

28 February 2020

Submission on the *Accelerating renewable energy and energy efficiency* discussion document
Ministry of Business, Innovation and Employment

Submitted by email to energymarkets@mbie.govt.nz

PEPANZ Submission: Accelerating renewable energy and energy efficiency discussion document

Introduction

1. The Petroleum Exploration and Production Association of New Zealand ("PEPANZ") represents private sector companies holding petroleum exploration and mining permits, service companies and individuals working in the upstream petroleum industry.
2. This document constitutes PEPANZ's submission to the Ministry of Business, Innovation and Employment ("MBIE") on the discussion document entitled *Accelerating renewable energy and energy efficiency* discussion document,¹ which was released in December 2019 and for which submissions are due on 28 February 2020.

Overview comments

3. We support lowering emissions but this must be done in an economically-efficient manner.
4. Greater evidence must be provided in relation to why intervention is needed, and the thinking needs to be grounded in clear economic analysis. Prices distil complex, dispersed and dynamic information into simple signals and should be the preferred method (with appropriate carbon pricing) to ensure resources are efficiently allocated. Material market failure must be present to justify intervention, and even then the risk of government failure must be carefully considered.
5. Greater evidence must be provided in relation to two assumptions that underpin current policy direction, which are that:
 - action and fast-paced change is presumed to be the best choice. This is however not a certainty and delayed action may be a better choice especially as the cost of technology decreases over time.

¹ <https://www.mbie.govt.nz/dmsdocument/10349-discussion-document-accelerating-renewable-energy-and-energy-efficiency>

- the ETS is seen as inadequate and complementary measures are viewed as necessary. We do not accept this view and, consider that because the ETS is currently being strengthened it should be given the chance to do its job before assuming that other mechanisms are also needed. Multiple interventions also make *ex-post* analysis of effectiveness difficult.
6. Efficient abatement opportunities (and associated costs) can only be known at the level of the firm, and the ETS already serves as the best signal to ensure that emissions are considered. Intervening in private enterprise to dictate specific projects or to engineer outcomes compromises property rights and presumes that government knows better about how to allocate resources and consider trade-offs than a firm. This reduces welfare by misdirecting resources.
 7. Bans are inefficient and blunt tools that preclude options and are frequently lead to unintended consequences from which there is no adaptability short of repeal. Signalling that further bans may be considered reduces confidence that reasonable predictions about the future will hold true, and this can delay action or lead to increases in cost of goods and capital.
 8. Attempting to allocate private natural gas resources (through what would represent a confiscation) should be rejected on the basis that the market is functioning efficiently, and the risk of government failure is extremely high. The priced risk of reallocating property will flow through the economy and will compromise the confidence of investors. Even if (strictly speaking) only baseload gas is within scope of the reallocation proposals, in reality peaking capacity and pricing would be affected as operators would need to recover costs and make an economic profit from a much smaller buying market. We know from the work of the Interim Climate Change Committee that natural gas is critical to affordable electricity market so the perverse outcomes of compromising the gas market could be severe.

Scene-setting remarks

We support economically-efficient reductions in greenhouse gas emissions driven by markets

9. We support the goal of lowering greenhouse gas emissions, however this must always be done in the most economically-efficient manner given resource constraints. Our view is that decentralised, competitive energy markets are the most flexible and responsive mechanism for delivering efficient outcomes (relative to centralised control). We are concerned about preferences for direct interventions aimed at ambitious electrification, as this implies that market mechanisms are longer relied upon to deliver lowest marginal cost abatement of emissions.
10. With direct interventions comes abatements costs which are imposed on consumers in a hidden way (compared to the explicit price associated with the Emissions Trading Scheme "ETS"). We are opposed to bans and interventions that foreclose options or which seek to engineer outcomes via specific mechanisms or tool. Lowest-marginal cost abatement cannot be achieved if regulatory barriers or interventions preclude least-cost pathways from being discovered and implemented by firms.
11. The energy market is a complex system, so pulling levers can easily have unintended consequences throughout the system or may be gamed by astute market participants.

Market failure must be present to justify intervention

12. In seeking to lower emissions, we consider it critical that an energy trilemma lens be the governing framework for viewing energy policy, and that interventions are only appropriate

when there is genuine and material market failure, such as the failure of competition, the provision of public goods, incomplete markets, or information failures. When contemplating an intervention to address market failure, it is important to consider the risk of 'government failure', whereby the cost of dealing with a market failure can exceed the cost of the failure itself².

13. Where genuine market failure exists in relation to negative externalities, market-based instruments are typically the most efficient tool to manage and internalise them. That is because prices distil and convey complex, dispersed and dynamic information in a way that centralised bureaucratic decision-making cannot.
14. It is for these reasons that we strongly prefer the ETS (which should be internationally connected to achieve emissions abatement at the lowest marginal cost) as the tool to lower energy emissions.
15. Simply disliking current outcomes or having different normative preferences is *not* a case for intervention, instead there should be a strong economic grounding and strong confidence that intervention will achieve the desired outcome without undue cost and unintended consequences.

A systemic approach (as opposed to a sectoral approach) is needed

16. Because the economy and energy markets are complex and increasingly interwoven³, taking a broad and systems-based lens minimises the risk of unintended consequences. This contrasts to choosing specific goals or outcomes, which may come at the expense of other important matters. While it is tempting to directly intervene in isolated sectors of interest (such as candidates for electrification), it is likely that interventions will affect other parts of the energy sector. If (as is contemplated in the discussion document) electrification is chosen as a preferred pathway and thermal generation is phased down through government intervention this would lead to higher reliance on renewables and potentially less affordable electricity.
17. Higher reliance on renewables can put at risk security of supply, as renewable technology (both in terms of generation and distribution) are more vulnerable to weather-related issues arising from climate change compared to natural gas generation and distribution. The BusinessNZ 2060 Energy Scenarios makes this point well:

"... Over a quarter New Zealand's electricity supply comes from hydro, leaving us vulnerable to adverse conditions such as low rainfall and climate change and the vast majority of our liquid fuels come from overseas, meaning reliance on global markets and trade agreements. At the moment thermal generation can be used to bridge the gap in supply when required and helps New Zealand reduce the variability in generation as it is not weather dependent."⁴

18. We find the BusinessNZ Energy Council's perspective to be useful when considering complexity and we include this below:

² Sources of government failure include market distortions, welfare impacts, disincentive effects, short-termism, electoral pressure, regulatory capture and imperfect knowledge.

³ A key example of the greater interconnection is that with increasing electrification, the electricity market is now relevant to process heat and transport; and similarly, natural gas becomes more important for affordable electricity in terms of peaking. If hydrogen is to be deployed, this will also put pressure on electricity or gas markets (depending on the feedstock used).

⁴ <https://www.bec2060.org.nz/scenarios/key-messages>. The excerpt is found under the Energy Security heading.

"The prospect of increasing complexity in energy markets, including transport, exemplifying the broader complexity of the desired economic transition, suggests caution in designing policy frameworks. Reliance should be primarily on policy instruments that act at the system level (e.g. the carbon price), which then allow various markets within that system to collectively adapt to find the most efficient response. While governments can express aspirations for various parts of the system, any actions likely to change incentives in that part, in isolation, should be approached with extreme caution, and - at the very least - be subject to rigorous cost-benefit tests which consider in detail the consequential effects on other sectors."

A stable investment environment is crucial

19. A stable and predictable regulatory regime with clear property rights is crucial, especially given New Zealand's reliance on foreign capital and the lengthy capital-intensive developments involved in the energy sector. Unpredictable settings increase sovereign risk and the cost of capital (which is often of overseas origin given lack of depth in local market and particularly attuned to headline impressions of country risk), which affects all developments.

Options should be assessed using the economic framework of market failure

20. The discussion document (p18) outlines the criteria for assessing options. These focus on:
 - a. considering whether the option has "an impact on greenhouse gas emissions"
 - b. wider economic effects:
 - i. Productivity impacts
 - ii. Distributional impacts
 - iii. Innovation and uptake of new technologies
 - iv. Health and environmental benefits and costs
 - c. administrative and compliance costs.
21. These are generally appropriate, but reference should be made to productive efficiency, allocative efficiency and dynamic efficiency. When those are in place we will be best placed to look at reducing emissions and promoting social efficiency.
22. Also, in line with our opening remarks consider that, when considering interventions, the first and most important question should be to ask whether a genuine and material market failure is present. Then, when considering interventions, the criteria above (i.e. from the discussion document and our suggested consideration of economic efficiencies) can be employed to assess options. In other words, the problem definition needs to be clearly identified using an economic lens (which, for the avoidance of doubt, includes consideration of greenhouse gas emissions as these are a negative externality).
23. We are concerned about the analytical rigour applied to the proposals in the discussion document and recommend that the framework for analysis be taken back to economic basics.

Comments on "Encouraging energy efficiency and the uptake of renewable fuels in industry"

Early action precludes adoption of new proven and established commercial technologies

24. The discussion document (p14) states as a matter of fact that "Early actions in the sector will help provide certainty for investment, and avoid abrupt, high cost transitions later." This statement is made emphatically but contradicts the widely held expectation that prices of

future technology will fall. Later action, which allows the adoption of newly proven and commercially viable technology, may therefore be better value. Rather than relying on government to attempt to pick winners or the pace of change through interventions, we prefer price signals to direct resources.

25. The discussion document also states (p14) that "It [early action] also reduces their exposure to energy and carbon cost volatility, enabling business to more effectively manage risk". Again, this may be the case, but this can only ever be known at the level of the individual firm, so businesses must be able to decide for themselves, under of course the governing price signal of the ETS.

International units are inappropriately excluded through a presumption in the Zero Carbon Act.

26. The discussion document (p16) states "Lowest cost abatement driven by the NZ-ETS may result in a heavy reliance on forestry and the purchasing of overseas ETS units in the short-medium term." We find this ironic given New Zealand faces aggressive and ambitious targets, yet now already precludes economic options. Accepting that access to international units (a.k.a. offshore mitigation) is not in scope of this discussion document, we put on record again our concern at this exclusion within the broader institutional framework.

Comments on "Corporate Energy Transition Plans"

27. We do not support greater information disclosure being imposed, especially given compliance with Task Force on Climate-related Financial Disclosure ("TCFD") regime is expected to be required following recent government consultation. The case has not been adequately made to suggest that market failure exists to warrant regulation requiring business to devise and publish corporate energy transition plans.
28. Fundamentally, businesses already face the cost of carbon through the ETS and it should remain up to individual firms to determine their response to that. In addition to the price signal faced, firms also face the increasing awareness of climate change issues. This reduces the chances that boards and management are unaware of emission-related issues that should be considered.
29. We do not support the proposal to require the public release of 'corporate energy transition plans'. This proposal is simply ill-conceived as it compromises property rights, delves into firms' private information and may cause issues in terms of commercially sensitive material. A compelling public policy reason must exist before requiring this, and we consider the key question is whether regulators are getting sufficient and appropriate emission data to promote the efficient functioning of the ETS (which we contend that they already are). The desire to publicise details about individual entities therefore seems gratuitous, and we can imagine the information being used to 'name and shame' firms.
30. Separately, the discussion document states (p22) that:

"...Some large energy users covered by a Corporate Energy Transition plan option will be NZ-ETS participants. However in the NZ-ETS, most industrial energy users report only their non-energy process emissions. Energy emissions are reported further upstream by producers or importers of fossil fuels rather than users. This does not provide granular information on energy use and emissions at the site, process, and product level."
31. Technically, upstream producers of hydrocarbons hold the reporting obligation, but under the ETS the downstream user can opt-in to take this responsibility to be able to minimise emissions and therefore the liability. For the reader's information, we note that the upstream

petroleum sector in New Zealand contributes approximately 1% of the country's greenhouse gas emissions.

Comments on "Deterring the development of any fossil fuel process heat"

32. We do not support banning new coal-fired boilers. As a general principle, we do not support bans as they are blunt instruments which reduce optionality and hide the true cost of abatement. Bans may also have significant unintended consequences which cannot be easily unwound, and even if such consequences are identified, it is very difficult to unwind in a manner that restores investor confidence if the policy is subject to party politics. What may be a good choice for one firm may not be good for another, and because information is dispersed only the firm in question can best make decisions on what technology to use.
33. A ban on coal-fired boilers would have significant costs on businesses that do not have access to reasonable alternatives (and where a business *does* have access to commercially viable alternatives it would surely already take that opportunity), especially with increasing carbon prices. Such costs are either born by consumers (where it can be passed through) or the firm (with lower profits, which are due to either reduced quantity demanded or, in the case of exports, having to absorb costs which cannot be passed through).
34. Bans do not tend to be politically durable which also means they are ultimately an ineffective tool.

Potential phase-down of natural gas

35. Government willingness to use bans also sends a generally negative signal to investors about the predictability of future settings. This is because bans are seen as extreme and blunt moves. We note with concern the possibility floated (p42) that although natural gas is not proposed to be banned at this stage, "*it is possible that the phase down of gas in industry will also be required in the future*". Clearly this creates uncertainty for people and businesses using, or considering to use natural gas in the future and would, other things equal, increase the risk-adjusted cost of capital in the New Zealand energy sector.
36. At a time when natural gas reserves are declining, yet while gas is still essential for secure and affordable electricity, it is poor signalling to indicate that future gas bans may eventuate. Even floating this idea in the discussion document creates a cost through the signal that it sends. Potential costs arising from risk of changes are that firms increase costs or do not act.

Comments on "Boosting investment in energy efficiency and renewable energy technologies"

37. It is worth quoting the problem definition proposed in the discussion document, which states:

"Energy projects within a business compete internally with other capital investment projects. Even when these projects are privately profitable, they can remain unimplemented as other, more attractive, more easily quantifiable, or essential to core business projects are prioritised. As such, a gap exists between the carbon price that would make a project profitable and the price that would make a project a priority for implementation. This competition for capital is a major barrier to more efficient and renewable use of process heat. In addition, some businesses may have limited access to capital to allow them to implement cost-effective energy projects."

38. This proposal is akin to the government forcing private enterprise to change its carpet or upgrade its bathrooms after a certain period, and we firmly oppose it.

39. We agree that energy projects compete for internal capital, but this does not represent an actual barrier per se. The observation about competition for capital is axiomatic as *everything* faces competition, and all decisions have an opportunity cost.
40. We accept that it is important that firms have information to ensure they can make informed decisions about energy, but consider that firms already have the right incentives to pursue and use this information. General information can be obtained online, and tailored advice can be sought from consultants, service providers or even the government's Energy Efficiency and Conservation Authority.
41. On the basis that firms already face the right incentives and on the basis that no market failure is present, we oppose direct intervention in private enterprise to engineer outcomes by directing capital. We note the example given, under which:

"...it could be a regulatory requirement that for large energy users all eligible profitable clean energy projects with a payback under a specified number of years are implemented by the business."
42. Even if the payback period is 'reasonable', revealed preference of not voluntarily pursuing the energy project shows that the opportunity cost outweighs the benefit. Only the firm in question can judge this, and imposed requirements are highly likely to reduce welfare as resources are channelled to less efficient areas. As an aside, using the payback period not a sound way to judge commercial projects, and instead Net Present Value ("NPV") should be used as it accounts for the time-value of money, inflation and risk.
43. Lastly, there are many practical questions in relation to such a proposal, including in relation to compliance monitoring and enforcement.

Comments on "Enabling development of renewable energy under the Resource Management Act 1991"

Comments on the proposal to "Amend the National Policy Statement for Renewable Electricity Generation"

44. The discussion document (p60) considers that:

"Another potential amendment that could be explored is whether the scope of the NPSREG should be expanded to cover not only REG but also all other types of renewable energy, e.g. wood energy, liquid biofuels, green hydrogen and waste-to-energy."
45. We generally only support national direction where significant benefits accrue nationally but where costs and negative effects fall locally (i.e. where local "hold out" prevents major national benefits). National energy security could potentially therefore warrant national direction in relation to the renewable technologies mentioned, but this could also apply to natural gas which is important for energy security and affordability.

Comments on the proposal for "Developing offshore wind assets"

46. We agree that it is important that sectors and industries do not face unreasonable regulatory barriers, so support looking at how the offshore wind sector is placed. However, we do not support going beyond looking at regulatory barriers in terms of picking winners such as through tax incentives as proposed. To ensure capital is allocated efficiently it is important to price key externalities, but subsidies will send signals to chase artificial returns and also risk distorting the tax system. Subsidies do not tend to be durable either which creates regulatory risk in the market.
47. If subsidies and policies are set up across different regimes, there arises the risk of scope creep and duplication whereby responsibility and accountability is diminished rather than

enhanced. Different regulators and policy makers may feel less need to focus on areas where another agency also has responsibility. In addition, if multiple regulators are considering the same matter and imposing requirements or conditions, the risk arises that contradictions and inconsistent requirements are imposed which puts operators in a difficult position in terms of knowing which standard to meet.

Comments on “Phasing down thermal baseload and placing natural gas in a strategic reserve”

48. The proposal in relation to placing natural gas into a strategic reserve is unclear in terms of key details, and we make the following comments in light of that. At a practical level, the proposal lacks critical details, including about how and where gas is to be “reserved”. Would permit holders keep it in reservoir, or is it to be produced and stored for quick deliverability? The design elements (in terms of triggers for releasing gas) will be complex, and the administration costs will be high.
49. We strongly oppose any consideration to artificially phase down thermal baseload (beyond regular market forces) and to place natural gas in a strategic reserve. Fundamentally, there is no market failure which warrants intervention as the carbon price internalises the externality of greenhouse gas emissions. At the same time as this proposal is being consulted on, other parts of government are proposing to strengthen the ETS. The ETS provides the appropriate signal, and concurrent consultation on complementary measures risks incohesion with different tools attempting to achieve the same goal.
50. Permit holders spend large sums of capital exploring for and developing natural gas resources. Noting that key details are missing from the proposal, the reservation of gas represents an expropriation of property rights. At the very least, permit holders would need to be compensated so they do not incur an economic loss on investment, but even then the Crown would be paying high sums which has a direct opportunity cost in terms of general expenditure or other abatement opportunities.
51. Given the significant costs associated with the transition to a low emissions economy, achieving lowest marginal cost abatement must be the priority. However, because information is dispersed this can only be judged at the level of the firm, so it is best to leave individual businesses, (governed by the carbon price) to allocate capital. If costs exceed marginal abatement under the ETS (which we would strongly expect to be the case), then the proposal is not welfare enhancing and in fact makes society worse off.
52. A strategic reserve resembles a capacity market in that it is based on the state considering it best knows how to allocate resources which may or may not be needed in future. However unlike a capacity market, the strategic reserve is (in our understanding) not intended to release gas when needed but rather to hold it back so it is never used, in the hope that renewable generation will be developed to fill the demand gap. Any policies to reserve gas will suffer from the inefficiencies associated with any direct intervention as the government will not face price signals to direct when to release gas to the market. Given no clear problem definition has been presented, and given the significant risks and downsides, this proposal should be abandoned.
53. Also, the focus of climate change policy must be on reducing net emissions and not choosing fuel winners and losers. Not all renewables are emission-free (e.g. geothermal) and hydrocarbons can be used without emissions (using carbon capture and storage). This means that gas reservations could, conceptually, increase emissions if geothermal is

developed to fill the gap when a counterfactual scenario could be natural gas electricity generation combined with carbon capture and storage.

54. The contemplated reservation tool would only apply to baseload gas, and not peaking. In reality though, peaking capacity and pricing would be affected as operators would need to recover costs and make an economic profit from a much smaller market. This would require much higher prices if investment in reserves for peaking is to continue. We know from the Interim Climate Change Committee's ("ICCC") work that higher electricity prices compromises the ability to electrify process heat and transport. The ICCC's insight, when applied to the price impact on peaking from a gas reservation, indicates that the policy may serve to perversely increase national emissions.
55. From a whole-of-economy view, an intervention of this nature will compromise investor confidence, by showing that policies are unstable and that years of work and millions of dollars of capital can be upended by government interventions in the market. This affects not only petroleum companies but renewable investors too, who we would expect to see price risk into their investment decisions. In short, an intervention of this nature would increase sovereign risk – if companies consider there is regulatory risk the weighted average cost of capital increases, leading to higher prices throughout the economy.