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Energy Resources Markets Branch
Ministry of Business, Innovation and Employment
15 Stout Street
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Submitted by email

Submission on:

Gas Transition Plan Issues Paper

By Carbon and Energy Professionals New Zealand



INTRODUCTION

CEP welcomes the opportunity to comment on MBIE's Gas Transition Plan Issues Paper. Gas plays an important role in New Zealand's current energy mix and will continue to do so as we transition to a fully renewable electricity sector.

For context, CEP is the professional body that represents energy efficiency and carbon professionals in New Zealand. We train and certify individuals in a wide array of energy efficiency, carbon management and carbon measurement disciplines. CEP and our members will be crucial to the success of policies aimed at creating a low emissions future and we welcome the opportunity to input into the development of policies and strategies.

CEP is affiliated with Engineering New Zealand as a Collaborating Technical Society. The CEP membership comprises expert level practitioners in energy efficiency and carbon management, the people who will deliver the engineering expertise to transition to a low emissions economy.

CEP is a not-for-profit Incorporated Society. Supporting effective energy, carbon and sustainability management is embedded in our constitution.

We focus our comments on areas where our organisation and membership can provide relevant comment or advice.

We section our submission in line with the sections in the consultation document.

1. TRANSITIONING OUR GAS SECTOR

Consultation Questions

- How can New Zealand transition to a smaller gas market over time?
- What is needed to ensure fossil gas availability over the transition period?
- What factors do you see driving decisions to invest or wind down fossil gas production?
- Does the Government have a role in enabling continued investment in the gas sector to meet energy security needs?
 - If yes, what do you see this role being?
- Does the Government have a role in supporting vulnerable residential consumers as network fossil gas use declines?
 - If yes, what do you see this role being?

Transition to a smaller gas market should follow a managed retreat style approach with smaller and more remote users falling off the network in a staged process to the point where larger users, more specifically users that most need a fuel with the energy properties of gas, only are being serviced. Domestic and small business users are more likely to have alternative technologies available for their activities, most notably through electrification. Smaller users that require higher temperatures for processes could be encouraged to transition to biomass. Good notice periods (minimum five years) will be required to allow appropriate planning and financing and a Gas Transition Fund would help support smaller, commercial users transition in a timely manner. This fund could, possibly, also provide assistance to vulnerable consumers currently reliant on gas. Such a fund would be open only to users meeting specified criteria in specified areas at any particular time. This type of approach would facilitate a managed shrinkage of the network while still maintaining a base of users sufficient to cover the costs of maintaining the integrity of that shrinking network. The objective would be to shrink the network to the point where large or specialist user demand only is satisfied and this by renewable gases. Such a fund could be administered through EECA in a similar way to the existing GIDI and state sector decarbonisation funds.

The essential element of ensuring the success of a process like this would be in understanding the end point, i.e to develop a clear understanding of what the gas network will look like at that end point (likely several decades away), for example, where renewable gas generation sites will sit, their likely level of production and the level of consumption across the dramatically reduced number of users.

In the meantime, gas producers need confidence they will have a market to justify investment in maintenance and extraction over the medium term. A managed retreat style plan will provide confidence there will be gas demand at certain levels at future time points.

The main risk to such a process is deviation from the plan caused by:

- Swifter than expected transition away from gas in areas not targeted at the time leading to higher network maintenance costs (per user), excess supply and unviable returns for producers, followed by
- Earlier than anticipated withdrawal from the market by producers resulting in a shortage of supply.

To avoid deviations from the plan, the Government could consider providing a guaranteed minimum price on production over the medium term sufficient only to ensure adequate supply. There would need to be a cap on the volume potentially attracting subsidies to discourage over production and minimise distortions on investment signals. Again, this would require accurate medium and longer term planning.

Consultation Questions

- What role do you see for gas in the electricity generation market going forward?
- What would need to be in place to allow gas to play this role in the electricity market?
- Do you think gas can play a role in providing security of supply and/or price stability in the electricity market? Why / Why not?
- Do you see alternative technology options offering credible options to replace gas in electricity generation over time? Why / Why not?
- If you believe additional investment in fossil gas infrastructure is needed, how do you think this should be funded?

There should be no role for fossil gas in the future electricity market. Peaks in demand could be addressed with combinations of biogas, other biofuels and storage. Any role for fossil gas in electricity generation should have a specified lifespan with timed elimination under a gas transition plan.

Numerous battery technologies that can provide short and long term storage are emerging. Along with renewable biogas and biomass, these should be able to satisfy short term peaks in demand.

With the exception of safety and ensuring security of supply and with the possible exception of increased storage capacity, no further investment in fossil gas infrastructure is needed.

2. KEY ISSUES AND OPPORTUNITIES

Consultation Questions

- On a scale of one to five, how important do you think biogas is for reducing emissions from fossil gas?
 - Why did you give it this rating?
- Do you see biogas being used as a substitute for fossil gas?
 - If so, how?

Biogas will not reduce emissions from fossil gas. It could, however, play a part in reducing emissions if it displaces fossil gas. Biogas could readily be used as a fossil gas substitute or blended with fossil gas to reduce emissions. Its usefulness will depend significantly on scale and cost of production. As technologies improve, it can be expected the cost of biogas will fall.

Consultation questions:

- On a scale of one to five, how important do you think hydrogen is for reducing emissions from fossil gas use? Why do you think this?
- Do you see hydrogen being used as a substitute for fossil gas? If so, how and when?
- What else can be done to accelerate the replacement of fossil gas with low-emissions alternative gases?

Hydrogen could replace gas in some applications where a high temperature is needed, specifically the manufacture of items such as steel and concrete. However, the economics of hydrogen for this application are currently poor. Hydrogen will play only a small role in reducing emissions from fossil gas.

Consultation Questions

- On a scale of one to five how important is a renewable gas trading to supporting the uptake of renewable gases?
 - Why have you given it this rating?
- What role do you see for the government in supporting such a scheme?

If renewable gas trading brings efficiencies to the market it is welcomed. At this time it is unclear whether the renewable gas market will grow to a point where extensive trading will emerge. If a market is warranted, it will likely emerge of its own accord, Government's role should not need to extend beyond normal market regulation.

Consultation Questions

- On a scale of one to five how important do you think CCUS is for reducing emissions from fossil gas use?
 - Why did you give it this rating?
- What are the most significant barriers to the use of CCUS in New Zealand?
- Do you see any risks in the use of CCUS?
- In what ways do you think CCUS can be used to reduce emissions from the use of fossil gas?

Carbon capture technologies are currently unproven technically and are expensive. It is likely CCUS technologies will have negligible significance in reducing emissions from fossil gas use.

Consultation Questions

- What role do you see for gas storage as we transition to a low-emissions economy?
- On a scale of one to five, how important do you think increasing gas storage capacity is for supporting the transition?
 - Why did you give it this rating?
- What should the role for government be in the gas storage market?

There may be a case to encourage growth in capacity for gas storage. Shrinkage in the use of fossil gas will bring with it price volatility, reduction in production and greater exposure to shortages. Storage will help this. However, it is important if storage is to be supported, it should only be done if facilities will also be able to support the storage of biogas giving the storage asset a longer useful life and supporting a new, if smaller, gas economy based on renewable gas. Support for storage growth should be restricted to addressing security of supply concerns rather than alternative objectives, such as electricity affordability.

Consultation Questions

- Our position is that LNG importation is not a viable option for New Zealand. Do you agree or disagree with this position?
 - If so, why?
- What risks do you anticipate if New Zealand gas markets were tethered to the international price of gas?

There is no compelling reason to support or encourage the importation of LNG. Such a move would reduce energy security and fail to help reduce emissions.

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