

YEAR IN REVIEW 2016



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FOREWORD

Tēnā koutou katoa. While 2016 continued to be a challenging year for our Members, it was also a year where a cautious optimism started to return to New Zealand's oil and gas sector.



Like all commodity markets, oil prices are cyclical and are dictated to by the laws of supply and demand. While demand for oil has continued to increase, this has been outstripped by huge increases in shale production in the United States, combined with increased production from OPEC as the later sought to maintain its market share. The result was an inevitable oversupply of oil on the international market, and prices falling to as low as US\$25 a barrel, a fall of around US\$100 since September 2014.

The sharp fall in oil prices inevitably led to a reduction in exploration activity around the world, with companies delaying decisions on where they invest their capital resources. In fact, discoveries globally are at their lowest level since the 1940s. This steep decline in exploration activity will inevitably lead to a future supply gap, driving prices up and encouraging renewed exploration activity to bring on new supplies.

While the last two years have not been easy for our Members, oil prices appear to have partially recovered, stabilising at just under \$US50 a barrel. As an industry, we understand we regularly go through peaks and troughs, and we will continue to do so. Many of our Members have responded by improving the efficiency of their current operations and driving improved production out of their existing wells. This leaves them well placed to face the future with confidence.

Despite the low oil price, there is still strong international interest in New Zealand's oil and gas potential. We remain underexplored by international standards and there is real potential of future significant reserves to be discovered.

Exploration activities are continuing off the east coast of the North Island, as well as off the coast of Taranaki, and New Zealand's largest ever onshore survey was recently

completed around the Kapuni gas field in South Taranaki by Shell Todd Oil Services.

Exploration activities are also focussed on finding future gas reserves, which will remain an important component of New Zealand's energy mix. Gas is also used to produce urea fertiliser, methanol and supports many large industries. It will be an important transition fuel to reduce our carbon emissions.

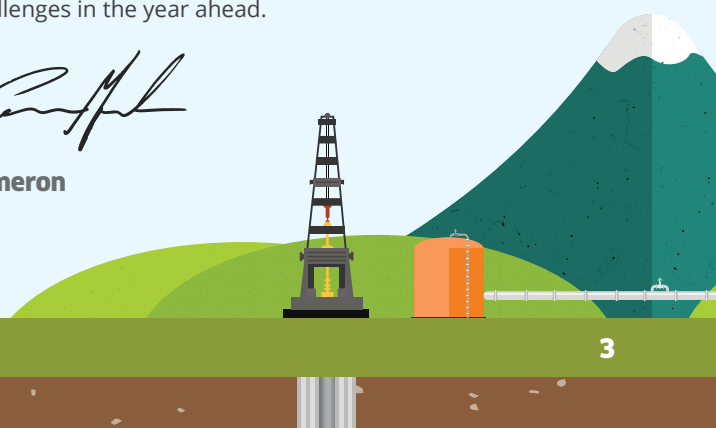
As our current gas supplies start to dwindle in the 2020s, we will need to find replacements, and this will likely drive exploration activity in the years ahead.

To enable this, however, it is important that New Zealand has the right policy settings. In a highly competitive world where capital is increasingly mobile, it is vital that New Zealand has enabling and stable policy settings, a world class regulatory environment, and a good understanding of the geology of our basins.

That is why an industry association like ours is important. Collectively our Members produce about 95 percent of New Zealand's petroleum and the sheer breadth and scale of our membership allows our industry to speak with a united and collective voice – whether it is advocating on our Members behalf with central and local government, or our work engaging with stakeholders and the public.

I would personally like to thank our Members and Board for the support they have given to both myself and my team over the past year. Next year promises to be another demanding year with a General Election approaching, and I look forward to working closely with you all again as we work together to meet the challenges in the year ahead.

Cameron



AN INTRODUCTION TO PEPANZ

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

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.

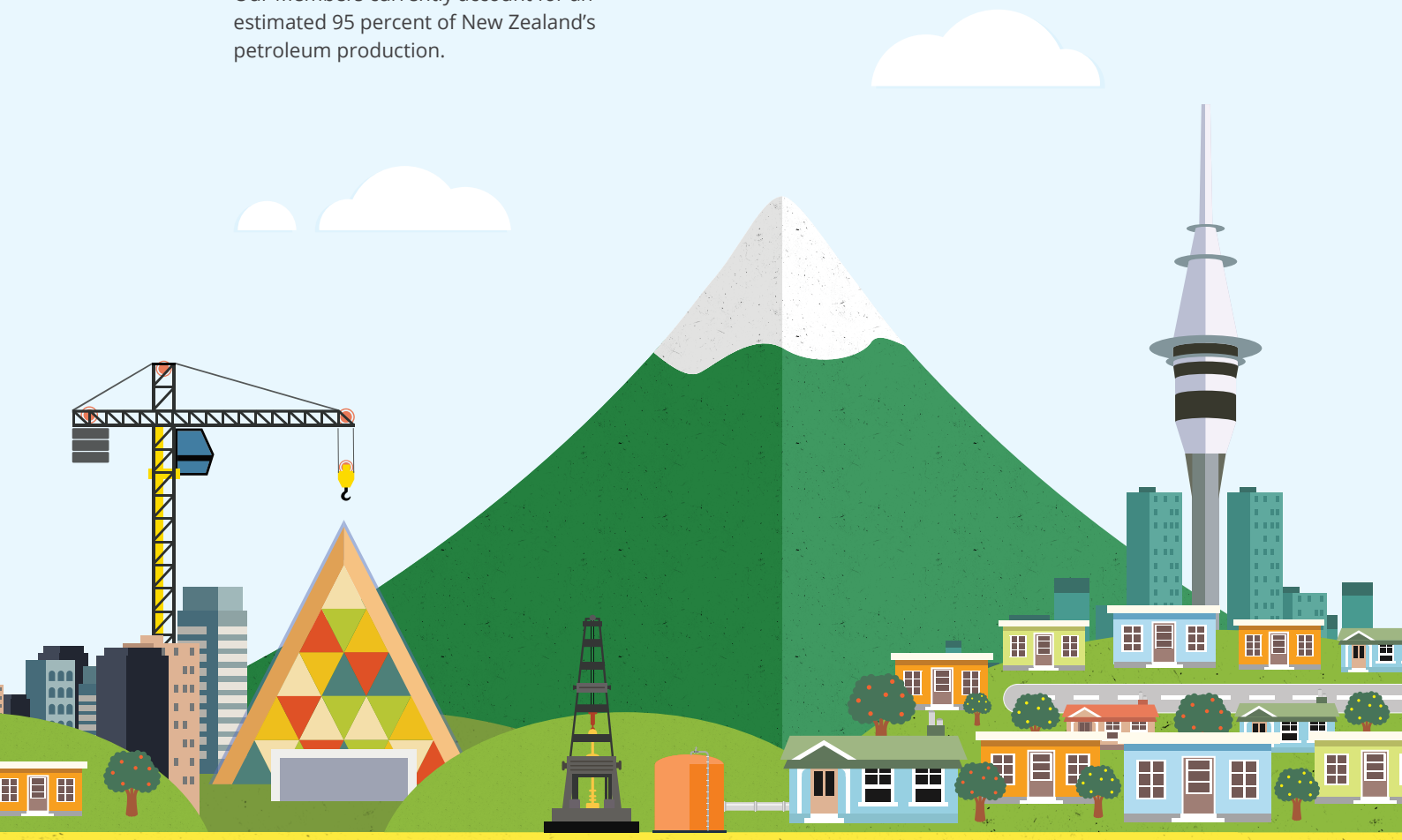
We also seek to increase community and government understanding of the industry by publishing information about the sector's activities and economic importance to the nation.

We advocate for, and support, most of the major companies that explore for, and produce, New Zealand's oil and gas. Our Members currently account for an estimated 95 percent of New Zealand's petroleum production.

We believe that by developing our oil and gas industry, we can enrich New Zealand's future – the future of our Member companies, our communities and the economic future of our regions.

As representatives of the oil and gas industry, we look to provide Members with strong representation and advocacy, leadership for industry wide issues, while engaging openly and honestly with New Zealanders.

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



OUR BOARD

PEPANZ is governed by a Board that is elected annually from our Members. The Board meets quarterly, and sets the strategy for the organisation as well as monitoring the delivery of the Business Plan.



Rob Jager

Chairman
Shell New Zealand



David Coull

Deputy Chairman
Bell Gully



Gabriel Selischi

Representing Large Producers
OMV



Maceon Cooper

Representing Large Producers
Origin Energy



Colin Cruickshank

Representing Large Producers
Todd Energy



Max Murray

Representing Medium Producers
TAG Oil



Andrew Jefferies

Representing Medium Producers
New Zealand Oil & Gas



Alan Seay

Representing Exploration Companies
Anadarko Petroleum Corporation



Nick Jackson

Representing Associate Members
Elemental Group



BELL GULLY



WHO WE ARE > 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.



Andrew Saunders

Policy Manager

Andrew leads the PEPANZ Policy and Regulatory Work Programme and works closely with both central and local government, ensuring the industry's views are strongly represented.

Andrew joined PEPANZ from the Ministry of Economic Development, where he developed an in-depth understanding of all aspects of policy development and its resulting implementation, including engagement with Ministers, select committees and stakeholders.

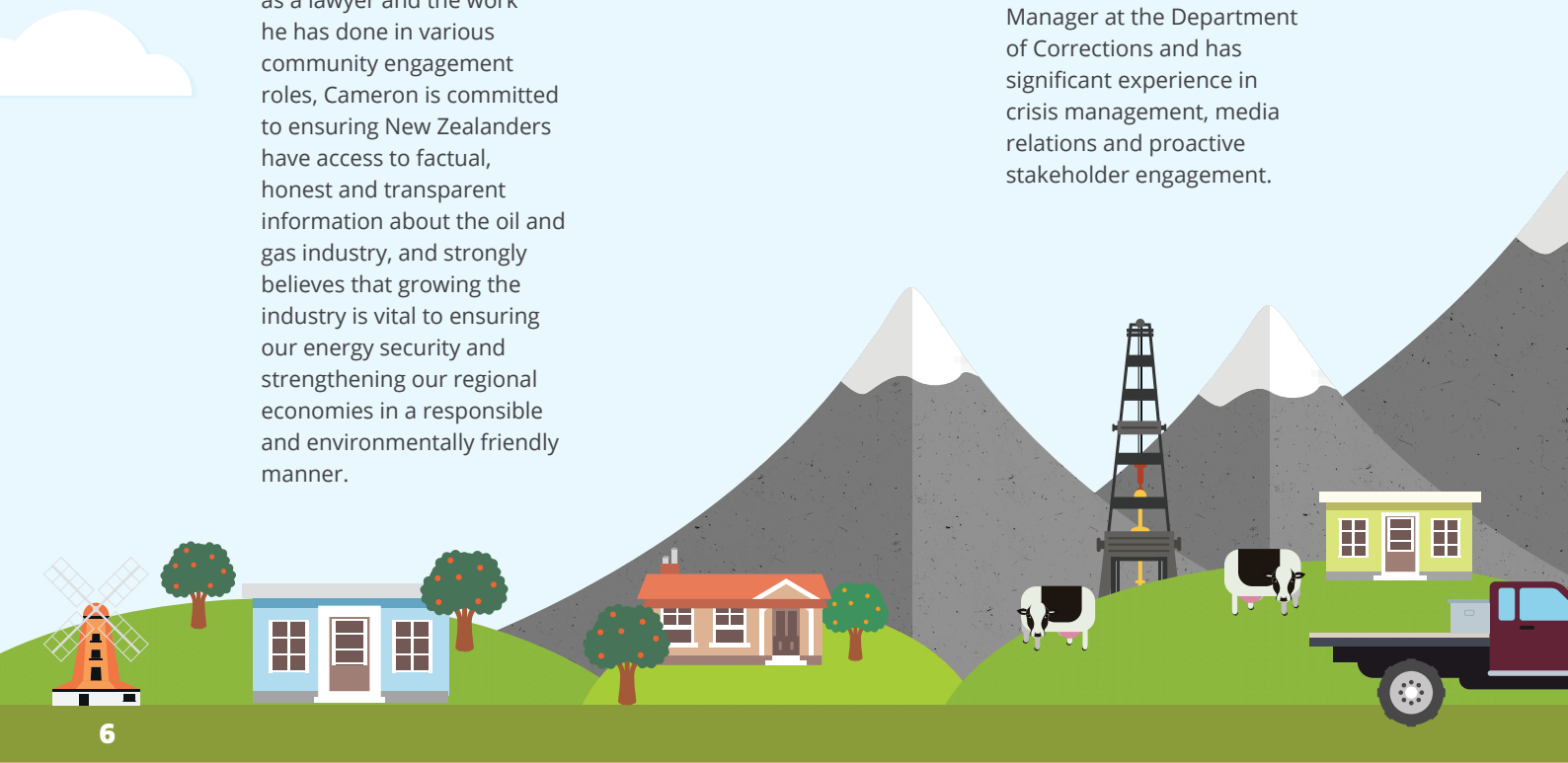


Stephen Jones

Communications Manager

Stephen leads the development and implementation of the PEPANZ Communication Work Programme, ensuring that as an Association we are engaging proactively with stakeholders, media and the public.

Stephen joined PEPANZ this year after several years working in Parliament as a ministerial adviser across a number of high-profile portfolios. Prior to Parliament, Stephen was External Relations Manager at the Department of Corrections and has significant experience in crisis management, media relations and proactive stakeholder engagement.



INTRODUCING...

NEW ZEALAND'S ENERGY MIX



Jeanette Nel

Office and Events Manager

Jeanette takes the lead role in managing PEPANZ events, and is critical to the success of the annual New Zealand Petroleum Conference.

Jeanette joined PEPANZ in 2015 and is an accomplished Executive Assistant with extensive and proven experience in event management. With over 10 years' experience in corporate event management and executive business support roles, Jeanette is also responsible for the smooth running of the PEPANZ office.

In 2016, PEPANZ was proud to launch 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



OUR MEMBERS

We are proud to both represent and advocate on behalf of our 72 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 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



Medium Producers



Large Explorers



Small Producers/Small Explorers



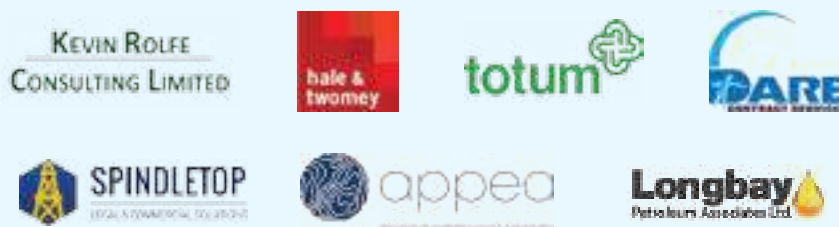
Field Operations Servicer Providers



Non-field Service Providers



Others



Janet Carson Dr. Peter Kamp Safe Work Solutions
Star Offshore Services Te Iti Kahurangi Ltd

OUR PRIORITIES

Our 2016 Business Plan had three key themes: Advocate, Engage and Support. These themes aimed to create for the industry a fair, transparent and workable regulatory environment, to position the industry as one which is trusted by New Zealanders and to ensure that PEPANZ is an organisation that is valued by its Members.



Advocate

Fair, transparent and workable regulatory environment



Enabling, responsible, co-ordinated and cost-effective regulators

Financial assurance for offshore facilities

Decommissioning offshore facilities

Proactive and effective relationships with key stakeholders

Engage

Trusted by New Zealanders



Listen to communities

Talk with more people, more often, through more platforms

www, YouTube, Facebook, Twitter, internal and external stakeholders, wider government and iwi

Support

Valued by Members



Assess and value membership proposition

Increase collective benefit for Members

New Member services

Improve communication with Members

Outstanding conference

Advocating for the Industry – South Taranaki District Plan

We appeared before the Review Hearing Panel considering submissions on the South Taranaki District Plan.

PEPANZ largely supported the proposed changes to the District Plan, which saw a robust and sensible framework applied to the oil and gas industry in the District.

PEPANZ did not, however, support the inclusion of an arbitrary demarcation measure as proposed in the draft plan, and successfully advocated that oil and gas activities should be considered a discretionary activity outside urban or sensitive areas, and a decision on whether they should proceed made following a thorough assessment looking at all the potential risks, as well as the mitigation plans.

Engaging with New Zealanders – our new web resource!

The launch of www.energymix.co.nz provides 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.

Supporting our Members – Working with Iwi and Hapū

In 2016, a work programme was implemented to support Members in their engagement with iwi. Initiatives include the development of external standards' recognition of iwi meeting protocol, leveraging the investment made in the iwi MMO/PAM trainees, and an engagement programme to bring iwi and hapū leaders closer to the sector.

In addition, Members took part in an interactive discussion on engaging with iwi and hapū from Dion Tuuta at a Business Breakfast in Wellington.

Dion is currently the Chief Executive of Te Ohu Kaimonana (Maori Fisheries Trust) and during the session outlined important do's and don'ts when looking to engage with iwi.

Important do's included being honest about your intentions when engaging and understanding the value of regular face-to-face communications and plain language.

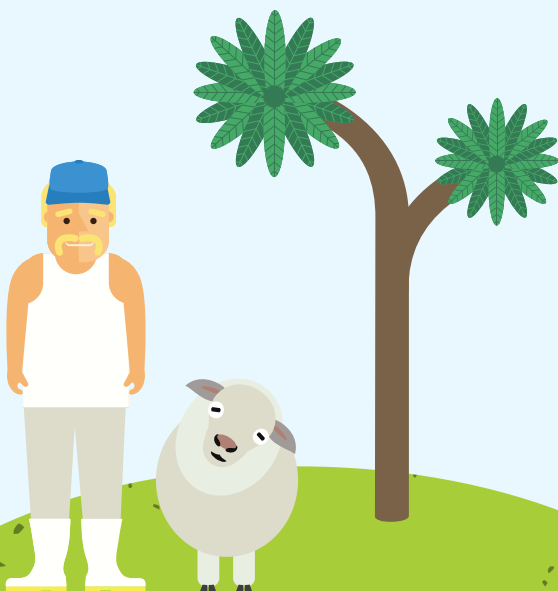
Don'ts included assuming Māori were a homogenous group, using a third party to act as your intermediary or coming with preconceived stereotypical views.

Supporting our Members – Well Examination Guidelines

In 2016, PEPANZ published its Well Examination Guidelines. The Guidelines, endorsed by WorkSafe, outline the process an operator can follow to satisfy their obligations under the Health and Safety at Work (Petroleum Exploration and Extraction) Regulations 2016.

The Guidelines outline how well operators should approach well examination, apply this process to well operations and administer the process.

The Guidelines were developed with input from third-party well examiners and personnel within PEPANZ member companies, and are closely based on the Oil and Gas UK's *Guidelines on Well Examination*.



OIL AND GAS IN NEW ZEALAND

Oil and gas production has a long history in New Zealand.

Early History

Oil naturally wants to make its way to the surface from where it is formed deep below. Seepages (places where oil seeps out of the ground) occurred on the New Plymouth foreshore, Kōtuko on the West Coast, and Waitangi, north of Gisborne. At New Plymouth, bubbles of gas were seen along the coast and an oily sheen could be seen on the sea water on calm days.

In early 1865, gunsmith Edward M. Smith collected samples of oil he found among boulders at Ngāmotu Beach, on the New Plymouth foreshore. He sent them to Britain for analysis. Following this, the Taranaki Provincial Government offered £400 for the discovery of a commercial find of oil.

In 1865, a well was dug at Moturoa, on the New Plymouth foreshore. This was the first well in the British Empire, and one of the first in the world. In 1866 it struck gas at 7 metres and oil at 20 metres. Other wells soon appeared, but only a few barrels of oil were recovered in the first years.

In 1904, the first steel drilling rig was brought to New Zealand, and two years later it struck oil. By 1913, crude oil was being held in storage in New Plymouth. A refinery was built, but local production was spasmodic and could not sustain it. In the late 1920s, a second refinery was built by locals (it closed in 1975). During the 1950s, some pumps sold Peak Oil (named after Mt Taranaki), and the local council used Taranaki diesel in its vehicles.

Modern Exploration Begins

The development and use of new technologies, such as acoustic imaging and deep rotary drilling, resulted in the discovery in 1959 of the large onshore Kapuni gas-condensate field in South Taranaki, followed by the discovery of the very large Maui gas-condensate field in 1969. These discoveries allowed the development of the North Island gas transmission network, bringing natural gas directly to homes and industries in the North Island's urban centres.

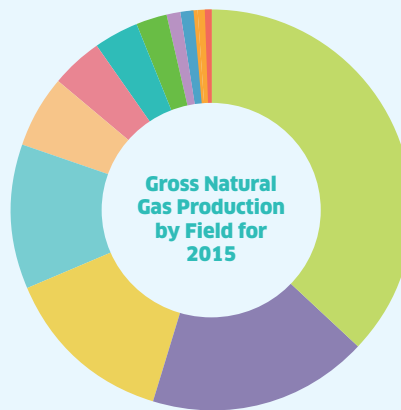
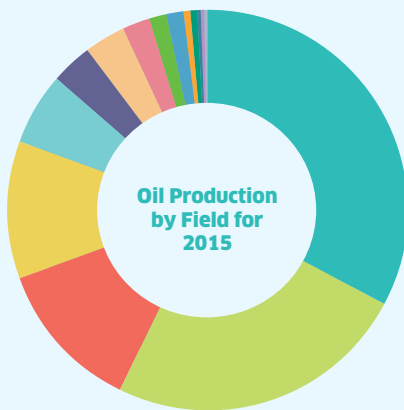
The Maui field made New Zealand self-sufficient in gas. The Maui A platform, which became operational in 1979, was cutting edge for what could be accomplished offshore at the time, and a second platform was built in 1993, which allowed production of oil from the deeper reservoirs.

The discovery of the McKee Oil Field in 1979, the largest oil field in Australasia at the time, changed the perception that New Zealand was only rich in gas. McKee is still in production today and has produced almost 48 million barrels of oil to date. The offshore Maari and Tui discoveries, subsequently made in 1998 and 2003, are also substantial and are predominately oil fields.

Today there are 20 oil and gas fields in operation, all based in Taranaki and, as of 2014, almost 6,700 billion cubic feet of natural gas and 450 million barrels of oil have been produced in New Zealand¹.

New technology is now allowing operators to safely explore at greater depths and further from land. This is allowing exploration to occur in places it previously hasn't, such as in the Reinga and Pegasus Basins off the North Island, and in the Canterbury and Great South Basins off the east coast of the South Island.





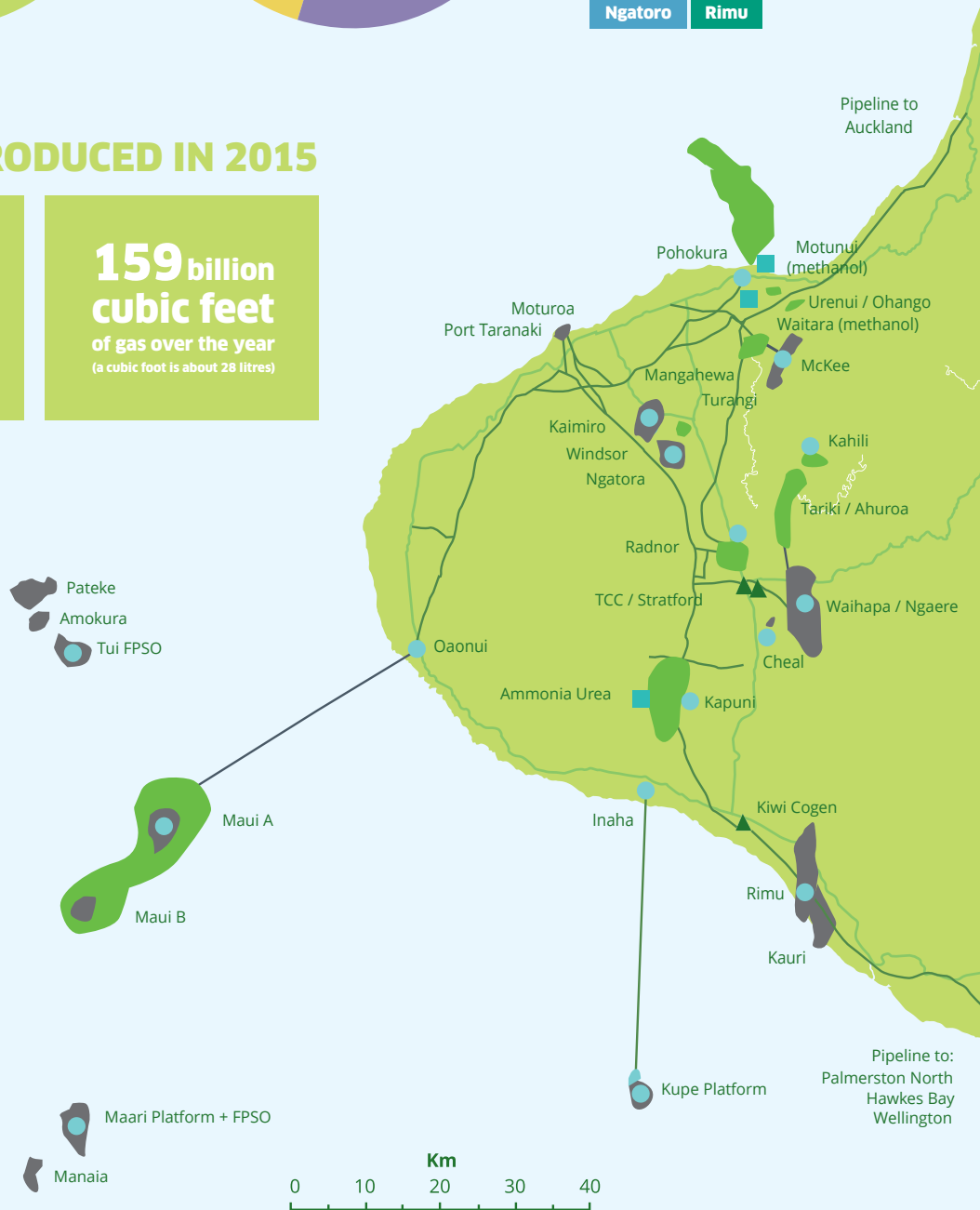
Maari	Maui
Pohokura	
Kupe	Turangi
Mangahewa	
Kapuni	Cheal
Waihapa	
Kowhai	Tui
Copper Moki	
Others	McKee
Ngatoro	Rimu

WHAT WE PRODUCED IN 2015

40,900 barrels
of crude oil per day
(a barrel is 159 litres)

159 billion cubic feet
of gas over the year
(a cubic foot is about 28 litres)

- Gas Field
- Oil Field
- ▲ Power Station
- Petrochemical Plant
- Production Station
- Pipelines
- Roads



THE IMPORTANCE OF OIL AND GAS TO THE NEW ZEALAND ECONOMY

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

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

Offshore oil and gas is the largest contributor to New Zealand's marine economy, representing 48 percent of the marine economy in 2013. Offshore oil and gas contribute more to New Zealand's GDP than shipping, fisheries and aquaculture combined.

The industry generates over 11,000 jobs nationally, and many of these jobs are highly skilled and specialised. 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.

Gas is also an essential feedstock for many industrial activities, such as methanol production and urea fertiliser for agriculture, industries that 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.

Currently New Zealand's oil and gas production is concentrated in one region – Taranaki. The contribution the sector has made in Taranaki has been immense. Oil and gas accounts for 41 percent of Taranaki's regional GDP and provides two percent of the region's employment. 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 \$51,000².

The Taranaki Basin is only one of 17 sedimentary basins that surround New Zealand, and there is potential that a number of these basins may have oil and gas deposits similar to those found in Taranaki.

Analysis has shown that a significant find in just one of these other basins could have a profound economic benefit, both in the region where the discovery is found as well as to the national economy.

For example, economic analysis shows the discovery of a near-offshore South Island field could mean more than \$3 billion of investment, creating 270 new jobs in the development phase. A far-shore field could lead to \$6.5 billion of investment. A major offshore gas field could mean a massive \$19.3 billion of development spending³.

There remains considerable potential for new discoveries. Whilst the ultimate extent of New Zealand's petroleum resources remains uncertain, successful exploration and development in one of 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 activity in the relevant region.

To realise the sector's potential, PEPANZ will continue to advocate for appropriate policy settings. In a highly competitive world where capital is increasingly mobile, it is vital that New Zealand has enabling legislation and stable policy settings, a world class regulatory environment, as well as further information on the geology of its sedimentary basins to encourage targeted exploration.

THE NORWEGIAN MODEL

AN EXAMPLE OF A STRONG OIL AND GAS ECONOMY

Petroleum has fundamentally transformed the Norwegian economy.

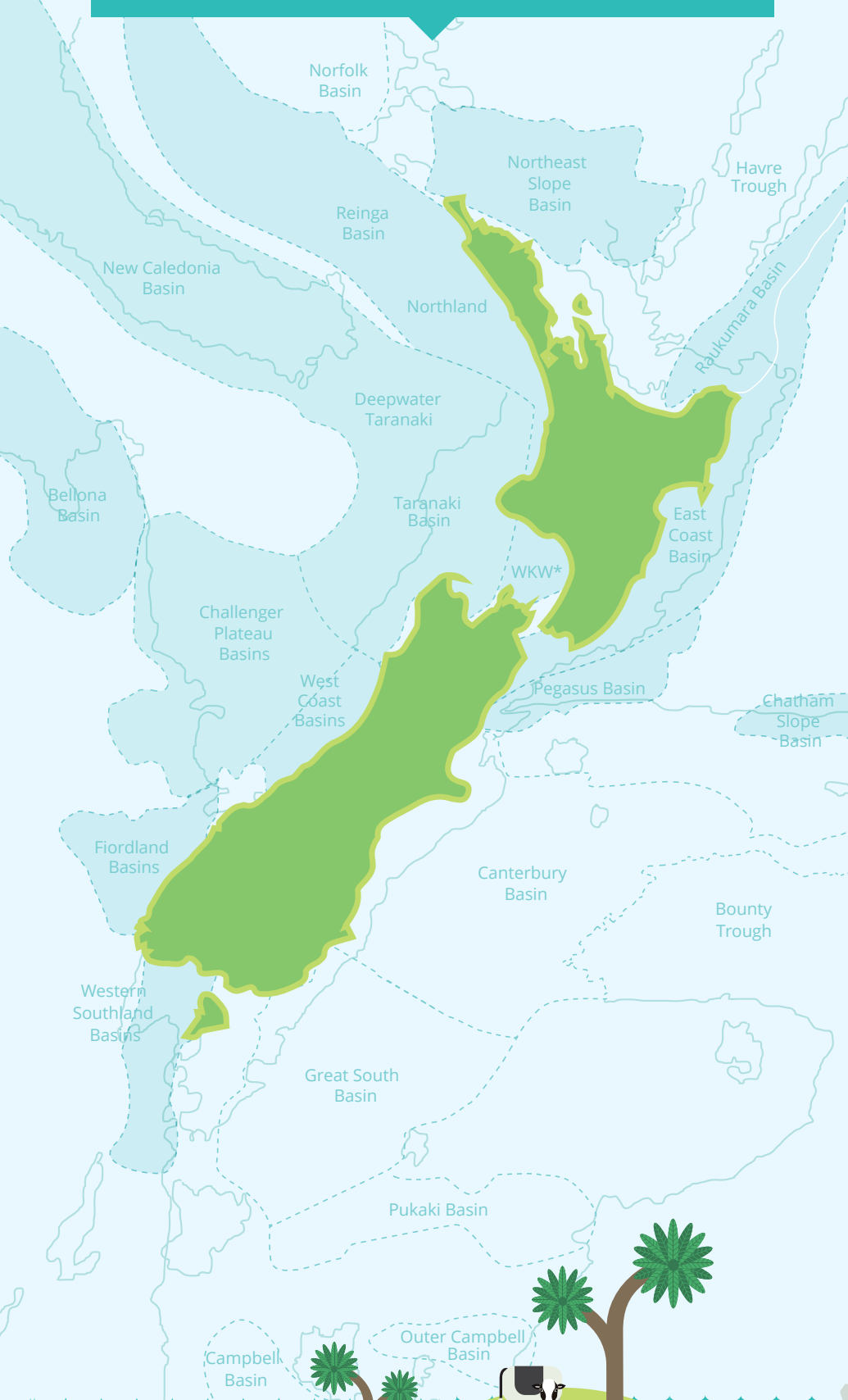
In many ways, Norway is like New Zealand, with around the same number of people and an extensive coastline and marine area. Oil was first discovered off Norway's coast in 1969, and this was followed by a number of major discoveries.

Norway is now the world's eighth largest exporter of crude oil, and petroleum has fuelled economic growth and contributed significantly to the funding of the Norwegian welfare state and social services – lifting Norway from a middle income European country, to one of the wealthiest in the world, with extremely high living standards.

To ensure future generations benefit from their natural resources, Norway put aside a proportion of the revenue it receives from its petroleum reserves – building a massive sovereign fund valued at \$US875 billion, and which owns around one percent of global equity markets. By comparison, New Zealand's current GDP is \$US173 billion.

Petroleum has also fuelled a services, engineering and construction industry to support the petroleum sector, and Norway's second largest earner is services to the petroleum industry.

New Zealand's sedimentary basins



* Waikato, King Country and Whanganui Basins



BLOCK OFFER

The New Zealand Government allocates petroleum exploration permits in an annual tender process called a Block Offer.

The Block Offer process has been undertaken annually since 2012, and the selection of areas for inclusion in a Block Offer is based on their prospectivity and commercial interest.

As part of the Block Offer process, New Zealand Petroleum and Minerals asks the industry to nominate areas to include in the allocation, consults with iwi and hapū in the proposed areas, and discusses the proposed areas with local government.

Information gathered during this consultation process guides the Minister of Energy and Resources' decision on the final make-up of the Block Offer.

The release areas are announced annually at the New Zealand Petroleum Conference, with applications for permits closing approximately six months later. Permit awards are made several months after that.

Bids are assessed on their proposed work programme, and criteria including the applicant's technical and financial capability and capability to meet expected health, safety and environmental requirements.

Block Offer 2015

Successful bids for Block Offer 2015 were announced in December 2015. Nine new oil and gas exploration permits were granted, all in the Taranaki Basin. The successful permits included three onshore permits and six offshore permits. Collectively the permits included a committed work programme expenditure of \$4.4 million, with the potential of more than \$364 million if all contingent work is realised. Permits were awarded to:

- **OMV NZ:** Four offshore Taranaki permits (in partnership with Mitsui E&P Australia Pty Ltd).
- **Todd Exploration:** One offshore Taranaki permit.

- **Mont D'Or Resources:** One offshore Taranaki permit.
- **Greymouth Petroleum:** Three onshore Taranaki permits.

The average offshore block size was around 2,000 square kilometres and the average onshore block size was around 40 square kilometres.

Block Offer 2016

Block Offer 2016 was launched at the New Zealand Petroleum Conference in March 2016, with successful bids due to be announced in December 2016. Block Offer 2016 includes four offshore release areas, in the Reinga-Northland Basin, Taranaki Basin, Pegasus and East Coast Basins, and Great South-Canterbury Basin. There is also one onshore release area in Taranaki. The total acreage included in Block Offer 2016 is 525,515 square kilometres, including 1,062 square kilometres onshore. Applications closed on 7 September 2016.

Block Offer 2017

New Zealand Petroleum and Minerals undertook the consultation process for Block Offer 2017 in October and November 2016. Consultation took place on four proposed offshore areas, in the Northland-Reinga Basin, Taranaki Basin, Pegasus and East Coast North Island Basin, and Canterbury-Great South Basins; one proposed offshore/onshore area in Northern Taranaki, and two proposed onshore areas in Taranaki and Southland. The total area under consultation covers 508,691 square kilometres. The Government will announce which areas will be released for tender at the New Zealand Petroleum Conference in March 2017.



THE REGULATORY ENVIRONMENT: ADVOCATING FOR THE INDUSTRY

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.

The oil and gas industry is one of the most internationalised industries and New Zealand is competing with many other locations for mobile investment capital. While in many respects, New Zealand is a favourable investment destination, it does have challenges, including the small size of our domestic energy 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 seen global exploration decrease, with discoveries falling to the lowest level since the 1940s. This steep decline in exploration activity is laying the foundation of a future supply gap, which will likely lead to increasing oil and gas prices in future years that will encourage new exploration to bring on new supplies.

It is important that New Zealand is positioned to take advantage of current

and future exploration efforts. To achieve this, New Zealand's policy settings need to be comprehensive, appropriately designed and integrated. While New Zealand generally has a strong and supportive regulatory environment, there are areas where the regulatory regime can be refined.

Over the past year, we have worked closely with both central and local government to ensure the interests of the industry are represented in the consideration of any legislative or regulatory changes.

Key areas of focus over 2016 included policy work around decommissioning of offshore facilities, the review of the Department of Conservation's Marine Seismic Code of Conduct, clarifying responsibilities for historic wells, and proposed changes to the Crown Minerals (Fees) Regulations.

We appeared before the Local Government and Environment Select Committee to speak to PEPANZ's submission on the



Resource Legislation Amendment Bill. Issues highlighted to the Committee included the need to achieve effective and balanced decommissioning solutions for offshore fields that have proper regard to the environment, health and safety, economic and social considerations, as well as protecting other legitimate uses of the ocean. We also highlighted the need to address regulatory duplications and conditions under the Resource Management Act 1991.

This year, we have also been actively participating in the review of the Code of Conduct applying to marine seismic surveys, including providing extensive feedback to the Department of Conservation as a member of its stakeholder review group. The revised Code, and any required regulatory changes, are intended to be in place in the first half of 2017 to allow the new Code to be introduced for the 2017/18 summer seismic season.

Over the year, we have also engaged with MBIE and other regulators on potential policy development flowing from recommendations made in the Parliamentary Commissioner for the Environment's report *Drilling for oil and gas in New Zealand: Environmental oversight and regulation* relating to legacy issues with historic wells. This included facilitating meetings with MBIE officials in New Plymouth to discuss relevant issues in this area.

MBIE announced changes to Crown Minerals Fees in late October, following consultation earlier in the year. This resulted in fees being substantially increased, although the lower of two options was implemented. While unsuccessfully arguing against an increase

in fees at this time given the impact of low oil prices on the sector, we will continue to advocate for a fundamental review of the fees scheduled for 2019 to explore underlying structural issues with the fees and ensure the sector is not subsidising inefficiencies elsewhere in the system.

We have also been heavily involved in planning issues under the Resource Management Act 1991. PEPANZ has submitted on a number of notified plans and draft plans in 2016. We also appeared at hearings for the South Taranaki District Plan in June. Plan development will continue to be a prominent theme in 2017 and PEPANZ is putting in place a dedicated committee of Members to support this.

We have also focused on working more closely and building stronger relationships with key Government regulators – the Environmental Protection Agency, WorkSafe, the Department of Conservation and Maritime New Zealand – to ensure that the industry is closely involved in early discussions on matters that might impact the sector.

We finalised and introduced a Code of Conduct for our Members. While the industry in New Zealand already operates to exceptionally high standards, the new Code will assist in improving the reputation, trust and credibility of both PEPANZ and the industry – setting clear expectations of behaviour, encouraging improvements in social and environmental performance, and giving PEPANZ a basis for intervening and potentially sanctioning Members who behave inappropriately.



RESPONDING TO CLIMATE CHANGE

Reducing greenhouse gas emissions is a global issue that requires global engagement and action.

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 was agreed to limit the global temperature rise to 2 degrees Celsius above pre-industrial levels, and pursue efforts to limit the temperature rise to 1.5 degrees Celsius.

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.

As an industry, we absolutely recognise the profound challenges that exist with our changing climate, and the need to reduce our emissions through greater energy efficiency and lower carbon intensity, investigation of carbon capture, utilisation and storage, and managing methane emissions. At the same time, the demand for energy is also growing as the world population increases, economies develop, and we become more urbanised.

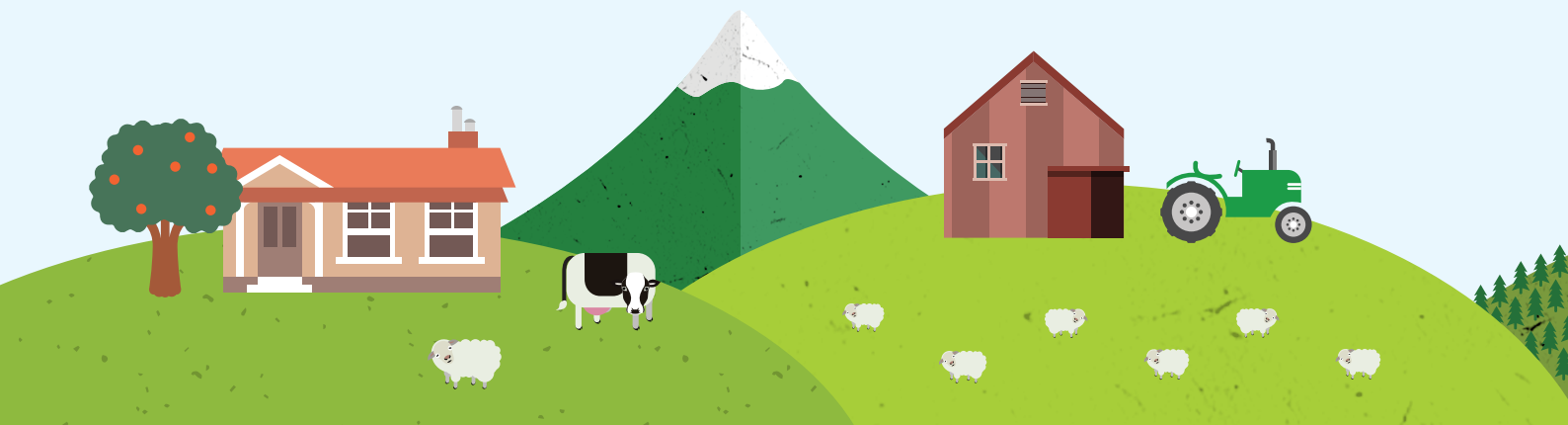
The world will continue to require access to affordable and reliable energy to power their industries, heat their homes, light their cities and transport their people and goods. While there is no doubt the world's energy mix will change significantly over the coming decades, to meet the world's energy demand we will

need to use more of everything – in fact, oil and gas is forecast to still account for over half the world's primary energy supply in 2040, similar in proportion to what it is today.

The reduction in greenhouse gas emissions agreed to as part of the Paris Agreement, however, requires the world to use energy more efficiently, transition from higher carbon energy sources such (such as coal) to lower-carbon sources (such as gas), increase renewable energy options in the global energy mix, sequester carbon dioxide, and find ways to reduce greenhouse gas emissions across all aspects of the economy and society.

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

Natural gas will be an important transition fuel as the world tackles climate change. Natural gas generates the least CO₂ of the fossil fuels, but retains all the advantages. Natural gas is instantly available, offsetting the intermittency of supply by solar and wind power – the sun does not always shine and the wind does not always blow. Gas is also relatively affordable.



New Zealand's Unique Emissions Challenge

Unlike most other developed countries, New Zealand has fewer low-cost options to reduce emissions compared with most other developed countries.

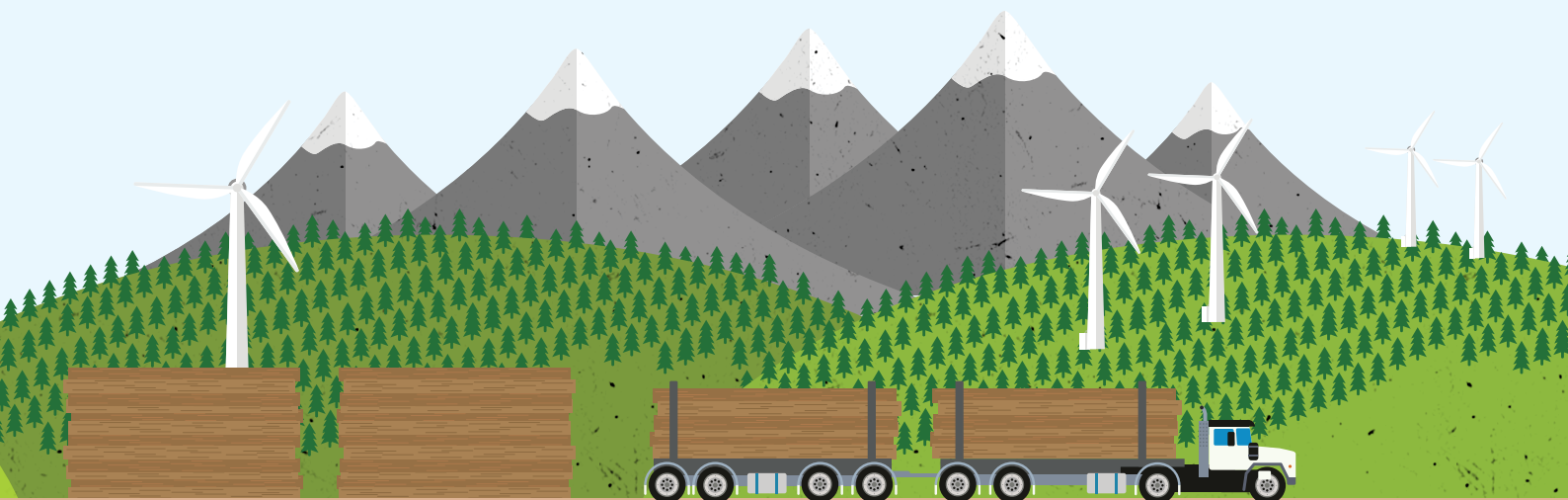
While agriculture accounts for a small amount of most countries total emissions, in New Zealand agricultural emissions make up just over 49 percent of total emissions.

Further, unlike many other countries, New Zealand's electricity generation is dominated by renewable energy – with nearly 80 percent of electricity generated from renewable resources – the fourth highest in the OECD. In terms of our total energy use, New Zealand is only behind Norway and Iceland in our use of renewable energy. This leaves New Zealand with little room to achieve significant reductions in emissions in electricity generation.

Approximately 17 percent of New Zealand's emissions are from transport. In fact, transport emissions are greater than electricity, manufacturing and fugitive emissions combined.

80%

of NZ's electricity
is generated from
renewable sources



NEW ZEALANDERS' VIEW ON OUR INDUSTRY

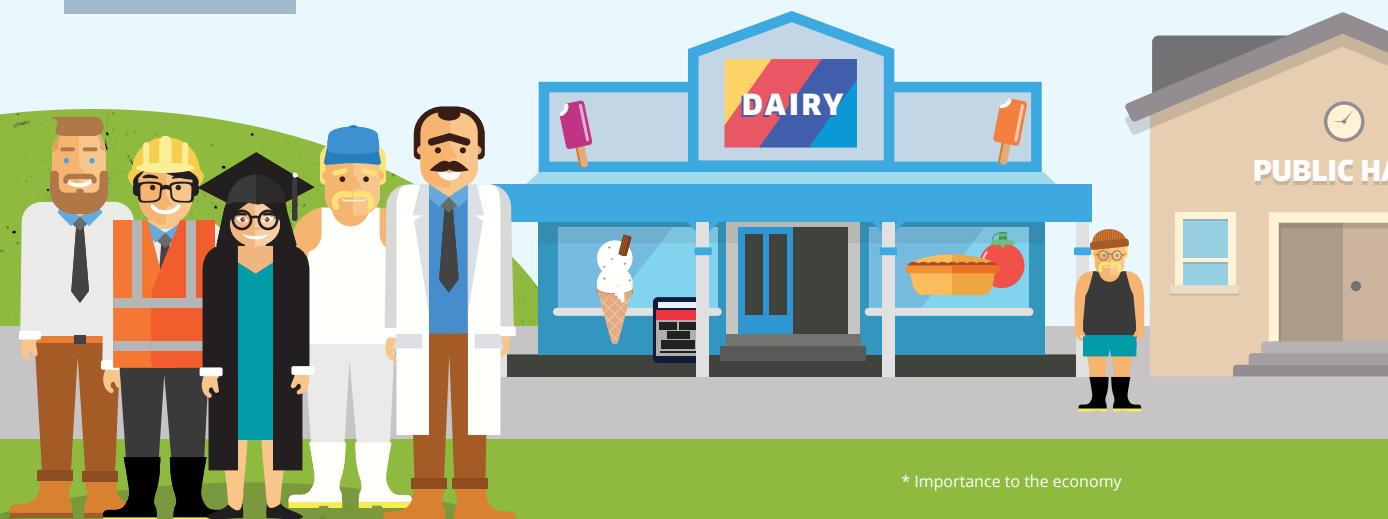
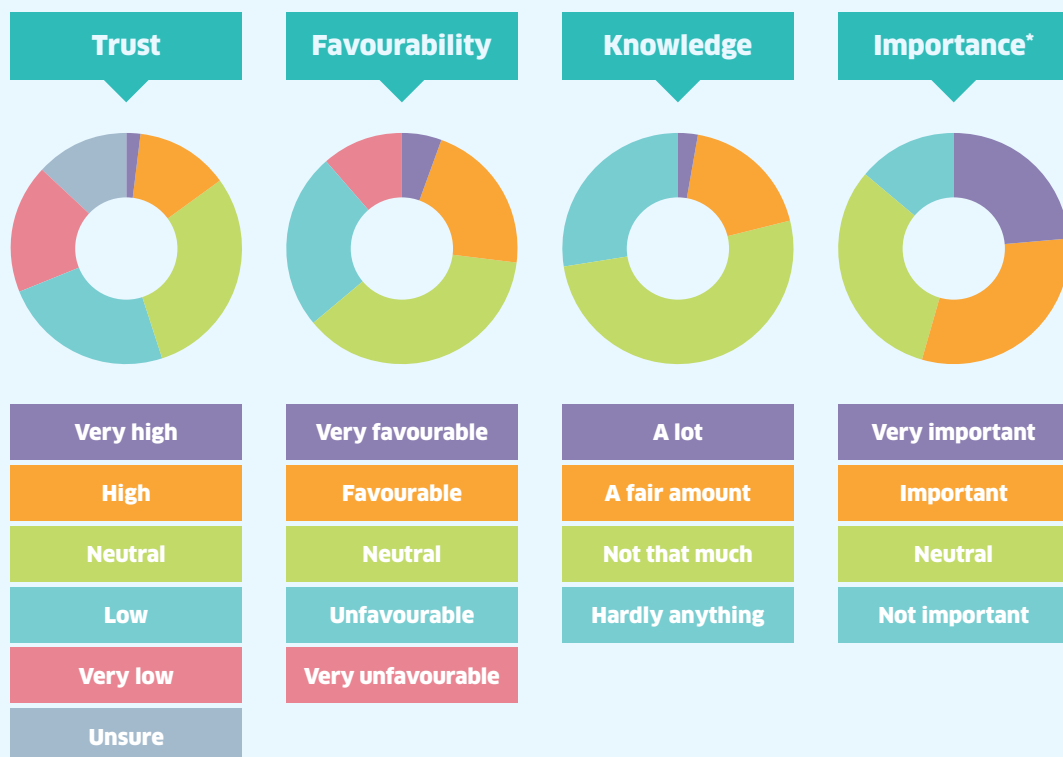
This year PEPANZ undertook a public perceptions survey. The overarching finding of the survey was that while the oil and gas industry is valued, it is not well understood by New Zealanders.

The main reason given by respondents for having an unfavourable opinion of the oil and gas sector was the belief that it was bad for the environment and its perceived negative impact on the climate.

Both knowledge and favourability of the sector were significantly higher among males

than for females, and older respondents were more likely to hold the view that the oil and gas sector is important to the economy.

These types of survey allow a better understanding of the views of New Zealanders and will guide the PEPANZ communications programme over 2017.



* Importance to the economy

PEPANZ HALL OF FAME

The PEPANZ Hall of Fame is a lifetime achievement award presented to a long serving individual for their outstanding contribution to the oil and gas sector. This year's recipient is Richard Tweedie.



A law graduate of Victoria University, Richard first joined the Todd Corporation in 1976 and worked for several years in the Todd Motors vehicle assembly plant in Wellington.

Richard moved to Todd Petroleum Mining in 1981, and joined the company's board in 1987, becoming the managing director of Todd Energy in 1993. Todd Petroleum Mining had four staff and assets of about \$200 million when Richard joined the company.

When he departed in December 2010, the company employed 400 people across operating oil and gas fields, exploration activity and in retail call centres. It had more than \$4 billion of assets and annual revenue of \$1 billion. It was producing the equivalent of 14 million barrels of oil and gas a year and had maintained its reserves in a consistent range of 115 million to 120 million barrels of oil.

Through acquisitions and joint venture partnerships, Richard grew Todd Energy from a company that held a 6.25 percent stake in Maui and a 25 percent share in Kapuni, to a company that now holds interests in fields in Taranaki that account for about 90 percent of New Zealand's annual oil and gas production.

Over his career, Richard has also held various directorships and chairmanships with companies including Cue Energy, King Country Energy, Bay of Plenty Electricity and Independent Energy. Richard was once quoted as saying: *"If you're going to be successful you can't follow the crowd. You've got to be lateral and creative."*

Over his career, Richard has proven time and again to be a lateral and creative thinker, with savvy commercial nous.

Richard is a deserving inductee into the PEPANZ Hall of Fame. He joins earlier inductees Ian Browning, Peter Vause, Barry Dineen and Sir John Todd.

We look forward to inducting another outstanding contributor to the sector into the Hall of Fame during the Gala Dinner at the 2017 New Zealand Petroleum Conference in New Plymouth.

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NEW ZEALAND PETROLEUM CONFERENCE 2016

This year's New Zealand Petroleum Conference was held at Auckland's SkyCity Convention Centre in March 2016.

Despite the challenges facing the sector given the low oil price environment, the Conference attracted over 500 delegates from across New Zealand, as well as from around the world.

Highlights from the Conference included a keynote presentation from Dr Claire Spencer, Senior Research Fellow at London-based Chatham House's Middle East and North Africa Programme, who spoke about the geopolitical and economic changes occurring in the Middle East and North Africa and their implications for the sector.

Chief Executive of New Zealand's Gas Industry Company Steve Bielby gave a presentation on the state of the country's domestic gas market, outlining future growth and demand forecasts.

Suzannah Toulmin, an investment expert from Wood MacKenzie, presented on global interest in New Zealand as an investment destination.

The Conference also included a panel discussion on the post-Paris climate change targets and implications for New Zealand's petroleum sector. Members of the panel included New Zealand's Climate Change Ambassador Jo Tyndall, Victoria University's Senior Associate at the Institute for

Governance and Policy Studies Adrian Macey, Business New Zealand's John Carnegie, and Stuart Frazer of Frazer Lindstrom.

Significant time was also devoted to best practice in iwi engagement, which was chaired by Ngāti Kahungunu's Jonathon Dick.

The Conference was divided into three streams – assessment and exploration (geoscience); exploration and production (technology and engineering); and economics, community and regulatory. All streams attracted high quality presentations from a wide range of speakers and were well attended.

Presentations from the 2016 New Zealand Petroleum Conference can be viewed at www.petroleumconference.nz/presentations-online.

The Conference also saw the launch of the Government's Block Offer 2016 by Minister of Energy and Resources Hon Simon Bridges.

We would like to thank our Foundation Sponsor New Zealand Petroleum and Minerals, our Technical Partner GNS and all our other sponsors, exhibitors, speakers and delegates for making the 2016 Conference such an outstanding success.



JOIN US IN NEW PLYMOUTH FOR THE 2017 NEW ZEALAND PETROLEUM CONFERENCE

Join us in New Plymouth from 21 – 23 March 2017 for the New Zealand Petroleum Conference.

This is the first time the Conference has been held in New Plymouth, the home of New Zealand's oil and gas sector, and provides a unique opportunity to showcase our industry in action.

The Conference will attract around 500 delegates from both New Zealand and around the world, bringing together senior government officials, regulators, industry leaders, international experts and service providers.

The Conference will also feature the launch of the Government's Block Offer 2017.

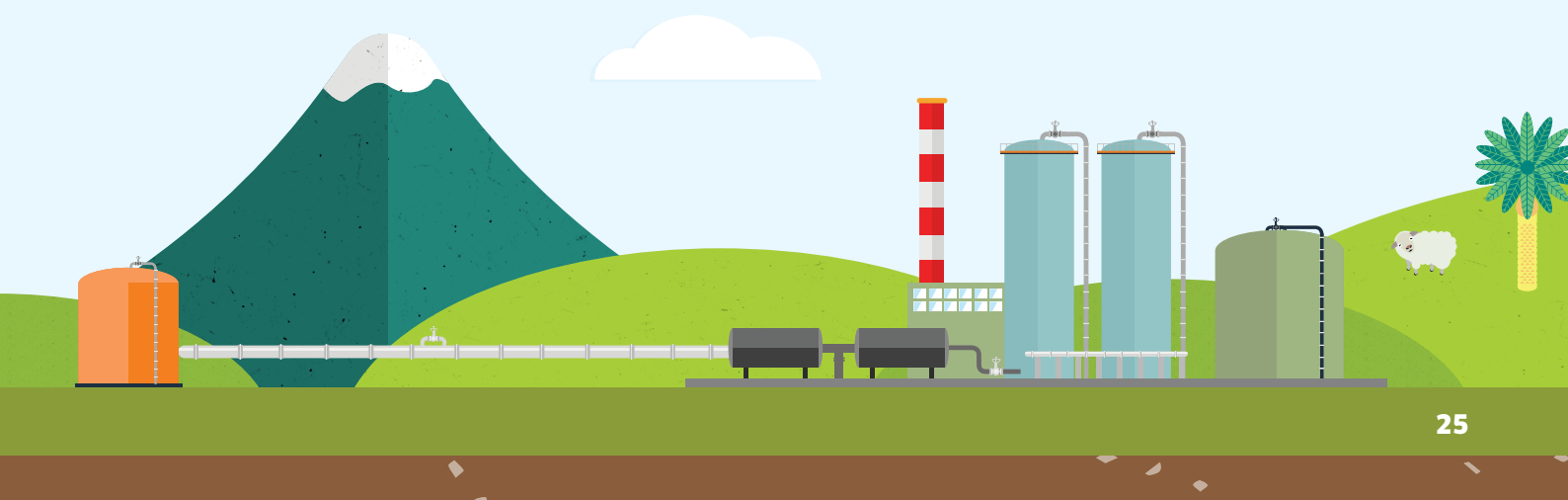
The Conference will consist of three concurrent streams: geoscience; technology and engineering; and community, commercial and regulatory. The conference also features a number of keynote speakers including:

- **Professor Iain Stewart:** Director of the Sustainable Earth Institute at Plymouth University and presenter of the BBC Series "Planet Oil".

- **Sverre Planke:** Chief Executive for Norway's Volcanic Basin Petroleum Research, on the implications of volcanism in sedimentary basins on seismic imaging and petroleum prospectivity.
- **Amit Bhandari:** Fellow, Energy and Environmental Studies, Indian Council on Global Relations speaking about how New Zealand can play a role in diversifying India's energy supply sources and fuels

The Conference will also include a Political Panel, where representatives of New Zealand's political parties will talk about their perspectives on New Zealand's oil and gas industry in the lead-up to the 2017 General Election.

The 2017 New Zealand Petroleum Conference is an event not to be missed. Further information, including registration, can be found at www.petroleumconference.nz.



THE YEAR AHEAD

2017 promises to be another interesting year for the oil and gas sector.

While the long-term outlook for oil prices is looking positive and they appear to have stabilised at present, it is still unclear what the short-term outlook is.

The work the industry in New Zealand has undertaken to respond to the recent fall in prices means that it is well placed to face future fluctuations, but activity next year is likely to remain subdued until it is clear whether prices have stabilised and likely to increase further.

Added to this, New Zealand will hold its General Election in 2017. While there is support across most political parties for our sector, the year ahead will likely see increased focus on the future of New Zealand's economy, the state of our regional economies, the protection of our environment, and how New Zealand meets its emissions target.

Include into the mix the wide range of views on oil and gas exploration and production among New Zealanders, with the need to balance economic benefits with the need to also protect our environment and respond to a changing climate.

This inevitably leads to attention being drawn to our sector. That is why unity is more important than ever and that is the value of an industry association such as ours. PEPANZ allows the industry to speak with one voice, work together to achieve our common objectives, and quickly respond to issues that affect all of us.

In the New Year, we will be releasing our policy platform – which outlines the policies that we believe the next Government should adopt to grow New Zealand's oil and gas sector in a safe, responsible, environmentally sensitive manner while also ensuring New Zealand realises the potential from its natural resources.

The policy platform will be an important part of our advocacy role in the year ahead, and I will be engaging regularly with politicians across the political spectrum on the importance of the sector to the New Zealand economy and to the economies of its regions.

Our communications work programme will also see us move to a more confident and proactive approach. We will be out in the communities that the industry is active in, talking to stakeholders, the media and the public about oil and gas – helping them understand the benefits of the industry, listening to their concerns and answering their questions.

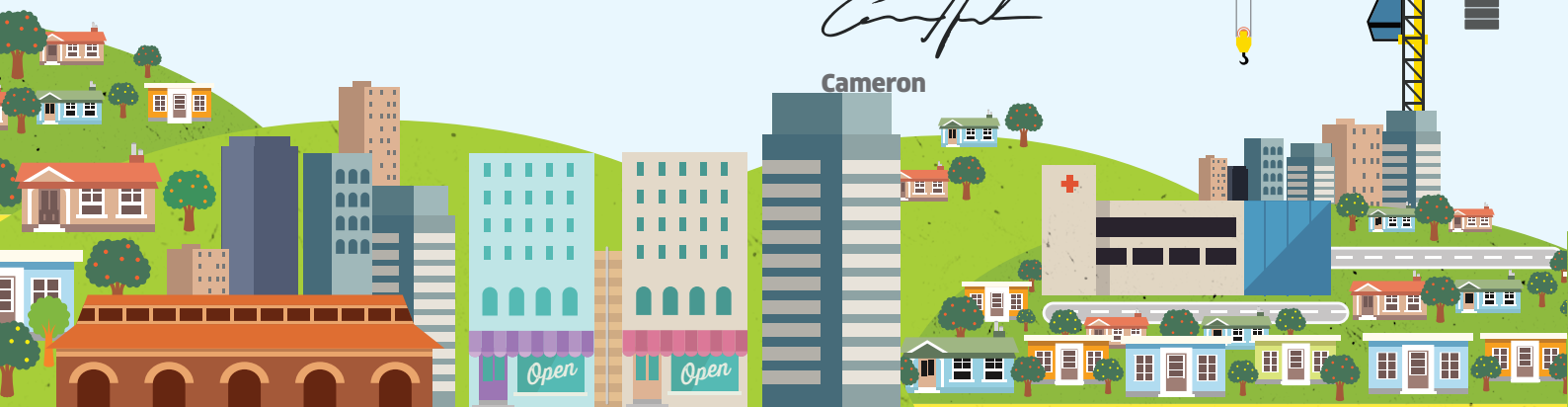
We will also continue to support our Members throughout the year, including creating networking opportunities and communicating more regularly on issues of interest.

Next year promises to be an important and exciting year for the oil and gas sector. Thank you all for your ongoing support and I look forward to working with you in the year ahead.

Nāku i runga i aku mihi ki a koe



Cameron



THANKS

to all our Members
for the support you
have given PEPANZ
during 2016.

- PEPANZ Team



