detail on this
- **15.** See for example: "Economics Nobel prize given for putting a price tag on climate change", New Scientist 8 October 2018
- **16.** Economic impact analysis of 2050 emissions targets: A dynamic computable general equilibrium analysis, NZIER (2019) page xvi
- 17. See for example the New Zealand Economic Institute for Economic Research (NZIER) "Economic impact of ending new oil and gas exploration permits outside onshore Taranaki: A regional CGE analysis" (2019) and official advice from the Ministry of Business, Innovation and Employment: "Regulatory Impact Assessment: Proposed changes to the Crown Minerals Act 1991" https://treasury.govt.nz/publications/risa/regulatory-impact-assessment-proposed-changes-crown-minerals-act-1991
- **18.** Energy Transition Outlook 2018, Oil and Gas UK
- **19.** *Low Emissions Economy* (2018) Productivity Commission page 449
- **20.** For further information see *Carbon Capture and Storage: Designing the Legal and Regulatory Framework for New Zealand⁽¹⁾* by Professor Barry Barton of Waikato University which states CCS "is probably not actually possible at all under the existing law".
- **21.** Cabinet paper DEV-18-SUB-0257: Establishing New Zealand Green Investment Finance Limited, available at https://treasury.govt.nz/publications/cabinet-paper/cabinet-paper-dev-18-sub-0257-establishing-new-zealand-green-investment-finance-limited
- **22.** http://www.scoop.co.nz/stories/HL1812/S00004/crown-minerals-act-review-coming-as-doc-mining-bandelayed.htm
- **23.** Examples include overlaps/uncertainties related to well integrity regulation, onshore/offshore project under the EEZ Act and RMA, and the overlap between HSW PECPR/Pipeline 1999 regulations and the HSW (PEE) 2016 regulations
- **24.** Our full submission on the "Proposed Policy for Regulating Decommissioning under the EEZ Act 2012" is available at https://www.pepanz.com/dmsdocument/88



PEPANZ - WHO WE ARE

PEPANZ is the industry association of the upstream oil and gas sector.

Established in 1972, PEPANZ works with local and central government to ensure New Zealand's regulatory and commercial framework promotes quality investment, and that the return from the country's oil and natural gas resources is maximised for industry, government and the community.

PEPANZ works to increase community and government understanding of the industry

by publishing information about the sector's activities and economic importance to the nation.

As representatives of New Zealand's oil and gas industry, PEPANZ also provides its members with strong representation and advocacy, leadership for industry wide issues, while engaging openly and honestly with New Zealanders.

OUR MEMBERS

We are proud to both represent and advocate on behalf of our nearly 50 members, who through their activities are helping grow the New Zealand economy and secure New Zealand's long-term energy security.

Our membership is made up of a wide range of companies in the oil and gas sector – from some of the world's largest multinationals, right through to local companies who provide a range of essential services. Together, our membership is responsible for an estimated 95 percent of New Zealand's petroleum production and this scale allows us to advocate successfully on their behalf.

Large Producers

Large Explorers











Medium Producers

















Field Operations Service Providers













Non-field Service Providers



















































Others











Dr. Peter Kamp





OUR STAFF Meet our team of professionals



Cameron Madgwick Chief Executive

Cameron is the Chief Executive of PEPANZ, a role he took up in September 2014. Cameron's interest in the oil and gas industry started at an early age. Growing up in Taranaki he saw first-hand how a strong and robust oil and gas industry can truly benefit a community – both their financial and social well-being.

With the knowledge he has gained as Chair of the Community Law Centres o Aotearoa, his background as a lawyer and the work he has done in various community engagement roles, Cameron is committed to ensuring New Zealanders have access to factual, honest and transparent information about the oil and gas industry, and strongly believes that growing the industry is vital to ensuring our energy security and strengthening our regional economies in a responsible and environmentally friendly manner.



Joshua O'Rourke Policy Manager

Josh leads PEPANZ's policy programme, working with members and other stakeholders to promote policies that are fair and reasonable for the oil and gas sector.

Josh has a strong public policy background and understanding of the key regulatory matters relevant to the oil and gas sector. Previously Josh worked on petroleum policy at the Ministry for the Environment, the Environmental Protection Authority, and at the Ministry of Business, Innovation and Employment.

He has also worked for Straterra, the industry association for the New Zealand minerals sector.



Phil Rennie Communications Manager

Phil leads PEPANZ's communications work, helping engage with and tell the story of the industry to stakeholders, the public and media. He is the first point of contact for any media enquiries.

Before joining PEPANZ, Phil worked as a Press Secretary to a Government Minister for eight years and has also worked in communications roles for professional membership bodies in New Zealand and overseas.





NEW ZEALAND'S ENERGY MIX

PEPANZ is proud to present www.energymix.co.nz, a website providing accessible and easy to understand information on New Zealand's oil and gas sector right to the home computers and smartphones of New Zealanders.

The website provides honest and transparent information about the industry, including the challenge of ever increasing demands for energy, the future role of oil and gas given the need to respond to a changing climate and the economic benefits our industry can deliver to the country.





www.energymix.co.nz



Carolyn Clark Office and Events Manager

Carolyn is involved in the execution of all PEPANZ events, and takes the lead role in managing the annual New Zealand Petroleum Conference. She also ensures the smooth running of our Wellington office.

Carolyn brings with her a wide range of relevant experience. She has ensured the successful execution of many events, having worked in hospitality over a number of years, as well as having been a successful business manager.

She also brings with her nine years' industry experience, having worked at BP Oil NZ – based in Wellington, the central North Island and Auckland.





