

SUMMARY

ADVANCING NEW ZEALAND'S PETROLEUM SECTOR

to contribute to national prosperity, regional
economic growth and global energy sustainability





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EXECUTIVE SUMMARY

This document outlines the policies that the Petroleum Exploration and Production Association of New Zealand (PEPANZ), and its Members, believe the Government should adopt to realise New Zealand's oil and gas potential and maximise its value to the country.

In a competitive world where investment capital is increasingly mobile, it is important that New Zealand has enabling and stable policy settings, a world class regulatory environment and good geological information available on its prospective petroleum basins.

The recommendations we are making to Government fall into four broad categories: Legislative, Regulatory and Fiscal; Energy Security, Affordability and Reliability; Climate Change; and Health, Safety and the Environment.

To maximise the value of the sector to both national and regional economies over the long-term, New Zealand requires appropriate legislative, regulatory and fiscal settings. Key recommendations include: ensuring fiscal policy settings take into account New Zealand's unique circumstances and encourage early exploration; increased investment to better understand the geology of New Zealand's basins and to allow better targeting of exploration activities; incorporating petroleum potential into the Government's regional economic growth work programme; and establishing a dedicated fund for petroleum royalties to ensure future generations benefit from the extraction of this non-renewable resource.

We recommend that the Government's energy policy continues to recognise the importance of domestically produced natural gas to New Zealand's energy security and also seeks to

increase New Zealand's self-sufficiency in transport fuels.

Recognising the need to respond to a changing climate, and to help meet New Zealand's emission reduction targets, we recommend the Government: ensures the Emissions Trading Scheme is comprehensive and includes agriculture; facilitates opportunities to utilise lower emitting fuels (such as natural gas) where possible in industry and transport; and aims to facilitate lower global emissions by supporting projects that have the potential to reduce global carbon emissions even though they might increase domestic emissions.

Finally, we make a number of recommendations relating to health, safety and environmental policy. Key recommendations include: putting in place a robust and balanced approach to offshore decommissioning of oil and gas assets; reducing regulatory duplication; and ensuring the future establishment of marine protected areas is science-based and provides appropriate certainty to affected sectors.

By implementing these recommendations, the Government will ensure the oil and gas sector helps drive economic growth, improve New Zealand's energy security, while at the same time also helping the country to appropriately respond to a changing climate and protect our unique environment.



INTRODUCTION

Oil and gas production plays a vital role in the New Zealand economy.



The upstream oil and gas sector contributes over \$2.5 billion to New Zealand's Gross Domestic Product (GDP), every year the Government collects approximately \$500 million from royalties and income tax from the sector and oil exports are worth approximately \$1.5 billion per annum.

The industry generates 11,000 jobs nationally, and many of these jobs are highly skilled and specialised. In fact, oil and gas workers earn twice the national average salary and create seven times the average income earned per annum, money that is spent in local communities.

Currently New Zealand's oil and gas production is concentrated in one region – Taranaki. The contribution the sector has made to Taranaki has been profound. Oil and gas production is one of the key reasons Taranaki has the highest regional GDP per capita in New Zealand, at over \$80,000 (compared to a national average of around \$51,000).

Oil and gas production accounts for 41 percent of Taranaki's regional GDP and provides two percent of Region's employment.

The Taranaki Basin, however, is only one of 17 sedimentary basins that surround New Zealand, and it is widely agreed that each of these basins has potential for oil and gas deposits like those found in Taranaki.

A significant discovery in just one of these other basins has the potential to transform the region where the discovery is made – delivering significant new investment, providing high quality jobs, and bringing new businesses to the area.

Discoveries in a number of basins would be nothing short of transformational to both our national and regional economies.

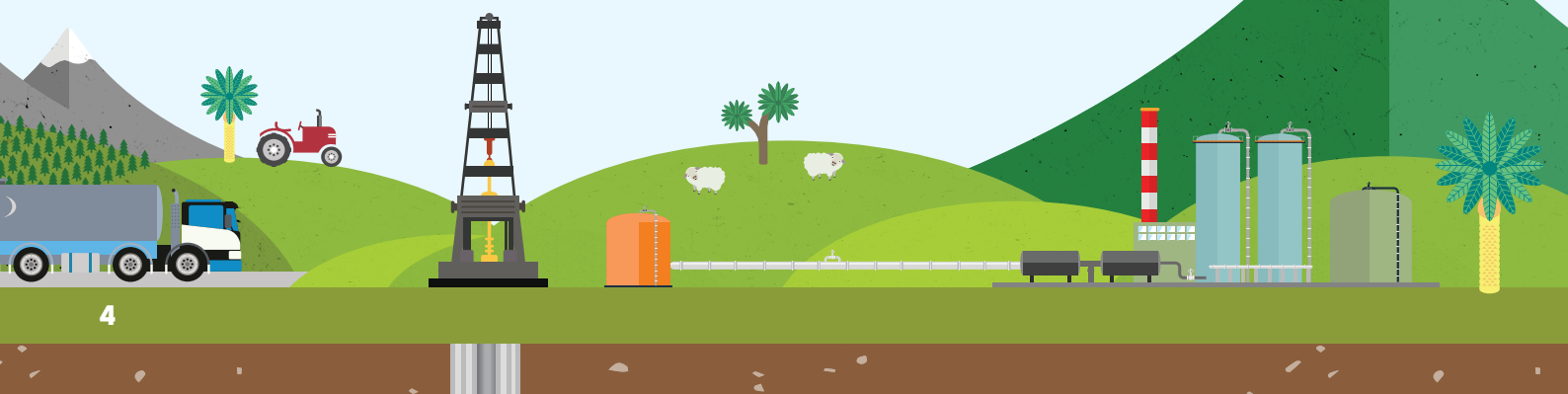
But to realise this potential it is important that New Zealand has the right policy settings. In a highly competitive world where capital is increasingly mobile, it is vital New Zealand has enabling and stable policy settings, a world class regulatory environment, and further information available on the geology of its basins.

While we believe the current regulatory environment in New Zealand is in good shape, this document summarises the steps we believe the Government can take to grow New Zealand's oil and gas sector in a responsible and safe manner, helping New Zealand realise the potential from its natural resources.

After all, oil and gas reserves are owned by the Crown on behalf of all New Zealanders. We therefore strongly believe all New Zealanders should benefit from their use as a part of the energy mix. To realise the full potential of New Zealand's oil and gas resources, it is vital that we have the right policy settings and appropriate investment into the estate. Only then will New Zealand's petroleum sector maximise its contribution to regional economic growth, national prosperity and global energy sustainability.

A stylized, handwritten signature in black ink.

Cameron Madgwick
Chief Executive





WHO WE ARE

The Petroleum Exploration and Production Association of New Zealand (PEPANZ) is the upstream oil and gas industry association.

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

We advocate for, and support, the majority of the major companies that explore for, and produce, New Zealand's oil and gas resources. We also work to engage with New Zealanders about New Zealand's oil and gas industry, respecting that there are wide ranging views about our industry.

Our Members currently account for an estimated 95 percent of New Zealand's petroleum production.

We also represent more than 50 associate member companies that provide a wide range of goods and services to the industry.

This document summarises the policies PEPANZ believes the Government should adopt following the 2017 General Election to maximise the contribution oil and gas exploration and production makes to both the national economy and the reinvigoration of New Zealand's regional economies. Further details can be found in the companion full technical document.



OIL AND GAS IN NEW ZEALAND

**Oil and gas production has a long history in New Zealand.
In fact, the very first well dug in the British Commonwealth was
drilled at Moturoa, on the New Plymouth foreshore, in 1865!**

Over subsequent years, numerous other wells appeared but these were small and sporadic. The development of new technologies, such as acoustic imaging and deep rotary drilling, resulted in the discovery of the large onshore Kapuni gas-condensate field in South Taranaki in 1959. This discovery allowed the development of the North Island gas transmission network, bringing gas directly to homes and businesses in urban centres.

In 1969, the massive Maui gas-condensate field was discovered. At the time, it was one of the largest in the world and provided New Zealand with cheap and abundant gas for over 25 years. There are now 20 producing oil and gas fields in New Zealand, all of them based in Taranaki.

While production varies in any given year, in the last 10 years New Zealand has generally produced anything from 10 million barrels to 20 million plus barrels of oil, between 150 to 200 billion cubic feet of gas, and 1 to 2 million barrels of LPG.

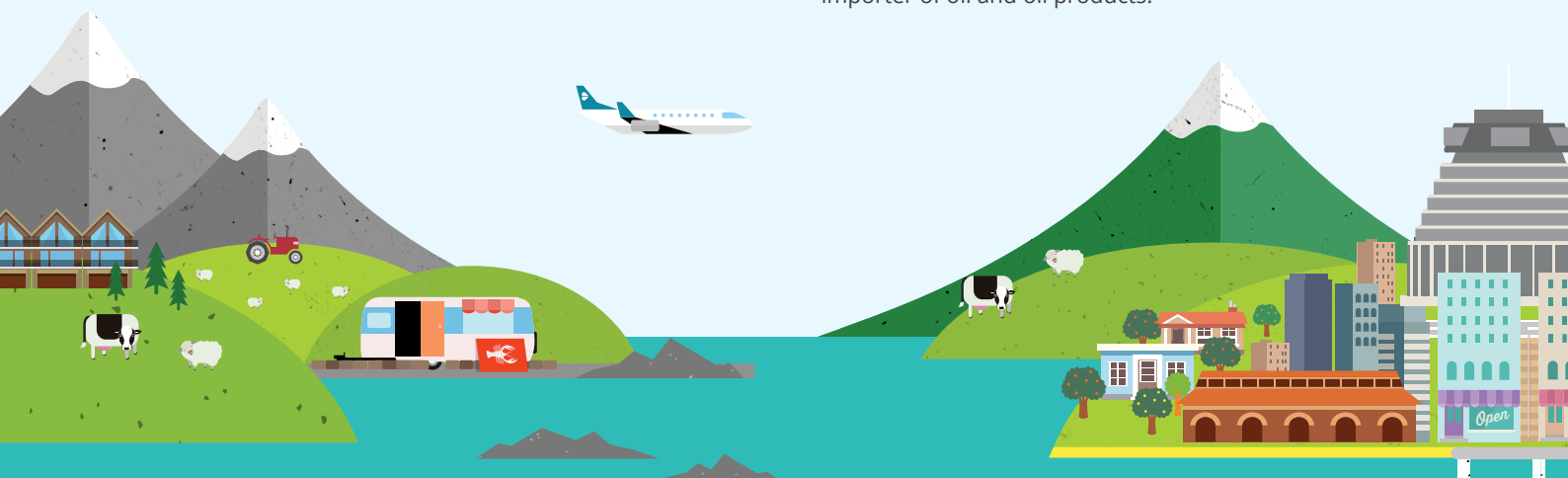
The development of New Zealand's petroleum resources over the last 50 years from just one petroleum basin in Taranaki has generated wealth and enabled the development of a range of industries.

Royalty and tax income from the sector has delivered billions of dollars to Government, which has been used to fund investment in social and economic infrastructure and public services. Billions of dollars more have been invested by the industry into the development of New Zealand's oil and gas fields, and more still on midstream and downstream infrastructure and related industries.

Gas is also an essential feedstock for many industrial activities, such as methanol production and urea fertiliser for agriculture, industries that simply wouldn't exist in New Zealand without a ready supply of reliable natural gas. Gas also supports a range of economic activities that require heat, such as furnaces, milk drying, timber processing and steel production.

While New Zealand is currently self-sufficient for its gas needs, further exploration and discoveries will be required to ensure this continues. If gas supplies diminish, it would be necessary to import natural gas (such as LNG) or make greater use of other energy sources such as coal.

We only produce 35 percent of our oil needs, and continue to incur large costs as a net-importer of oil and oil products.



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IF GAS SUPPLIES DIMINISH, IT WOULD BE NECESSARY TO IMPORT NATURAL GAS (SUCH AS LNG) OR MAKE GREATER USE OF OTHER ENERGY SOURCES SUCH AS COAL.

”

Being able to meet a greater percentage of our oil requirements would help moderate the impact of oil price volatility on the economy.

By international standards, New Zealand remains underexplored. New Zealand has 17 sedimentary basins but we are currently only producing from one – the Taranaki Basin. There is general scientific agreement that New Zealand’s basins all have the potential to have oil and gas resources like those found in Taranaki, and there is genuine international interest in New Zealand’s potential.

There remains considerable potential for further discoveries. Whilst the ultimate extent of New Zealand’s petroleum resources remains uncertain, successful exploration and development in these basins would significantly contribute to economic development both nationally and regionally. There would be significant increases in royalties and taxes paid to Government, considerable export income, and increased employment and economic activity in regions close to any new field.



WE ONLY PRODUCE

35%

OF OUR OIL NEEDS

**EVERY YEAR
NEW ZEALAND PRODUCES***



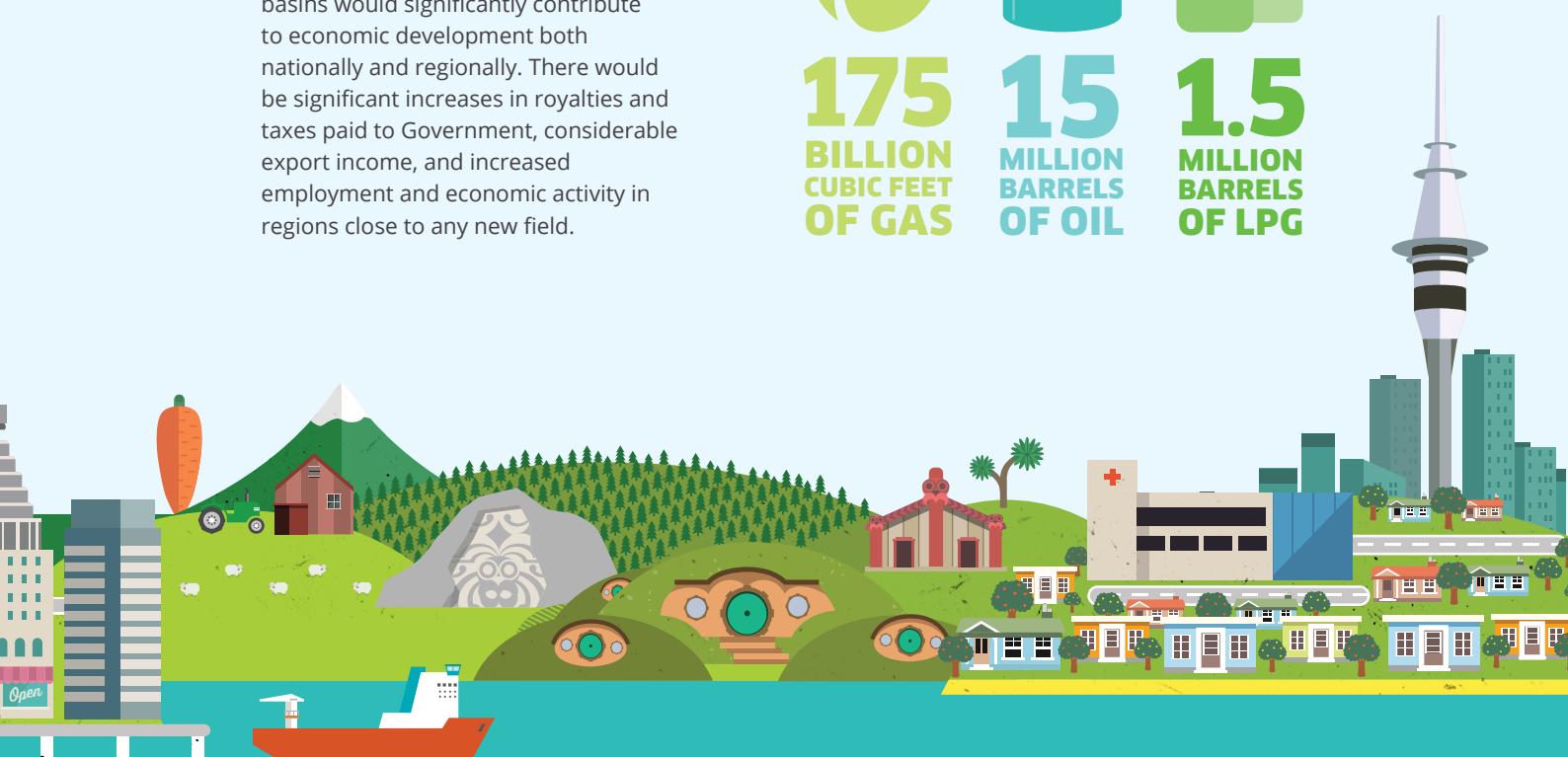
**175
BILLION
CUBIC FEET
OF GAS**



**15
MILLION
BARRELS
OF OIL**



**1.5
MILLION
BARRELS
OF LPG**



*On average over the last 10 years

OUR ENVIRONMENT

Energy Demand

Energy demand will continue to grow and oil and gas will continue to play an essential role in meeting that demand.

Global energy demand is enormous and it is going to continue to grow. Cheap and reliable energy is essential to power economic growth, not only in New Zealand but around the world.

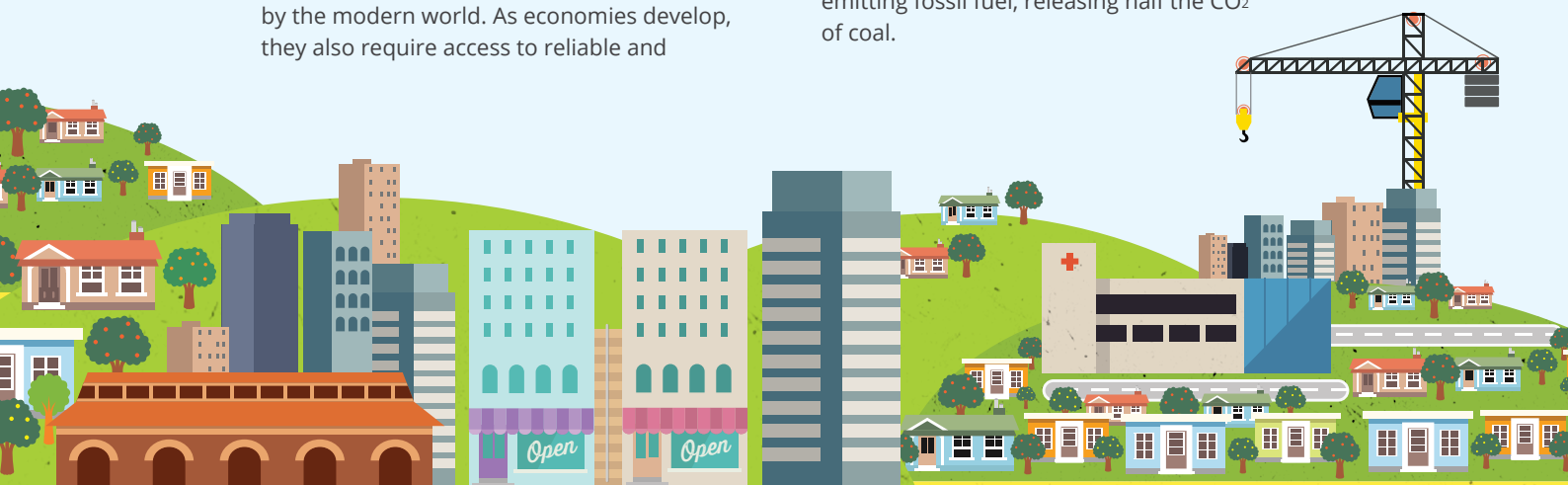
Currently, around half of global energy comes from oil and gas, and every year the world uses around 35 billion barrels of oil. As both the world's population and economy grow, demand for energy will increase – particularly in the rapidly developing countries in Asia.

As people become wealthier, they demand more energy to enjoy the lifestyles afforded by the modern world. As economies develop, they also require access to reliable and

cheap energy to power their industries and households.

Meeting this demand will require massive global investments in all forms of energy supply and, while the use of renewables will grow significantly in some areas, for the foreseeable future oil and gas will still be the cornerstone of world energy, with forecasts predicting it will still make up over half of the world's energy supply by 2040.

Global production and use of natural gas is widely predicted to grow over the coming decades because it provides a reliable, cost competitive and clean burning fuel for direct use and electricity generation. It is the lowest emitting fossil fuel, releasing half the CO₂ of coal.

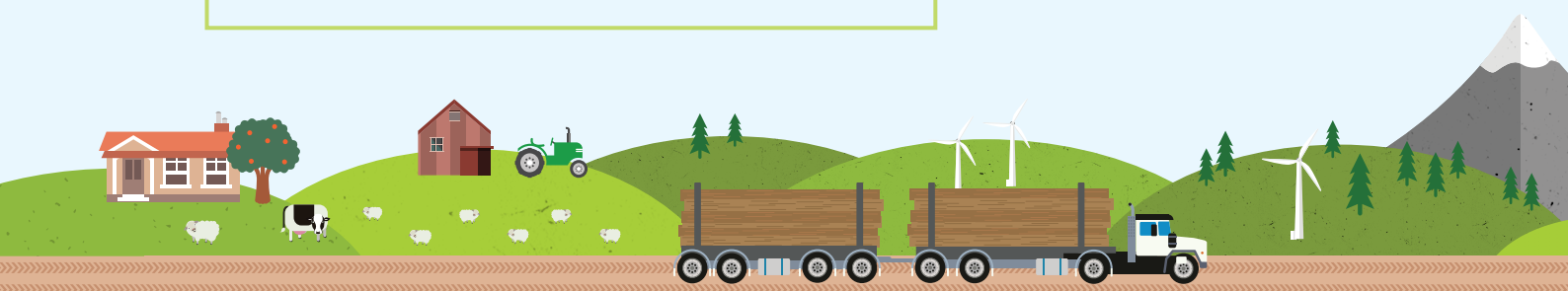


DEMAND FOR LIQUEFIED NATURAL GAS (LNG) IS EXPECTED TO GROW SIGNIFICANTLY, PARTICULARLY IN THE ASIA-PACIFIC REGION.

Should substantial natural gas discoveries be made in New Zealand, our relative proximity to the growing countries in Asia would facilitate potential export of LNG to these countries earning substantial export earnings for the country.

The 2015 United Nations Climate Change Conference, held in late 2015, negotiated the Paris Agreement, a global agreement to address the challenge of climate change, the text of which represented a consensus of the representatives of the 196 parties attending it. It was agreed to limit the global temperature rise to 2 degrees above pre-industrial levels, and pursue efforts to limit the temperature increase to 1.5 degrees. Under the agreement, each nation is required to set an emissions target.

NEW ZEALAND HAS PLEDGED TO REDUCE GREENHOUSE GAS EMISSIONS TO 30 PERCENT BELOW 2005 LEVELS BY 2030.



Responding to Climate Change

Reducing greenhouse gas emissions is a global issue that requires global engagement and action. As an industry, we absolutely recognise the profound challenges that exist with our changing climate, and the need to reduce our emissions.

The reduction of greenhouse gas emissions requires the world to use energy more efficiently, transition from higher carbon energy sources (such as coal) to lower-carbon sources (such as gas), increase renewable energy options in the energy mix, sequester carbon dioxide and find ways to reduce all greenhouse gas emissions across all aspects of the economy and society, including agriculture given emissions from the agriculture sector make-up half of all New Zealand's emissions.

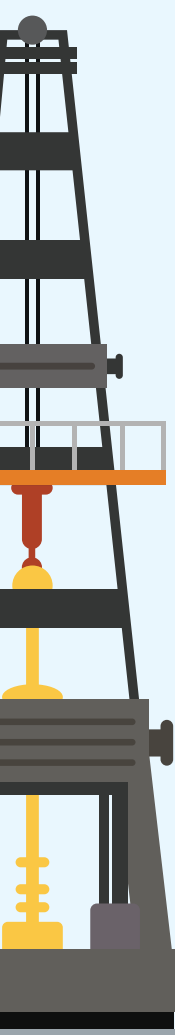
As well as increasing the use of renewable energy technologies, the world will need to move towards lower emitting hydrocarbons, such as gas, and to maximise efficiency. Carbon capture and storage technology is likely to play an important role to mitigate the impacts of using fossil fuels.

Around the world, significant amounts of electricity are still generated by coal-powered stations. The substitution of coal with natural gas in electricity is one of the fastest, lowest cost and most secure routes to reducing carbon emissions for many countries. Direct use of gas and use of efficient gas technologies can lower energy related emissions.

New Zealand has fewer low-cost options to reduce emissions compared with most other developed countries. While agriculture accounts for a small amount of most developed countries total emissions, in New Zealand agricultural emissions make up just over 49 percent.

Further, unlike many other countries, New Zealand's electricity generation industry is dominated by renewable energy – with nearly 80 percent of electricity generated from renewable resources – the fourth highest in the OECD. This leaves New Zealand with little room to achieve significant emissions reduction in the electricity generation industry.

Approximately 17 percent of New Zealand's gross greenhouse gas emissions are from the transport sector, predominately road transport, and these have increased significantly since 1990. Transport emissions are greater than electricity, manufacturing and fugitive emissions combined. New technologies such as electric cars will reduce this over time amongst the light vehicle fleet, but electrification appears unlikely to make a significant contribution to heavy transport for the foreseeable future. Gas, in the form of LNG, and other alternative fuels such as methanol, are being increasingly used in heavy transport applications around the world to reduce emissions and leverage the lower per unit energy cost of gas.



Protecting Our People and the Environment

Good health and safety practices are integral to the operation of the oil and gas industry. The sector has some of the most developed approaches to health and safety management and the industry's culture in New Zealand is internationally regarded, stringent and uncompromising, ensuring our workers, and the environment they work in, are safe. The upstream sector has a constrained footprint and discrete environmental effects. It has primarily operated in Taranaki and regulators both there and nationally have long standing experience with the sector.

The upstream industry is subject to, and supports, thorough regulation and oversight by dedicated and proficient regulatory organisations. In recent years, major regulatory reform of health, safety and environmental legislation has taken place to bring New Zealand's regime into line with global best practice approaches. This has been undertaken as a consequence of increased Government emphasis on the importance of health and safety.

The result of these regulatory reforms is a generally comprehensive and rigorous regime, which is supported by the industry.



**THE OIL AND GAS
INDUSTRY'S SAFETY
TRACK RECORD OVER
50 YEARS IS SOLID
AND IMPRESSIVE.**

While primary industry activity can expose workers to challenging environments, oil and gas workers are safer and suffer less accidents, in gross quantity and per worker, than all other primary industries in New Zealand.

In fact, due to all-encompassing risk management procedures, oil and gas workers at production facilities are around four times less likely to experience an accident in their workplace than they are at home.



A PLAN TO HELP NEW ZEALAND SUSTAINABLY REALISE ITS ECONOMIC POTENTIAL

New Zealand's oil and gas reserves have the potential to enrich New Zealand, providing abundant and reliable energy to support businesses and households and contributing to the decarbonisation of the world economy over the coming decades.

If we are to achieve this potential, New Zealand's policy settings need to be comprehensive, appropriately designed and integrated.

The oil and gas industry is one of the most internationalised industries and New Zealand is competing with other locations for mobile investment capital. While in many areas, New Zealand is a favourable investment destination, it does have challenges, including the small size of our domestic market, limited infrastructure, the cost of mobilising equipment to this part of the world, and the relatively limited knowledge of what resources might exist due to limited exploration and available information.

The recent fall in oil prices has also seen global exploration activity slow markedly since late 2014, with discoveries falling to the lowest level since the 1940s. This steep decline in exploration investment is laying the foundation for a future supply gap, which will likely lead to increasing oil and gas prices in future years, which will encourage new exploration necessary to bring on new supplies.

It is important that New Zealand is positioned to take advantage of current and future exploration efforts. While we believe the regulatory environment is in good shape, there are a range of initiatives and changes that can be made to maximise the value to New Zealand's oil and gas resources. There are also areas where we believe it is important that the current direction is maintained.



Legislative, Regulatory and Fiscal Settings

The Government owns New Zealand's petroleum resources on behalf of all New Zealanders. To maximise the value of these resources, the Government not only needs to encourage investment in exploration and development, but also maximise the value of these resources to both national and regional economies and ensure the wealth derived from these non-renewable resources delivers long-term benefits to the country. This needs to be done in a way that protects both the environment and people.

To realise the wider regional and national economic benefits of petroleum exploration, development and production, the Government should:

1. Ensure fiscal policy settings (royalties and tax) take into account New Zealand's unique circumstances, encourage early exploration activities and provide for potential future development scenarios.
2. Ensure the allocation framework provided in the Crown Minerals Act 1991 and its subordinate instruments encourage investment by providing appropriate, certain and efficient processes that are future proofed and in line with global best practice.
3. Invest in early stage data acquisition to encourage industry investment in exploration, given oil and gas reserves are public resources, encouraging companies to better target exploration activities and ultimately securing increased returns to the Crown. This should include the Government undertaking a comprehensive study to ensure investments are appropriately targeted at the critical gaps in knowledge and significantly expand current Crown Research Institute work programmes that aim to improve our understanding New Zealand's oil and gas resources.

The economic case for investing in data acquisition

New Zealand's 17 sedimentary basins are underexplored by international standards. While there is general agreement that New Zealand has strong oil and gas potential, little is known about what resources might exist, where, and in what quantity.

This presents increased "below ground risk" for oil and gas companies when making decisions on where they might invest their exploration capital worldwide when compared to other countries.

The petroleum estate is a public resource and as with other resources it is necessary to invest in it to secure long term returns. While industry will undertake the bulk of this investment as part of their work programme, the provision of scientific data and interpretation supports prospectivity by improving the knowledge base upon which investment decisions are made.

Previous investments in early stage data acquisition, such as in the Pegasus Basin, have led to industry making substantially larger commitments in the exploration of those areas.



4. Increase the efficiency of the administration of the Crown Minerals Act 1991 by, for example, setting and enforcing stringent targets for permit processing times.
5. Increase the ability of iwi and hapū to constructively engage with government and operators on petroleum exploration and development activities.
6. Incorporate petroleum potential where relevant into the Regional Growth Work Programme and recognise the potential for the supply chain to maximise the overall value to the economy.
7. Dedicating the majority of petroleum royalties to the benefit of future generations by allocating them to an investment fund with a long-term focus.

Energy Security, Affordability and Reliability

It is important that the role of a strong domestic petroleum sector (upstream, midstream and downstream) in providing reliable and affordable energy to businesses and consumers is recognised in energy policy. While we agree environmental externalities should be provided for, we believe oil and gas should be treated consistently to other energy supplies and resources.

To maximise the value of the contribution of oil and gas to the energy mix, the Government should:

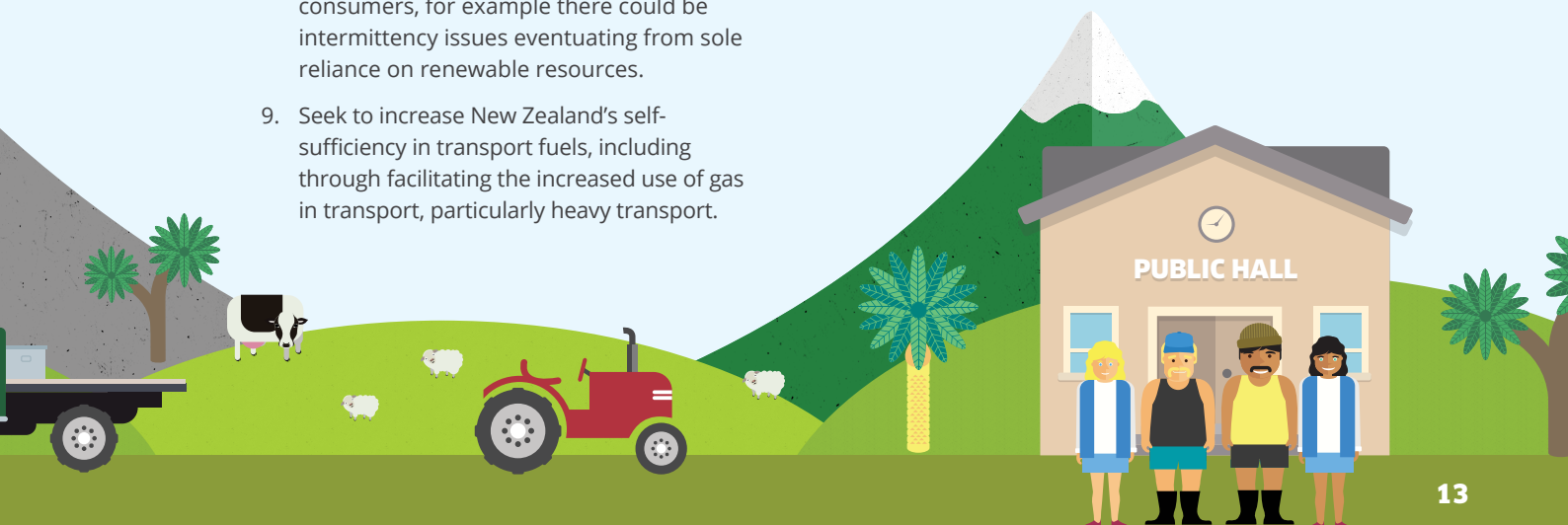
8. Continue to recognise the importance and value of domestically produced natural gas in underpinning the electricity system and industrial/commercial/domestic consumers, for example there could be intermittency issues eventuating from sole reliance on renewable resources.
9. Seek to increase New Zealand's self-sufficiency in transport fuels, including through facilitating the increased use of gas in transport, particularly heavy transport.

A dedicated fund

At present royalties from petroleum production are simply paid into the consolidated fund along with other revenue such as income taxes. Whilst New Zealanders benefit generally from this contribution to the public purse, as this resource endowment can only be utilised once it would be more appropriate if the revenues were dedicated to the long-term benefit of New Zealanders.

The allocation of royalty revenue is ultimately a decision for Government, but any use should unequivocally be long-term in nature and focus on social and economic development. Potential areas of investment could include investment in regional infrastructure, education or health.

Making the most of this resource requires substantial investments and for these to occur a base line understanding of the geology and petroleum potential is required. Regularly reinvesting a small portion of royalty revenue in further understanding the petroleum estate would therefore also be appropriate and contribute to ensuring that the long-term value to the country is realised.





Climate Change

We acknowledge the scientific consensus on human-induced climate change and support efforts to agree on and implement measures to limit human impacts on the climate system.

We seek a framework for controlling greenhouse gas emissions that is comprehensive, robust, predictable, transparent, and aligned with international approaches. It should seek to incentivise efficiency and lower carbon technologies, while at the same time maintaining a level playing field for New Zealand firms that participate in global markets.

New Zealand's primary tool for reducing greenhouse gas emissions is the Emissions Trading Scheme, which puts a price on carbon emissions, providing an incentive for sectors to reduce emissions, as well as providing an incentive to plant forestry to absorb carbon dioxide. Sectors such as the oil and gas industry are required to purchase New Zealand Units to offset the emissions they produce in their activities.

Climate policy measures should ideally be technology, fuel and sector neutral to maximise effect, encourage innovation and avoid perverse outcomes. New Zealand has a unique emissions profile, with nearly half of all greenhouse emissions emanating from the agriculture sector. Agriculture is currently excluded from New Zealand's Emissions Trading Scheme.

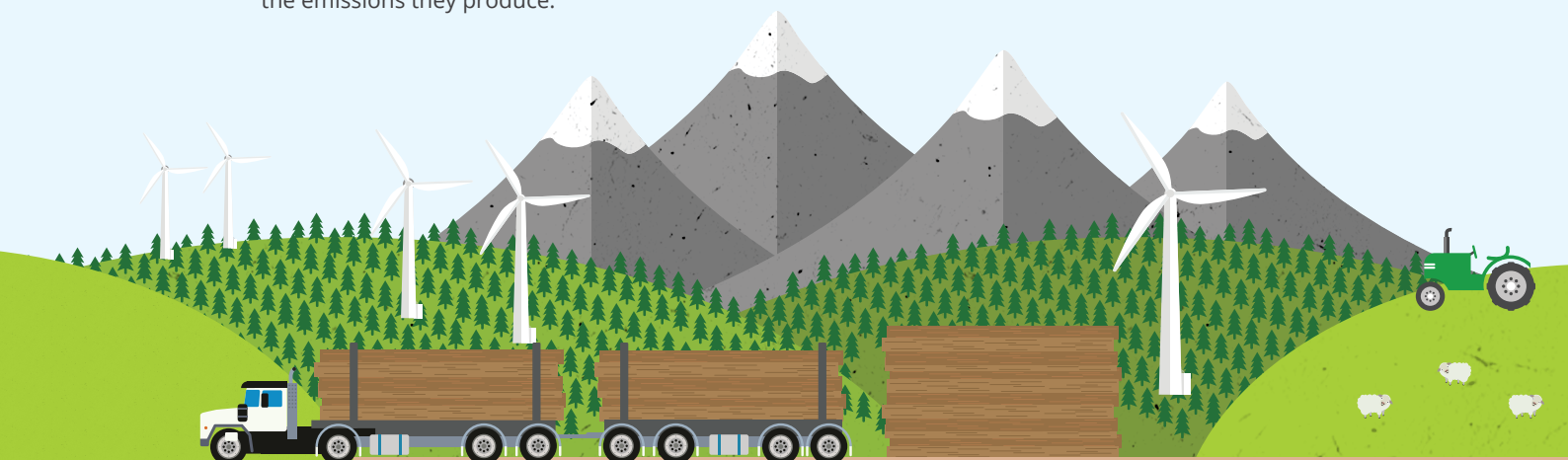
We believe that it is important that all sectors in the New Zealand economy are treated equally and each is all held accountable for the emissions they produce.

For this reason, we advocate steps being taken to include agriculture in New Zealand's Emissions Trading Scheme. It is important that steps are taken across all sectors if New Zealand is to reach its goal of reducing greenhouse gas emissions to 30 percent below 2005 levels by 2030.

While we agree that domestic outcomes are important, it is also important that these should not be pursued to the disadvantage of the New Zealand economy and global outcomes.

To maximise New Zealand's contribution to reducing greenhouse gas emissions, while at the same time ensuring that our actions do not inadvertently result in increased emissions in other countries (known as carbon leakage), we believe the Government needs to:

10. Ensure that the New Zealand Emissions Trading Scheme (ETS) is comprehensive, non-discriminatory and robust, in line with global approaches and over time develops strong and durable international connections.
11. Recognise and provide for new upstream and industrial developments in New Zealand, such as potential LNG exports, within climate change policy, even those that increase domestic emissions, where this is globally rational from an economic and climate change perspective.
12. Introduce a comprehensive regulatory framework for carbon capture and storage (CCS) to enable the deployment of CCS in New Zealand.
13. Facilitate opportunities to utilise lower emitting fuels (e.g. natural gas) where possible in industry and transport.



The challenge of carbon leakage

Climate change is a global issue, and addressing it requires a global reduction in emissions.

While countries have each pledged to reduce their domestic emissions, it is important that countries do not prevent activities that, while increasing their individual emissions, would overall lead to a global reduction in emissions.

For example, a very large natural gas find in New Zealand might enable large quantities of LNG to be exported to other countries, where it could be used to replace coal, which emits twice as much carbon dioxide as gas.

While processing and exporting natural gas would lead to an increase in New Zealand's emissions, this type of project should proceed if it leads to an overall reduction in global emissions.

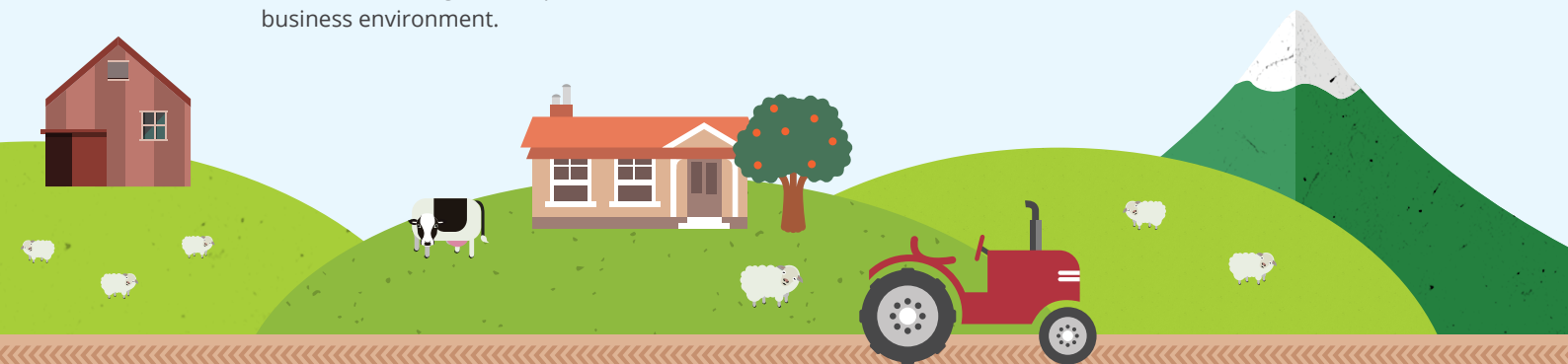
We acknowledge the importance of protecting New Zealand's unique marine environment and will continue to support a common sense and science-based approach to the establishment of any new marine protected areas in appropriate locations.

While we believe the current regulatory frameworks are generally appropriate, to maximise outcomes whilst reducing costs and inefficiencies, the Government needs to continue to:

14. Work with industry on improving the integration of regulatory systems and avoid regulatory duplication, maximise cross-agency synergies, and ensure that projects subject to oversight by multiple regulators can be progressed efficiently.
15. Where required, make use of instruments under the Resource Management Act 1991 to provide appropriate and consistent treatment for cross-regulatory issues, thereby ensuring consistent and efficient regulatory approaches to the upstream sector around the country, addressing the potential duplication between the Resource Management Act and other national regulation, and variation across regions.
16. Revise the financial assurance requirements applying to offshore installations to make them both more robust and more workable.
17. Put in place a regime for offshore decommissioning that provides a robust and balanced approach that addresses technical feasibility, as well as environmental, health and safety, and economic matters.
18. Provide a policy framework for marine protected areas that is science-based and provides appropriate certainty to affected industries.

Health, Safety and the Environmental Policy

Good health and safety practices and minimising the environmental effects of the oil and gas industry are fundamental and non-negotiable. We support robust frameworks for health and safety and managing environmental effects. These, however, need to be integrated, proportional and efficient and recognise the practicalities of the business environment.





PEPANZ

PETROLEUM EXPLORATION & PRODUCTION
ASSOCIATION OF NEW ZEALAND