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Low emissions economy enquiry
New Zealand Productivity Commission
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PEPANZ submission: Low-emissions economy issues paper

Introduction

This document constitutes the Petroleum Exploration and Production Association of New Zealand's (PEPANZ) submission in respect of *Low-emissions economy: Issues paper* ("Issues Paper"), which was released by the New Zealand Productivity Commission ("the Commission") in August 2017. PEPANZ represents private sector companies holding petroleum exploration and mining permits, service companies and individuals working in the industry.

This submission is in two parts:

- Part 1 – Introduction
- Part 2 – Key issues for the upstream petroleum sector

For the Commission's reference, PEPANZ's submissions in February and April 2016 on the two phases of the Review of the New Zealand Emissions Trading Scheme 2015/16 are included as an Appendix to this submission.

Summary

Exploration for and production of petroleum in New Zealand makes a significant contribution to the economy and New Zealand's energy system. Further exploration and development of New Zealand's publicly owned petroleum resources could make an increased contribution to the economy whilst potentially supporting moves to lower emissions intensive energy supply in other parts of New Zealand (e.g. natural gas in the South Island) or other countries (e.g. gas (LNG) in place of coal).

Policy frameworks to reduce greenhouse gas emissions should seek to incentivise efficiency and lower emission technologies whilst maintaining a level playing field for New Zealand firms that participate in global markets. Policy measures should be technology, fuel and sector neutral, encourage innovation and avoid perverse outcomes. A framework for controlling greenhouse gas emissions should be comprehensive, robust, predictable, transparent, and aligned with international approaches.

Domestic outcomes are important but should not be pursued to the disadvantage of the New Zealand economy and global outcomes. Policy frameworks should therefore recognise and provide for new upstream and industrial developments in New Zealand, even those that increase domestic emissions, where this is globally rational from an economic and climate change perspective.

PEPANZ considers that in progressing the inquiry the Commission should give further consideration to:

- The role played by efficient gas generation in supporting New Zealand's electricity market and high levels of renewable generation - changes to the regulatory, institutional and infrastructure arrangements for the electricity sector should focus on reducing emissions in a cost effective way whilst maintaining a reliable electricity system, rather than favoring specific technologies.
- Facilitating opportunities to utilise lower emitting fuels (including natural gas) where possible in industry and transport - gas is being increasingly used in heavy transport applications around the world and could potentially be used in place of coal in industry and in place of oil in heavy transport (trucks, trains, ships etc.).
- The need for a comprehensive regulatory framework for carbon capture and storage (CCS) to enable the deployment of CCS in New Zealand.

Part 1 – Introduction

The upstream petroleum sector in New Zealand currently provides substantial energy (primarily natural gas and LPG) to the New Zealand energy system, exports energy (primarily oil), and enables domestic petrochemical production of methanol and fertiliser. This upstream activity involves high-paying jobs and provides royalties and taxes to the Government. Further exploration and development of New Zealand's petroleum resources could continue the current state as well as potentially leading to an increased scale of industry involving substantial exports of oil and/or gas to meet global demand.

Domestic and international oil companies invest in exploring for, developing and producing publicly owned petroleum resources on behalf of the government, which in turn receives a substantial share of the returns made in the form of royalties and taxes. The investments required and commercial risks taken to generate these returns are borne by industry rather than the taxpayer and New Zealand competes for investment in the petroleum sector with many other jurisdictions around the world.

Royalty and tax income from the industry has delivered substantial sums to the government's Consolidated Fund over a long period. Over the ten year period to 2015 royalties from petroleum production amounted to NZ\$3.2 billion. Like other government revenue, this helps to fund public services and investment in social and economic infrastructure.

As well as the direct value generated from oil and gas production, gas in particular is an essential feedstock for industrial activities such as urea and methanol production. These industries exist in New Zealand as a consequence of domestic gas production and provide direct and indirect jobs. Domestically produced gas also supports a wide range of economic activities that require heat (e.g. furnaces, milk drying, timber processing, oil refining and steel production) and plays a key role in the electricity generation system.

PEPANZ recognises the scientific consensus on human-induced climate change and supports efforts to agree on and implement measures to limit human impacts on the climate system. We note larger oil and gas companies apply an internal carbon price to influence project choices as well as their operations-level practices.

In PEPANZ's report from early 2017 titled "Advancing New Zealand's Petroleum Sector to contribute to national prosperity, regional economic growth and global energy sustainability"¹ we outlined that to maximize New Zealand's contribution to reducing greenhouse gas emissions whilst also avoiding carbon leakage Government should:

- Ensure the NZ Emissions Trading Scheme is robust, in line with global approaches and over time develops strong and durable international connections. A framework for controlling greenhouse gas emissions should be comprehensive, robust, predictable, transparent, and aligned with international approaches and should seek to incentivise efficiency and lower emission technologies whilst maintaining a level playing field for New Zealand firms that participate in global markets.
- Recognise and provide for new upstream and industrial developments in New Zealand within climate change policy, even those that increase domestic emissions, where this is globally rational from an economic and climate change perspective. Domestic outcomes are important but should not be pursued to the disadvantage of the New Zealand economy and global outcomes.
- Facilitate opportunities to utilise lower emitting fuels (e.g. natural gas) where possible in industry and transport"
- Introduce a comprehensive regulatory framework for carbon capture and storage (CCS) to enable the deployment of CCS in New Zealand.
- Provide policy measures that are generally technology, fuel and sector neutral to maximise effect, encourage innovation and avoid perverse outcomes.

Reducing net emissions globally to the extent provided for in the Paris Agreement whilst providing for a growing population and improving living standards is a very challenging task. Achieving this will require behaviour change, major efficiency improvements and the deployment of new technologies on a massive scale. Many approaches need to be pursued simultaneously and there are no silver bullets.

The oil and gas industry operates as part of global networks and markets and we are mindful of the risk that policies could simply shift the burden of emission management from New Zealand to other countries less willing or able to address matters holistically and undermine any domestic economic transition. This is not just an issue of New Zealand's economic development and international competitiveness but also of genuinely reducing global emissions.

The vast majority of GHG emissions associated with hydrocarbons are created when energy-users produce and consume energy products. Oil and gas companies nonetheless have a role to play in mitigating emissions in the production of those products and the oil and gas industry has worked to reduce emissions within its own operations through energy efficiency improvements and flaring, venting and fugitive-emissions reductions.

¹ Available at <http://www.pepanz.com/dmsdocument/15>

Part 2 – Key issues for the upstream petroleum sector

In this section we outline what PEPANZ's sees as key issues from the point of view of the upstream petroleum sector. As mentioned above it is critical New Zealand's policy settings are sensibly aligned with global developments so that domestic efforts to reduce emissions also result in global reductions in emissions and don't unduly limit the economy. Key issues include:

- A. Market based approaches, alignment with global policy settings and emissions leakage (Questions 20, 21 and 38)
- B. Opportunities to reducing emissions from the use of fossil fuels to generate energy in manufacturing and transport (Question 10 and 11)
- C. New Zealand's electricity market (Question 12)
- D. Carbon Capture and Storage (CCS) (Question 15)

A. Market based approaches, alignment with global policy settings and emissions leakage (Questions 20, 21 and 38)

It is important New Zealand's key policies (e.g. the Emissions Trading Scheme (NZ ETS)) are robust, in line with global approaches and over time develop strong and durable international connections. To achieve the desired outcomes it is necessary they respond to the different nature of the energy transitions required in New Zealand and globally.

International trade in energy, and trade in energy intensive products, will continue to be important and can assist to reduce emissions in the global economy if regulatory settings around the world are properly configured towards meeting that objective. It is important that New Zealand's policy settings don't discourage investments here that could contribute to net global reductions in emissions, or be neutral, even if they may lead to more domestic emissions in New Zealand. Access to international markets is important to enable this, particularly for industries that are fully exposed to emissions prices.

The NZ ETS is currently a purely domestic-facing scheme whose units are now solely domestically originated and sourced. Whilst it has trading attributes, given these features and the lack of liquidity and depth in the created market, it is not particularly well suited to discovering an efficient least cost price based on underlying economic fundamentals. These aspects need to be resolved for the scheme to function effectively and in a way that is closer to what was originally conceived (i.e. within a global carbon market). As noted above PEPANZ's submissions in February and April 2016 on the two recent phases of review of the NZ ETS are included as an Appendix to this submission.

It has been clearly signaled by Government and there is accordingly a widespread view that the settings underpinning the NZ ETS will continue to change over coming years. Whilst this is inevitable, to provide some degree of certainty to those parties subject to the NZ ETS it is important this occurs in a predictable manner. Business seeks predictability and stability of the conditions and frameworks in which they operate so they can plan with greater confidence, knowing that the assumptions they make about the future are broadly likely to hold. We are mindful that investors in the upstream petroleum sector, and large industrial enterprises, are generally looking at an investment horizon of 5 to 30 years.

It is important that in all policy approaches appropriate regard is had to technology neutrality with the focus on reducing emissions efficiently. Appropriately configured markets mechanisms can assist this. It is also important not to conflate all fossil fuels as for instance replacing the use of coal with natural gas can reduce greenhouse gas emissions as well as bring other benefits such as improved air quality. Furthermore, switching to renewable energy sources can have multiple but also varying benefits and

should not be treated as a proxy for low emissions. While renewables will often reduce emissions on a lifecycle basis this cannot simply be assumed. For example replacing efficient gas generation with high CO₂ emitting geothermal, or introducing biofuels with few lifecycle emissions benefits, could increase emissions or deliver reductions at very high cost. Adverse outcomes of this kind are less likely with technology neutral policy frameworks.

The Issues Paper identifies Emissions Leakage as an important issue given the export orientated nature of the New Zealand economy. We consider it is a critical issue for New Zealand policy makers to address and a lack of attention to managing emissions leakage could result in both a weaker domestic economy and/or higher global emissions.

The New Zealand oil and gas industry provides energy to domestic consumers and businesses and exports energy to global markets. Continuing and increased oil production in New Zealand would be subject to environmental controls not present in many jurisdictions including emissions pricing, which is currently amongst the world's highest. This ensures domestic production accounts for emissions generated and there are strong incentives to reduce process related and fugitive emissions. Changes in domestic oil production, either increases or decreases, are unlikely to have any impact on global emissions given the small scale of New Zealand production⁴ and the nature of the oil market (i.e. it is demand driven).

Global use of natural gas is widely predicted to grow substantially over 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 in terms of both harmful emissions (e.g. particulates) and greenhouse gas emissions. Demand for Liquefied Natural Gas (LNG) is expected to grow significantly over coming years, particularly in the Asia-Pacific region. Should large gas discoveries be made here, New Zealand's relative proximity to the growing countries in Asia would facilitate potential export of natural gas as LNG to these jurisdictions.

To avoid emissions leakage from current industries and to allow globally rational developments (in both commercial and greenhouse gas terms) to progress in New Zealand it is critical that amongst other things there is access to international markets and offsets (via either the one way importation of units or more complex scheme linking). International connections should logically be representative of New Zealand's main trading partners and competitors such that New Zealand is not placed at a competitive disadvantage relative to those jurisdictions.

B. Opportunities to reducing emissions from the use of fossil fuels to generate energy in manufacturing and transport (Question 10 and 11)

As noted in the IEA Energy Outlook 2015 - "Utilisation of renewable forms of energy will increase substantially over coming years and decades but hydrocarbons will continue to play an important role for many years to come. While use of renewables will grow significantly in some areas, for the foreseeable future hydrocarbons will still be required where renewables are too costly, intermittent or lack scale and where high process-temperatures and dense energy storage are necessary".

As noted by the GIC in the New Zealand Gas Story⁵ "Gas has been the preferred, and in many cases the only, economic fuel for New Zealand commercial and industrial energy consumers. Direct use of gas

² The IEA Energy Outlook 2015 estimates global gas consumption will increase 47% by 2040.

³ The IEA Energy Outlook 2015 estimates global gas consumption will increase 47% by 2040.

⁴ Approximately 35 thousand barrels per day of global production out of approximately 95 million barrels per day of global production, equalling approximately 0.037%.

⁵ THE NEW ZEALAND GAS STORY, The State and Performance of the New Zealand Gas Industry, Fifth edition, Gas Industry Company, December 2016.

and use of efficient gas technologies can lower energy related emissions. Energy-intensive plant such as timber processing, dairy and steel manufacture, would need a considerable change to technology to able them to stop using gas. Some, such as timber processors, are already maximising use of bio-fuels that are underpinned by a small amount of gas for stability and/or cold starts.”

Coal is however still being used in manufacturing and industry and for large scale heating in New Zealand. Where practicable, displacing coal use with natural gas in some industries is likely one of the lower cost options for reducing New Zealand’s industrial emissions. Such displacement in the South Island is currently limited by the lack of a supply network there but any substantial gas-rich discoveries in the South Island that are landed or which did not justify LNG export could potentially displace existing coal applications, although scale limitations and pipeline development costs would need to be addressed.⁶

New technologies such as electric vehicles will contribute to reducing emissions over time amongst the light vehicle fleet and for local heavy vehicles (e.g. city buses and delivery vehicles) but electrification appears unlikely to make a significant contribution to long distance heavy transport (e.g. trucks, trains and ships) for the foreseeable future. Gas, often in the form of CNG or LNG, and other alternative fuels such as methanol are being increasingly used in heavy transport applications around the world as these can reduce CO₂ and local harmful emissions whilst leveraging the lower per unit energy cost of gas compared with oil.

Policy that seeks to reduce emissions from transport should focus on where the most efficient improvements can be made and care has to be taken when pursuing technological solutions in pursuit of wider objectives. Opportunities to utilise lower emitting fossil fuels (e.g. natural gas) in transport should be facilitated where they can offer reliable and efficient reductions in emissions.

C. New Zealand’s electricity market (Question 12)

In contrast to most countries New Zealand is already generating around 80 percent of its electricity from renewable resources and Government has a target of 90 percent of electricity generation from renewable sources by 2025 ‘providing this does not affect security of supply’. Natural gas-fired generation has played a key role in electricity supply over recent decades and continues to do so. While its relative contribution has decreased in recent years it continues to underpin electricity supply by providing reserve capacity and security of supply (for when hydro generation lacks water, wind generation lacks wind or solar generation lacks sun) at a lower cost than other alternatives. Gas-fired modern peaking plants can therefore act as an enabler of increased renewable generation.

The New Zealand electricity system is clearly able to effectively achieve a high proportion of renewables but targeting 100% renewable generation, or looking to exclude any new fossil-fuel generation risks structurally higher energy costs (through the need to have significant overcapacity of inconsistent renewables) and/or supply shortfalls. This could reduce New Zealand’s international competitiveness and business/consumer confidence. Changes to the regulatory, institutional and infrastructure arrangements for the electricity market should focus on reducing emissions in a cost effective way whilst maintaining a reliable electricity system, rather than favoring specific technologies.

D. Carbon capture and storage (CCS) (Question 15)

The Issues Paper refers on pages 31 and 35 to carbon capture and storage (CCS) being uneconomic in New Zealand at this stage. It is important nonetheless to recognise that CCS is a technology that where relevant and appropriate can avoid the release of substantial CO₂ emissions. It is being increasingly

⁶ From GIC’s The New Zealand Gas Story, May 2016, page 24.

deployed around the world and while in what ways, and to what extent, CCS will be utilised in New Zealand is uncertain it may well have a role to play.⁷

Although there are currently no laws expressly prohibiting CCS, the current legal framework is incomplete and uncertain in relation to its key stages (capture, transportation, and storage) and this creates a barrier to investment in and potential uptake of CCS.⁸ Given the extent of the challenge in meeting emissions reductions objectives, it is logical to remove regulatory barriers to all mitigation options.

PEPANZ therefore considers government should develop and introduce a comprehensive regulatory framework to regulate CCS so as to enable its deployment in New Zealand should it prove to be technically practical and commercially rational. CCS could have a role to play and opportunities to deploy it in New Zealand could otherwise be missed due to the lack of a regulatory framework for it. Should a CCS project or opportunity arise the lack of a regulatory framework would mean either the option is simply dropped due to excessive regulatory risk/uncertainty (likely leading to higher emissions) or the Government of the day rushes to put in place a CCS framework in response to that specific project, which would likely only occur if that project was of a large scale. Neither of these scenarios is desirable.

We are mindful that for the oil and gas industry CCS is really a matter of storage as any pre-combustion CO₂ would already have been separated (i.e. captured) through conventional processing. Also, while recognizing the challenges that are associated with CCS, the extraction and injection and transport of gas is a standard part of oil and gas activity and that initial work has already been done on looking at potential storage sites in Taranaki.⁹ Deployment of CCS in New Zealand by the oil and gas industry could simplify the introduction of potentially carbon negative activities such as bioenergy with CCS in future.

⁷ Transition to a low-carbon economy for New Zealand, Royal Society of New Zealand, April 2016, page 18.

⁸ Refer to Carbon Capture and Storage: Designing the Legal and Regulatory Framework for New Zealand, Barry Barton et al, September 2013 A Report for the Ministry of Business, Innovation and Employment and the New Zealand Carbon Capture and Storage Partnership, .Centre for Environmental, Resources and Energy Law University of Waikato.

⁹ Opportunities for underground geological storage of CO₂ in New Zealand - Report CCS -08/5 - Onshore Taranaki Basin overview, GNS SCIENCE REPORT 2009/58, December 2009

Appendix

PEPANZ's submissions from February 2016 and April 2016 on the New Zealand Emissions Trading Scheme Review 2015/16 are attached over the following pages.

19 February 2016

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PEPANZ submission: New Zealand ETS Review 2015/16

Introduction

This document constitutes the Petroleum Exploration and Production Association of New Zealand's (PEPANZ) submission in respect of the "Priority Issues" outlined in *New Zealand Emissions Trading Scheme Review 2015/16: Discussion document* ("the discussion document"), which was released by the Ministry for the Environment ("MfE") in late November 2015.

PEPANZ represents private sector companies holding petroleum prospecting, exploration and mining permits, service companies and individuals working in the industry.

This submission is in two parts:

- Part 1 – Overarching comments
- Part 2 – Responses to questions in the discussion document

Part 1 – Overarching Comments

International context

PEPANZ welcomed the outcome of the successful Paris discussions in late 2015 and also welcomes the opportunity to input on the review of the New Zealand Emissions Trading Scheme ("NZ ETS" or "scheme"). Climate change is a global challenge and to be effective the policy and regulatory response to climate change must be a global one. We are mindful however that while the Paris meeting was successful, its outcomes represent high level intentions and it is not yet known what changes will be implemented by New Zealand's main trading partners and international competitors, or over what timeframe. There are also key details to be resolved, in relation to markets for example, through further international negotiations.

New Zealand's goal, like many countries around the world is to reduce emissions over time. Our domestic and global energy mix is nonetheless highly dependent on hydrocarbons. To reduce climate change we need to use energy more efficiently and transition from higher carbon energy sources to lower-carbon and renewable energy options. Substituting coal with natural gas in power generation is for instance one of the fastest, lowest-cost and most secure routes to decarbonisation (and improved air quality) for many countries around the world, particularly those that don't possess New Zealand's combination of renewable energy options and a small population.

It is essential therefore that New Zealand's policy responses to climate change not only makes sense for our domestic energy system but that they do not create carbon leakage, now or in the future. It is important our policy framework doesn't simply create wealth transfers to other nations without any beneficial impact on global carbon emissions.

International trade in energy, and trade in energy intensive products, will continue to be important and can assist to decarbonise the global economy if regulatory settings around the world are properly configured towards meeting that objective. It is important that New Zealand's policy settings don't discourage investments here that could contribute to net global reductions in emissions, or be neutral, even if they may lead to more domestic emissions in New Zealand. Appropriately reconnecting the NZ ETS to global markets will be necessary to achieve this, avoid carbon leakage and achieve globally rationale outcomes. The NZ ETS is currently a purely domestic-facing scheme whose units are now solely domestically originated and sourced. Whilst it has trading attributes, given these features and the lack of liquidity in the created market it is not particularly well suited to discovering an efficient least cost price based on underlying economic fundamentals.

The current review

There may be logical reasons to review the NZ ETS at this time but we don't see any need to make hasty changes. New Zealand is largely on track to meet near term commitments and the practical outcomes of the Paris meeting and resulting international developments remain unclear. It is also challenging to consider the proposed adjustments to the current NZ ETS in the absence of a holistic road-map that sets out clearly how the New Zealand Government intends to transition into a global climate change response framework. We are also mindful the scheme is effectively targeting little more than a quarter of New Zealand emissions given agricultural emissions (~50% of New Zealand's emissions) are excluded from the scheme and transport (~22% of current emissions) has proved internationally to be highly insensitive to fuel price changes, even large ones, and therefore to any pricing of carbon.

While the NZ ETS settings can be modified in any number of ways to achieve a certain carbon price trajectory, what is critical is whether the level of economic burden implied by that trajectory is akin to that being faced by similar businesses in other jurisdictions and whether businesses can make informed judgments about how the NZ ETS is likely to function in future. The success of the NZ ETS in bringing about investment in emission-reduction activities is not just a matter of sending a high enough price signal. An effective market with more transactions and liquidity is critical to enabling participants to price and manage carbon emissions risks associated with business decisions.

The NZ ETS has since its establishment evolved in ways not initially expected (i.e. the transitional phase and recent disconnection from international markets) and has become somewhat of an amalgam of different features. It is clear that to be effective and meet its objectives the scheme will need to continue to evolve and that a key part of this will be how and when it reconnects with international markets (presuming they exist to connect to).

The current settings, and any changes made as a result of this review are highly likely to be followed by further changes over the next decade and beyond. While these can't be foreseen at this time it is important that the purpose for the NZ ETS, the long term objectives for it, and the preconditions for further changes, are clearly understood and articulated so that businesses making long term investments are able to factor this into their ongoing business and investment decisions.

Making changes to the NZ ETS at this time does not necessarily increase long term certainty if the medium to long term pathway remains uncertain. Opportunistic design changes aimed at delivering

short-term price-focused outcomes can instead foster uncertainty, which is particularly concerning in a period of on-going global economic fragility. It is also recognised that operation of a domestic-only scheme that is separated from regional or international schemes inherently risks having to make continual changes and refinements to achieve alignment with global trends and outcomes.

Sequencing of the current review

We have concerns with the sequencing of the current review, particularly the approach of separating the consultation into two overlapped phases (“Priority Issues” and “Other Issues”). The various aspects of the NZ ETS being consulted on are highly interrelated (e.g. removal of the one for two surrender obligation and the measures for protecting competitiveness through free allocation) and it is not practical to sensibly consider the various aspects in isolation.

Alternatively if, as it appears is the case, the Government’s intention is to make decisions on the Priority Issues in the near term before turning to the Other Issues then it would be logical for the Government to announce those decisions first, so that stakeholders input on the Other Issues is informed of any key changes to the NZ ETS before making further submissions by 30 April. Given there is no obvious path to take forward changes related to the Other Issues there is no apparent need to stick to the 30 April deadline for submissions on them if an extension of time would facilitate better input from stakeholders.

Part 2 - Responses to questions in the discussion document

Question	PEPANZ Comments
Context and drivers for the review	
1. Do you agree with the drivers for the review? Yes/No/Unsure	The four key drivers outlined are all relevant matters. There are however additional matters that warrant consideration which we have noted below in relation to question 2.
2. What other factors should the Government be considering in this NZ ETS review?	<p>The Government should also be considering:</p> <ul style="list-style-type: none"> • The relative merits of the NZ ETS versus other policy measures in meeting the Government’s climate change policy objectives. • The NZ ETS’s ideal long term design features (e.g. how might it reconnect with international emissions trading regimes to achieve better price discovery and liquidity). • How the NZ ETS will integrate into any future Paris Agreement actions – noting these will not be clearly defined for at least 1 – 2 years. • The inclusion of all industries (i.e. agricultural emissions) within the scope of the NZ ETS.
Moving to full surrender obligations	
3. Should the NZ ETS move to a full surrender obligation for the liquid fossil fuels, industrial processes, stationary energy and waste sectors? Yes/No/Unsure	<p>We consider it is appropriate that over time the NZ ETS moves toward full surrender obligations for those sectors subject to the scheme. It is important, however, that this change does not undermine the competitiveness of exporters (creating carbon leakage) or result in disproportionate costs to domestic businesses and consumers.</p> <p>Any removal of the one-for-two surrender obligation should, therefore, be accompanied by a proportionately increased allowance for trade exposed businesses and the retention of measures to manage price shocks. Such measures will remain particularly important until international markets more fully emerge and linkages to them are re-established.</p>

<p>4. What impact will moving to full surrender obligations have on you or your business? Please include specific examples or evidence of the impacts on you or your business of:</p> <p>a) increased carbon prices, including actions to reduce emissions and future investment decisions. Please comment on effects that may occur at carbon prices ranging from \$5 to \$50, including any evidence of actions taken previously when carbon prices were higher.</p> <p>b) any NZ ETS administrative or operational issues, for example the option for participants to apply for a unique emissions factor.</p>	<p>As noted above in relation to question 3, removing the one for two surrender obligation will increase the emission costs to affected businesses by at least 100%, likely more as the increase in demand would logically be expected to raise the price of units as the current surplus of units erodes. It should be recognised that on a year on year basis the change for affected businesses (and potentially their consumers) could be much greater than this given the low emission unit prices in recent years (e.g. 2012 - 2014). The wider flow on effects of this also need to be considered (e.g. the impact on electricity prices given the current importance of gas as a peaking fuel).</p> <p>For internationally focussed and export based businesses a key issue is the relative cost of emissions versus other relevant jurisdictions, not just the absolute cost.</p>
<p>5. If full surrender obligations are applied, when should this be implemented?</p> <p>a) 2016</p> <p>b) 2017</p> <p>c) 2018</p> <p>d) other – please specify</p>	<p>The time between final decisions on changes to the NZ ETS and implementation should be sufficient to allow businesses to sensibly provide for this impact in their business planning. As the impact of the proposed change would result in at minimum a 100% increase in emission costs this could be material for some businesses.</p> <p>Given the scheme operates on a calendar year basis, planning by businesses for calendar year 2017 is already underway, and a decision from Government on this issue is unlikely until towards the middle part of this year, any transition towards full surrender obligations should not commence until at least 1 January 2018.</p> <p>As New Zealand is already on track to meet our current emission reduction target to 2020, imposing rapidly increasing costs on consumers and businesses in the near term is unnecessary to meet the objectives of the NZ ETS. NZIER noted in its report for the review that “Because New Zealand will likely reach its 2020 target without additional emissions reductions, there will be no short term extra financial benefit from greater emissions reductions that accrue with industry facing a higher cost of emissions.”¹</p> <p>Consideration should also be given to a graduated increase in the</p>

¹ Page 9 of NZIER report - Economic impacts of removing NZ ETS transitional measures, December 2015, available from <http://www.mfe.govt.nz/publications/climate-change/economic-impacts-removing-nz-ets-transitional-measures>

	<p>surrender obligation. This approach would provide an opportunity for government to clearly outline the direction of travel, while enabling consumers and investors to adjust their consumption and investment behaviours in an orderly fashion, and allow the development of the global carbon trading arrangements which are important to New Zealand’s ability to meet its long term climate change objectives.</p>
<p>Managing the costs of moving to full surrender obligations</p>	
<p>6. If the NZ ETS moves to full surrender obligations, should potential price shocks be managed? Yes/No/Unsure</p>	<p>Given the lack of international connectedness and the risks of high volatility in the small and illiquid NZ market, it is important price shocks are managed. This should also assist in building confidence and therefore increasing active participation in the NZ ETS over time.</p> <p>There is a major risk otherwise that given the limited and illiquid nature of the market created by the NZ ETS the proposed tactical changes to the scheme (i.e. removing the one for two) may lead to major and uncontrolled increases in prices that could bear no resemblance to emissions costs faced by businesses and consumers in other countries.</p> <p>The NZ ETS was conceived to function in the context of a well-functioning market-based global emissions reduction framework. We would expect that in time such measures may be able to be removed if global activity progresses toward this state, however, until that time it is critical they are retained to avoid volatility in the domestic market causing unnecessary harm to our economy. It must also be recognised there is significant uncertainty with regard to the development of global carbon markets over coming years and so the existence of global carbon trading arrangements cannot be relied upon to be in place by any particular time.</p>
<p>7. If potential price shocks associated with moving to full surrender obligations should be managed, how should this be done?</p> <ul style="list-style-type: none"> a) maintain the fixed price option at \$25 b) lower the fixed price option c) gradually move to full surrender obligation d) other methods. <p>8. If the \$25 fixed price surrender option value should change, what should it change to and why?</p>	<p>As outlined above in relation to question 5, a move to full surrender obligations could be implemented in stages to ensure sufficient measures have been put in place in order that emitters will be able to efficiently access supply and meet their surrender obligations without heavy reliance on the fixed price compliance option. Excessive reliance on the fixed price option would undermine the economic advantages of a carbon trading scheme over a carbon tax, as little trading would take place. We note the approach recommended by the 2011 NZ ETS Review Panel was a phase out of the one for two surrender obligation in three steps over three years.</p> <p>Retaining the \$25 fixed price surrender option nonetheless also remains appropriate given the limited liquidity and lack of international connectedness of the current scheme. This would however mean the potential maximum carbon price would effectively be doubled due to the removal of the one for two surrender obligation. Lowering it to \$12.50 would be necessary to maintain equivalence with the current situation.</p>

29 April 2016

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Introduction

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PEPANZ represents private sector companies holding petroleum exploration and mining permits, service companies and individuals working in the industry.

This submission is in two parts:

- Part 1 – Overarching issues
- Part 2 – Responses to questions in the discussion document

Part 1 – Overarching issues

PEPANZ welcomes the opportunity to again input on the review of the New Zealand Emissions Trading Scheme ("NZ ETS" or "scheme"). Climate change is a global challenge and whilst much policy will be conceived on a domestic basis, to be effective the policy and regulatory response to climate change must deliver globally rational outcomes. New Zealand's goal, like many countries around the world is to reduce emissions over time. Our domestic and global energy mix is nonetheless highly dependent on hydrocarbons and New Zealand has an export focussed economy and growing population.

To reduce greenhouse gas emissions we need to use energy more efficiently, transition from higher carbon energy sources to lower-carbon sources and renewable energy options and find ways to address emissions in the agricultural sector. Substituting coal with natural gas in electricity is for instance one of the fastest, lowest-cost and most secure routes to decarbonisation (and improved air quality) for many countries around the world, particularly those that don't possess New Zealand's favourable combination of extensive renewable energy options and a small population.

It is essential therefore that New Zealand's policy responses to climate change not only make sense for our domestic energy system but that carbon leakage is avoided, over both the immediate and longer term. It is important our policy framework doesn't simply create wealth transfers to other nations without any beneficial impact on global emissions.

Continuing investment in exploration for, and production of hydrocarbons, has provided reliable gas supplies into the New Zealand energy system for the last 50+ years. This supply continues to underpin security of electricity supply, large scale domestic industries as well as residential and commercial users. In turn the continuing existence of these sources of demand underpins ongoing investment in exploring for and developing hydrocarbon resources for domestic use and consumption, and for export. Given the uses of this energy, in the absence of this domestic supply it is likely gas would need to be imported as LNG and/or other hydrocarbon resources utilised (i.e. coal) instead.¹

International trade in energy, and trade in energy intensive products, will continue to be important and can assist to decarbonise the global economy if regulatory settings around the world are properly configured towards meeting that objective. It is important for instance that New Zealand's policy settings don't discourage investments here that could contribute to net global reductions in emissions, or be neutral, even if they may lead to more domestic emissions in New Zealand.

For example any large gas discoveries made could potentially be developed to provide exported LNG to other parts of the world to support electricity generation, thereby reducing emissions vs coal based electricity plants that predominate in many countries. Where this can be commercially undertaken factoring in an appropriate carbon price, it is consistent with both domestic economic objectives and global climate change objectives for such investments to progress.

To avoid carbon leakage from current industries and to allow globally rational developments (in both commercial and greenhouse gas terms) to progress in New Zealand it is critical there is access to international markets and offsets. International trading (via either the one way importation of units or the more complex scheme linking) is a vital measure, particularly given New Zealand's high domestic cost of abatement. These international connections should logically be representative of New Zealand's main trading partners and competitors such that New Zealand is not placed at a competitive disadvantage relative to those jurisdictions.

The NZ ETS is currently a purely domestic-facing scheme whose units are now solely domestically originated and sourced. Whilst it has trading attributes, given these features and the lack of liquidity and depth in the created market, it is not particularly well suited to discovering an efficient least cost price based on underlying economic fundamentals. These aspects need to be resolved for the scheme to function effectively and in a way that is closer to what was originally conceived (i.e. within a global carbon market).

There is a widespread view, as recognised in the discussion document, that the settings underpinning the NZ ETS will change over coming years. Whilst this is inevitable, to provide some degree of certainty to those parties subject to the scheme it is important this occurs in a predictable

¹ Refer for instance to page 50 of the New Zealand Energy Scenarios to 2050 project undertaken by the Business Energy Council, available from <https://www.bec.org.nz/projects/bec2050>.

manner. What business wants is predictability and stability of the conditions and frameworks in which they operate so they can plan with greater confidence, knowing that the assumptions they make about the future are broadly likely to hold.

Emissions markets are artificially created markets and so those required to, or who choose to participate in them, are concerned not only with the dynamics in the market itself, but especially with the approach of market-regulators. In introducing further policy change to the NZ ETS it is important these are developed robustly with regard to the longer term and well signalled so as to mitigate unnecessary risks and volatility. We are mindful that investors in the upstream petroleum sector, and large industrial enterprises, are generally looking at an investment horizon of 5 to 30 years.

We note the Minister for Climate Change has recently stated the Government wishes to establish a working group involving a range of stakeholders to further consider the future design of the NZ ETS. We would welcome this and would hope such a group is given the resources and time necessary to make well-informed recommendations. PEPANZ would welcome the opportunity to participate in this group or otherwise in further discussions on these matters.

Part 2 - Responses to questions in the discussion document

In this Part 2 of this submission we respond to the specific questions posed in the discussion document.

We note Questions 1 - 8 were answered in PEPANZ’s Phase 1 submission on “Priority Matters” in February 2016. We have not answered Questions 13 - 15 because these relate specifically to the forestry sector. In some cases we have provided a single answer to related questions.

Questions in the Discussion Document	PEPANZ Comments
<p>Other issues: business responses to the NZ ETS</p> <p>9. Do you consider the future cost of emissions in your business planning? Yes/No</p> <p>If yes, how do you do this?</p>	<p>Future emissions costs are a factor that is considered in business plans and when looking at investments in the upstream oil and gas sector. Companies generally consider various carbon prices scenarios alongside assumptions or scenarios for other key costs or values. For multinational companies and internationally focussed projects the potential cost of emissions in New Zealand versus other jurisdictions is particularly relevant.</p>

<p>10. What would improve your ability to take into account the future cost of emissions in your business planning?</p>	<p>A key input to the business planning process is the future price of emissions (i.e. the value of valid emissions units). There are however currently no sufficiently active forward markets with respect to carbon prices to provide clarity as to the likely future price of units, or any ability to readily hedge price risks. This makes forecasting future carbon obligations or managing price risks very difficult.</p> <p>While industry cannot reasonably expect certainty with regard to emissions prices into the future (there isn't certainty for other prices or costs either), improved predictability and stability of the policy settings that make up the NZ ETS framework would assist industry in undertaking informed business planning. Establishing an NZ ETS market (including connections with international carbon markets) that has the depth and scale to support futures/forwards markets would assist long term planning and investment decisions.</p>
<p>Other issues: protecting competitiveness through free allocation</p> <p>11. Under what conditions should free allocation rates start to be reduced after 2020?</p>	<p>Any removal of free allocation should be in line with relevant international developments rather than any arbitrary timelines. Free allocation should only be reduced when the international conditions are such that carbon leakage from New Zealand is no longer a material risk. The rate at which carbon leakage risk declines will be determined by dynamic global factors and so free allocation to trade-exposed industries in New Zealand should remain appropriately benchmarked.</p> <p>It is difficult to judge at this time how global policy settings will evolve over coming years and we are mindful that previous expectations of international policy development in the emissions trading area have not been realised. A pre-determined rate of reduction in free allocation levels risks creating a significant distortion in the international competitiveness of affected businesses, unless it happens to coincidentally align with the pace at which obligations are applied globally.</p> <p>Given that emissions pricing appears likely to emerge on a jurisdiction by jurisdiction, or regional basis, rather than being imposed globally at one time it will be important to consider developments in relevant markets. A particular challenge is that different sectors will be exposed to competitors in different markets, which will likely impose varying policies. This raises the potential for any phase out to occur for different sectors at different times, aligned industry by industry to the level at which those industries globally incorporate a price on emissions.</p>

	<p>The focus should be on the development of suitable metrics based around the extent of global emissions covered by emissions pricing in other jurisdictions (at an economy and sectoral level) and comparable effort, in terms of GDP per capita or some other appropriate metric, as opposed to arbitrary time triggers.</p>
<p>12. What impact would it have on your investment decisions over the next few years if there was a clear pathway or criteria for phasing out of free allocation after 2020?</p>	<p>Introducing criteria for the phase out of free allocation would provide a degree of increased certainty for business. As noted above in response to Question 11, any criteria employed should be related to the underlying purpose of free allocation rather than an arbitrary timeline.</p>
<p>Other issues: managing unit supply – international units</p> <p>16. If international units are eligible for NZ ETS compliance in the 2020s, should any of the following restrictions be placed on their use?</p> <ul style="list-style-type: none"> a) restrictions on where units can be sourced from (location of and/or types of projects) b) restrictions on how many units can be surrendered c) others (please explain). 	<p>We are mindful the design of the NZ ETS had at its core the unrestricted use of international offsets. The rationale for this was multifold including a recognition that domestic abatement options would likely be expensive and insufficient and that the use of bona fide international offsets is a legitimate and rational means for countries to meet their global obligations. Ultimately global emissions reduction is the only thing that matters and so whether it is achieved through domestic or foreign abatement is irrelevant. Furthermore by allowing the use of international offsetting the New Zealand Government has been positioned to take on more ambitious emissions reductions commitments.</p> <p>As outlined above in Part 1 of this submission we consider it critical that the NZ ETS reconnects with international carbon markets and that international units again become eligible for NZ ETS compliance. With regard to the specific restrictions suggested:</p> <ul style="list-style-type: none"> a) Only units that represent genuine offsets should be allowed (i.e. linked markets should meet the UNFCCC core principles and trading protocols relating to environmental integrity). There should also be robust monitoring, reporting and verification standards to maintain the integrity of the NZ ETS. Beyond providing for this we see no prima facie reasons to limit where units could be sourced from or for what they relate to. What this means in terms of specific rules will clearly require detailed work and a degree of international agreement. We understand New Zealand is already involved in ongoing international work in this area. b) We don't consider there should be restrictions on how many international units can be surrendered. If companies are able to source units (whether domestic or international) that represent genuine offsets and thereby account for their

	<p>emissions, their ability to do this should not be restricted by arbitrary limits. To prevent this taking place whilst some sectors are exempted from the scheme entirely would be particularly illogical.</p> <p>c) We have not identified further restrictions that are warranted.</p>
<p>Other issues: managing unit supply – auctioning</p> <p>17. Should auctioning be introduced in the NZ ETS? Yes/No/Unsure If yes, when?</p> <p>a) in the next two to three years</p> <p>b) within five years (before 2020)</p> <p>c) after five years (post 2020).</p>	<p>We consider it is premature to say whether, and if so when, auctioning should be introduced. It is more important to determine the role/s or purpose/s of auctioning (see answer to Question 18 below) than to consider potential timelines at this stage.</p>
<p>18. What should be the role or purpose of an auctioning function in the NZ ETS, if one were introduced?</p> <p>a) to align supply in the NZ ETS more closely with our international target</p> <p>b) to more actively manage NZU prices</p> <p>c) other (please explain).</p>	<p>We consider any introduction of auctioning is more logically focussed on allocating supply of units rather than managing prices (particularly given the existence of a price cap). We are mindful the role for auctioning is partially linked to the availability of international units and whether these are accessed directly by market participants or by the government.</p> <p>If however NZU liquidity becomes an issue in the near-term (as for instance holders of banked units may continue to use those units to hedge their forward surrender obligations) it may be necessary for government to provide additional supply by way of auctioning.</p>
<p>19. How should auctioned NZUs relate to other sources of unit supply in the NZ ETS, especially NZUs generated through forestry removals and/or international units?</p>	<p>In the interests of reducing complexity, transaction costs and the potential for distorted market outcomes, it is desirable for all emissions units to be treated equally regardless of whether they are sourced from forestry, by auction, free allocation, or international market.</p> <p>Fungibility of units regardless of their source is desirable as it will help facilitate the further development of market trading mechanisms, including futures and forwards markets. The presence of different types of units within the NZ ETS would in contrast add complexity and complicate the functioning of the market and the development of market mechanisms.</p>

Other issues: managing price stability

20. What impact has carbon price volatility in the NZ ETS had on your business?
- a) minor
 - b) moderate
 - c) significant.

We understand price volatility to this point in time has had only a minor impact on businesses in the upstream petroleum sector due to the relatively low price levels that have predominated and the existence of the transitional measures.

The substantial level of price volatility has nonetheless had an impact on confidence in the market. A degree of price stability is important for the political credibility and durability of the NZ ETS, particularly in its current form as a domestic-only trading scheme. Prices that are excessively high or low are also likely to undermine the performance of the NZ ETS against its objectives. The greater issue however remains long-term uncertainties as to market design and the potential impacts of this on emission unit availability and prices.

Looking forward, as emissions pricing potentially forms a greater part of overall costs it will become an important determinant of profitability for emissions intensive businesses (e.g. if emissions costs equate to say 5% of total costs this would likely represent a large proportion of potential profits) and so volatility or perceived volatility could create material uncertainty for new business investments, whether new projects or upgrades, extensions etc.

<p>21. Do you think measures should be in place to manage price stability? Yes/No/Unsure</p>	<p>Yes. Significant price volatility, which is a material risk given the current market design and small market size, would potentially be damaging to domestic consumers (through price increases) and could also undermine confidence in the market and create investment uncertainty.</p> <p>A price cap remains a valid option until the concern that the burden being placed on New Zealand businesses is disproportionate to that being faced by their trade competitors dissipates.</p> <p>We note that increasing the scale of the market, for example through enhanced international connections, may reduce many of the risks that direct measures to manage price stability would be designed to address by improving market depth and liquidity, improving futures and forward markets and maintaining international competitiveness in terms of emissions pricing. Care must be taken though as international connections can also import risks (i.e. price shocks in connected markets) particularly if the markets connected to are larger than the NZ ETS, which is likely. The nature of those connections therefore needs to be carefully considered from this perspective as well as from others such as environmental robustness.</p>
<p>22. What do you consider are important factors for managing price stability?</p> <p>a) upper price limits (e.g., fixed price option, or a price ceiling implemented through an auctioning mechanism)</p> <p>b) lower price limits (e.g., price floor)</p> <p>c) other (please explain).</p>	<p>There is a potential role for both upper and lower price limits. Upper limits are particularly important with a small illiquid market such as the current NZ ETS. We note that lower price limits have a natural limit of \$0 whereas upper prices without a limit are uncapped. In such instances risks are asymmetric.</p> <p>The gap between any upper and lower limits must be sufficient so as to enable the market to function effectively. If the limits are frequently close to clearing prices then they will likely influence the price substantially, with the market participants unduly adapting their actions to the actions or signals of the regulator and rather than the signals provided by the market process and its underlying fundamentals.</p>
<p>23. What should the Government consider when managing price stability?</p>	<p>Factors that should influence the decision to manage price stability include:</p> <ul style="list-style-type: none"> • the functioning of the market (e.g. risks of market failure); • the workability of market arrangements; and • the depth and liquidity of the NZ ETS market, particularly in the absence of access to international markets.

<p>Other issues: operational and technical matters</p> <p>24. Are you aware of ways the administrative efficiency of the NZ ETS could be improved? Yes/No/Unsure</p> <p>25. Can you provide further information to support your answer? We would be interested in comments on:</p> <ul style="list-style-type: none"> a) complexities involved in NZ ETS participation b) penalties for breaching NZ ETS obligations c) any technical or operational changes that could be made to the NZ ETS to improve efficiency. 	<p>Overall our members indicated that administratively the NZ ETS is functioning reasonably well. A specific issue noted was that the NZEUR website can be very slow on the final filing and surrender dates (e.g. on these dates it is common for the site to freeze and lock users of registry accounts for substantial periods).</p>
<p>Other issues: addressing barriers to the uptake of low emissions technologies</p> <p>26. Are there any barriers or market failures that will prevent the efficient uptake of opportunities and technologies for reducing emissions?</p> <p>27. If so, is there a role for the Government in addressing these barriers or market failures and how should it do this?</p>	<p>The focus in the discussion document is on options to reduce New Zealand’s domestic emissions. The Government should not however omit considering how New Zealand’s domestic policies can and will influence our potential contribution to reducing global emissions through producing and exporting products in a GHG efficient manner.</p>