2 November 2023

Energy Resources Markets Branch
Ministry of Business, Innovation and Employment
Wellington 6140

Attention: Gas Transition Plan submissions
gastransition@mbie.govt.nz

Submission on Gas Transition Plan Issues Paper

1. Information

Submission from the Bioenergy Association
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2. About Bioenergy Association

Thank you for the opportunity to submit on the Gas Transition Plan Issues Paper.

The Bioenergy Association represents a significant portion of owners of biofueled heat plant, gaseous and liquid biofuel producers and suppliers, waste-to-energy investors and their consultants, gaseous biofuels users, researchers and equipment/appliance suppliers across New Zealand. It has members who have an interest in policies relating to:

- the recycling of biomass and organic residues and use of agriculture break crops for the production of energy and chemicals;
- production of biomethane to replace natural gas/LPG and biofertilizer to replace synthetic fertilisers, and
- wise use of our renewable natural biomass resources for the betterment of communities via bioenergy and biofuels.

Residual organic matter, often treated as waste or is sourced from an agricultural break crop, is considered to be recyclable biomass resource and it is pleasing to see is recognised in the Waste Strategy and the emerging circular bioeconomy policies which are foundations of the Gas Transition Plan. Association members have the tools and experience for converting these renewable natural resources into renewable gases.

The Association members are interested in the recycling of organic residues into energy, biofuel, biofertiliser and other beneficial products. There are proven technologies such as anaerobic digestion which can recycle organics into valuable biogas and biofertiliser. Other conventional technologies are also available as are new technologies such as pyrolysis, fermentation, hydrothermal liquefaction, and gasification. Residual organic materials unsuited to recycling can go to landfill with biogas capture systems in place. With this range of options, plus the option of composting, and being supplied as animal feed, there is now no reason why any biomass or organics

should be disposed of to landfill. If there is mixed organic matter which can not be recycled, then landfill gas capture is a final tool for ensuring that there are minimal methane emissions from waste.

The Association has a Gaseous Biofuels Interest Group whose members manage the Association's specific technical matters relating to the production and use of gaseous biofuels, specifically with regard to standards and best practice. The Interest Group advocates for bioenergy and biofuels, develops strategic and technical information, and disseminates this information to interested parties, including those considering investment. This submission has been prepared under the oversight of the Gaseous Biofuels Interest Group.

This submission has been prepared on the understanding that individual submissions from members will provide more detail on specific aspects of the discussion document and that the GasNZ submission will its focus on the value of gas to the New Zealand economy, and the drivers for transitioning the gas supply market.

3. Key Points

The Bioenergy Association Gaseous Biofuels Interest Group supports the development of a Gas Transition Plan and the objectives of achieving net zero greenhouse gas emission reduction goals by 2050, but encourages Government to recognize that recycling organic residues into energy also contributes significantly to sustainable communities and increased food production as a consequence of providing energy security. The Gas Transition Plan must be developed in conjunction with other environmental, community wellbeing and land use policies. Only considering gaseous biofuels through an energy lens does a dis-service to future generations.

Biogas has a pivotal role in New Zealand 's future energy mix and could replace up to 100% of natural gas for essential uses.

The technologies required for its production and its refinement to high grade biomethane fuel, or as a chemical feedstock are mature, relatively unproblematic and easily implementable at a reasonable scale in a multitude of geographies.

The fuel can be produced from diverse feedstocks that are either readily available, underutilized or quickly established and range from organic waste to specifically cultivated crops. Apart from biogas, the process delivers further useful products such as soil conditioner or fertilizer, and there are opportunities to produce renewable CO_2 and ammonia. Thereby providing multiple opportunities to generate revenue from waste streams, land rehabilitation or otherwise underutilized organic sources.

The implementation of a biogas industry from anaerobic digestion would form an important pilar to New Zealand 's future fuel independence and energy supply resilience while simultaneously decarbonizing the countries energy base. The establishment of such industries in smaller towns and rural New Zealand is an opportunity to encourage the establishment of more technology services in these areas."

The association's specific feedback follows the submission template, and can be summarised in the following key points:

Net Zero Economy

Development of an at-scale gaseous biofuels industry will assist New Zealand with a just transition to having a sustainable renewable energy sector by 2050 and **achieve the greenhouse gas emission reduction goals in the Emissions Reduction Plan** without having to purchase international emission reduction credits. Gaseous biofuels can underpin **sustainable energy system for generations to come:**

- **Biogas is a high value**, easily produced and upgraded fuel and chemical feedstock, the optimum uses of which are likely to evolve over the course of time covered by the plan.
- Gas will remain a necessary energy source and feedstock into manufacturing for NZ's key sectors well beyond 2050, including its key role for peak electricity generation. Biogas and biomethane has the potential to **supply up to 100% of this gas demand**
- New Zealand is fortunate that it can use organic materials which would otherwise be wasted to landfill, and the residues of agricultural production so that land use is improved and food production increased, while **achieving desired environmental outcomes**.
- With appropriate and proactive policies and interventions, similar to that which has been achieved in replacing fossil fuels for stationary heat, there will be adequate feedstock for biogas production. The consequential availability of biofertilizer also allows replacement of synthetic fertilisers, with a significant reduction in greenhouse gas emissions, ensuring the **long-term viability and sustainability of our agricultural sector**.

Supporting and improving well-being of for all New Zealanders

- Transition to renewable gaseous biofuels will assist with **mitigating the inevitably large impact of increasing carbon price** on the users, including households hence achieving a just and socially equitable transition.

What is required?

An orderly transition to replace fossil gases with gaseous biofuels will take until 2050 because people and infrastructure are only just starting the journey. While greenhouse gas emissions reduction has earlier goals there are limited reductions which can realistically be achieved.

Key to the establishment of any sustainable / renewable fuel as an alternative to fossil fuels as part of a national energy mix would be the introduction of a long term price stability mechanism to impart confidence and financial certainty to energy infrastructure investors and operators

The Gas Transition Plan should recognize the wide range of benefits available from replacing fossil gas with gaseous biofuels. A Transition Plan, and the Energy Strategy, that focuses only on greenhouse gas emission reduction timelines to 2035 will result in New Zealand achieving limited long term benefits not only in the energy sector, but also in the societal and environmental sectors.

Issues are:

- To achieve the desired economic, societal and environmental outcomes earlier than 2050 will require policy, regulatory and market-based incentives to be applied.
- Many of the public benefits are greater than private benefits so **investment by Government on behalf of communities is necessary**.
- Objectives set out in the Emissions Reduction Plan and policies set out in the Waste Strategy require that the proposed **circular bioeconomy and land use policies be developed** to assist the replacement of natural gas which underpins the reliability of energy supply to business and communities.

In order to support achievement of the goal of generating 100% of electricity from renewable energy sources the Bioenergy Association proposes **a specific objective of 100% of gas supply to be from renewable gases by 2050.**

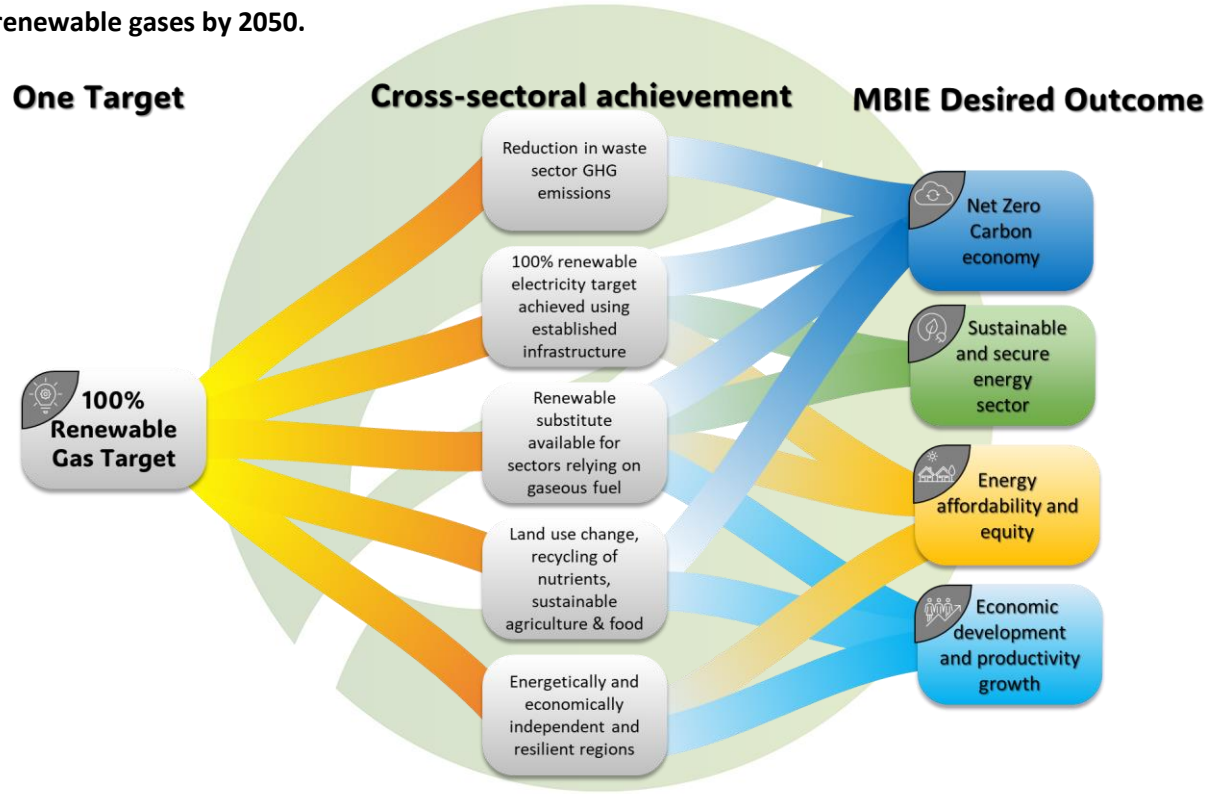


Figure 1: Evaluation criteria for the gas transition actions.

To provide New Zealand business and communities with the least cost reliable energy supply requires that the Energy Strategy is an integrated strategy across all energy forms and delivery options. The Gas Transition Plan is integral to a successful Energy Strategy as it brings together the firm energy resources of bioenergy with the fluctuating resources of wind and solar. It also provides multiple public benefits through coordination across different sectors and participants. It is important that the Energy Strategy recognizes the matrix nature of a 100% renewable energy economy compared to the current linear energy supply system where investment decisions by a small number of vested interests are made in silos with little focus on the wider business and community benefits.

4. Consultation Questions

Chapter 2: Transitioning our gas sector

How can New Zealand transition to a smaller gas market over time?

1

The objective should not be to transition to a smaller gas market but to transition to where gas (renewable and natural gases) is providing the optimal economic, societal and environmental outcomes for New Zealand. The gas market will be smaller as a result of decarbonisation efforts but that should be as a possible outcome of implementation of a sound gas supply market.

The increase of production and use of gaseous biofuels provides significant opportunities to increase the generation of renewable electricity; improve land use and thus food production; underpin transition of New Zealand being a circular bioeconomy; obtaining greater value from organic wastes; and create new business and employment.

The transition to an optimal use requires that Government policies and programmes be integrated so that the specific sector policies support the production of gaseous biofuels. Currently energy policies are being developed without consideration of the sectors from which biomass and organic residues are sourced for production of gaseous biofuels.

Once there is greater availability of gaseous biofuels then transition away from use of fossil gases can occur. This transition requires a "why can't we" attitude across government policies, which differs from the current "it's not possible" silo approach within Government agencies. The private sector participants have the vision but because the public benefits are greater than the private benefits they need Government assistance. This assistance is of the level which has occurred for electric vehicles, decarbonising heat, hydrogen, and electricity firming.

Internationally fossil gases are being replaced by renewable gases where Governments have the vision and have provided assistance which provides price certainty. New Zealand is actually better placed than many of those countries who are making the transition, but they are transitioning only because they have supportive Government programmes.

Reducing demand for fossil gases will occur if the Energy Strategy considers energy as an enabler in its widest context.

Bioenergy Association is developing a Gaseous Biofuels Roadmap in which we outline how adequate volumes of gaseous biofuels can be produced within New Zealand to replace fossil gases. A draft is in preparation and will be shared with interested parties along with this submission. The Roadmap is based on the recent technical analysis work undertaken by the Gas Industry Company (GIC).

Bioenergy Association and GasNZ are working to finalise the Roadmap which will be provided to MBIE as input into the development of the Energy Strategy. A summary of the Roadmap to 2035 is included at the end of this submission.

Until recently there has been adequate supply of natural gas such that some can be converted into methanol and exported, and some used for generation of baseload electricity. If gas is no

longer used for those purposes then the quantity of gas required can be reduced to the level where demand can be met from renewable gases.

It is assessed that 60 PJ of essential renewable gas will be required once decarbonisation of key sectors is complete. This gas will be used for peak electricity generation during unfavourable weather conditions for wind, solar and hydro, as well as heat source for hard-to-switch industries, or as a key input into bio-manufacturing. Biomethane has a potential to substitute this portion of gas through diversion of organic residues from landfill and use of crop residues from agriculture.

As New Zealand transitions to be a more sustainable food producer to the world there will be a growing focus on high value gas uses and this is expected to be sourced from renewable resources such as biogas.

2 **What is needed to ensure fossil gas availability over the transition period?**

The demand for fossil gases will depend on the options possible for each application. Many applications currently using fossil gases could be substituted by bioenergy or electricity solutions provided both are available. Security of future supply of electricity and the availability of biomass resources are both uncertain unless action is taken to build new power stations and adequate forestry and break crops are planted. Both future energy sources require strategic action to ensure the electricity or biomass is available, only then can the transition demand for fossil gases be determined.

Identification of the demand for fossil gases can only occur if there is a full evaluation of the availability and demand for energy from all sources and for all applications. Currently evaluation of energy demand and supply is being undertaken by vested interests and often with limited or biased data. Most modelling also has a bias to electricity rather than energy.

Modelling tends to focus on what renewable energy resources are available today, rather than asking what could be available.

Independent modelling should be a role for Government with inclusion of all interested parties.

What factors do you see driving decisions to invest or wind down fossil gas production?

3 Investment decisions are dependent on the availability and cost of greenhouse gas emission reduction alternatives. If there are adequate quantities of biomethane to replace natural gas, biogas for direct on-site use, and rLPG, then reduced quantities of fossil gas will be used. There is a strong market interest in using renewable gases but any transition is limited because there is very limited encouragement for gaseous biofuels to be produced, or commitment to retain the existing gaseous infrastructure.

The establishment of any sustainable / renewable fuel as an alternative to fossil fuels as part of a county's energy mix is a strategic, environmental and social decision that needs to be taken on a national level.

The age of the NZ gas fields is likely going to wind them down naturally anyway. Until a renewable gas industry is established, these fields will have to be used to bridge the gap initially and provide resilience in the future.

Internationally many purchasers of food are wanting the food to be sustainably grown and processed. As a result, renewable energy is being sourced in preference to fossil energy by food producers and processors. If New Zealand is to be a food producer for the world then a priority must be to transition to 100% renewable gas, electricity and transport fuels.

Biomethane can be a 100% replacement for natural gas in existing manufacturing equipment because it is a drop-in fuel. This allows manufacturers using natural gas energy to decarbonise with no capital expenditure.

A renewable electricity system based on a high proportion of electricity being generated by fluctuating energy such as solar and wind requires methods such as quick start controllable energy sources for smoothing electricity quality. Hydro is the best for doing this but the New Zealand hydro system has very limited storage capability so must be supported by electric batteries or gas. The smoothing from gas is via gas turbine "peakers". Significant peaking gas turbine generation equipment is already built so electricity smoothing can be provided with no capital expenditure if natural gas is replaced by biomethane as a drop-in fuel. The more gas turbine equipment in the system the more electricity can be generated by wind and solar energy.

Note that the gas turbine peaking role is for short term electricity fluctuations and would not be a tool for the dry year hydro firming role as significant underground gas storage such as the Kapuni gas field would be required for storage. A hydro firming role would also require significant investment in additional gas turbine power stations. The Electricity Authority Market Development Advisory Group identified the peak generation equipment as green Peakers[1].

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?

4

YES. World wide experience has shown that the transition from fossil to renewable fuels has required government assistance and price stability if early transition is desired. Within NZ that has been shown with regard to electric vehicles, hydrogen, electricity hydro firming, stationary heat where it is only through Government initial assistance that progress has been made. Investment in the production of gaseous biofuels also involves a collaboration of a large number of people, including local councils.

Having a reliable electricity and gas supply benefits all business and communities. It is not a benefit which can be provided by individual investor so that they can secure a financial return for their specific investment. Some aspects of the energy supply system can be privatised but it is the smoothing and firming of multiple electricity injections which require a collective action.

[1] https://www.ea.govt.nz/projects/all/pricing-in-a-renewables-based-electricity-system/consultation/price-discovery-in-a-renewables-based-electricity-system/

Key to the establishment of any sustainable / renewable fuel as an alternative to fossil fuels as part of a national energy mix would be the introduction of a long term price stability mechanism to impart confidence and financial certainty to investors and operators.

The Government role includes:

Regulations:

- Prohibit disposal of recyclable organic material to landfill by 2030
- Mandate collection and high value use of organic residues from commercial producers
- Require separation of the collection of food and green wastes
- Mandate against use of fossil gas in a similar manner in which Government has mandated against the use of coal for stationary heating.
- a clear long term picture of cross party government commitment to the use of sustainable renewable biofuel in contrast to fossil fuels.
- A mandated percentage of total gas supply being supplied by renewable gases (Similar to the previously proposed Sustainable Biofuels Mandate for transport)
- Mandate municipal waste water treatment facilities to optimize the production of biogas.

Incentives

- Provide an incentive to business for replacement of fossil gases by gaseous biofuels.
- Accelerated depreciation for new AD facilities,
- Financial assistance similar to GIDI for local authorities and private investors to invest in AD facilities.
- Increase in the levy for disposal of organic waste to landfill,
- A subsidy for biogas production

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?

5 Energy support to vulnerable residential consumers should be neutral as to energy source and should occur through the welfare system.

If natural gas and LPG is replaced by renewable gases then any support for vulnerable residential consumers would not be due to a decline in gas availability, but support because of price increases could be provided for welfare reasons.

Fossil gas and electricity

What role do you see for gas in the electricity generation market going forward?

6 Production of biomethane for use as a drop-in fuel to peaking gas turbine electricity generating facilities (Green Peakers) should be encouraged and managed by supply/storage contracts as it is critical for smoothing of electricity quality when base load generation is from fluctuating energy sources such as solar and wind. The greater amount of wind and solar providing baseload then the more gas smoothing is required.

	As the biogas production expands by farmers and food processors who install AD facilities there will be greater generation of electricity this is a lower capital investment than upgrading to biomethane, and can happen where there is no gas grid to feed.
	What would need to be in place to allow gas to play this role in the electricity market?
7	A policy of 100% replacement of fossil gases by renewable gases would encourage investment in biomethane supply. Use of renewable gases by the electricity generators for green peak electricity smoothing will occur provided that green peaker operators have confidence of the long term availability and price of renewable gases. It is critical that Government have policies which give that confidence. Green Peakers require gas to be stored for when it is required. Significant investigation into forms of storage needs to be undertake. Storage could be in underground depleted gas fields, compression into storage as compressed or liquified gas, or by extended line packing in the distribution pipelines. A mechanism for use of the pipeline network and depleted underground gas reservoirs be used for storage of biomethane by way of contracts will be necessary to ensure adequate gas is available for peaking applications. Natural gas will be necessary as a transition gas. A renewable gas certificates scheme administered by the Gas Industry Company as an independent party will be essential to allow mixing of natural and renewable gases. Trading of biomethane between producers and users at different parts of the gas network in a mixed gas situation can only occur if there is a certificates scheme. Renewable gas certificates are critical during the transition when gas supply is from a mixed gas situation.
	Do you think gas can play a role in providing security of supply and/or price stability in the electricity market? Why / Why not?
8	If adequate quantities of biomethane are available then gas can continue to provide an electricity supply peak smoothing role. Price stability will occur if there is a confidence in gas supply.
	Do you see alternative technology options offering credible options to replace gas in electricity generation over time? Why / Why not?
9	With New Zealand electricity supply mix there is potential for adequate baseload capacity from renewable energy sources other than gaseous biofuels. Gas should only be used for electricity peak smoothing. The exception is for on-site electricity generation from own feedstocks such as for a food processor who can avoid the retail cost of electricity if they have to import gas to site. Solid biofuels are also a source of energy for other base load applications, thus reducing the demand for both gas and electricity. Dry year hydro firming can continue to be provided from Huntley Power Station once it has secured a source of domestic manufactured black wood pellets.

10	**If you believe additional investment in fossil gas infrastructure is needed, how do you think this should be funded?**
	Further investment in fossil gas infrastructure will only be required if there is inadequate drive and assistance from Government to transition from use of fossil to renewable gases.
Chapter 3: Key issues and opportunities	
	Renewable gases and emissions reduction technologies
	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?
11	5 If adequate quantities of biogas are available then potentially there could be a 100% replacement of fossil gases. A number of countries who have established policies and programme encouraging production of biogas e.g. Denmark at 36% replacement already, have shown that this ambition is realistic. A score of 5 is shown to be achievable in the draft Gaseous Biofuels Roadmap provided to support this submission
	Do you see biogas being used as a substitute for fossil gas? If so, how?
12	Yes. Biogas can be used: • directly to replace some fossil gas eg Recycling manufacturer's on-site sourced organic residues to produce biogas for own heating, • to replace natural gas in the fossil gas transmission and distribution networks. • To replace liquid fossil fuels used in agriculture • As a transport fuel to replace mineral diesel • To produce bio-LPG. • Replacement for fossil gas used to fuel peak electricity gas turbine generation
	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?
13	Hydrogen requires energy to make in the first place, so as a primary fuel it is an energetically poor choice. The round trip efficiency is low. Storage of hydrogen is difficult.

Do you see hydrogen being used as a substitute for fossil gas? If so, how and when?

14 Biomethane is a 100% drop-in replacement for natural gas and so can be a 100% replacement in the gas distribution network whereas only 20% of hydrogen can be blended into the existing infrastructure. To replace natural gas with hydrogen would require extensive capital investment in new infrastructure and equipment whereas biomethane can be a 100% replacement with no capital expenditure.

What else can be done to accelerate the replacement of fossil gas with low-emissions alternative gases?

Government policies which provide long term price stability of renewable gases. If a policy of 100% replacement of natural gas to replace fossil gases is adopted then that would focus interest in investment in biogas production.

The Gaseous Biofuels Roadmap prepared by the Bioenergy Association provides a timeline for transition from fossil gases to gaseous biofuels. The roadmap also show the specific interventions and programmes which will accelerate this transition. A summary of the Biogas Road Map is attached at the end of this submission.

Government encouragement for faster development of the biogas production sector by support incentives will accelerate investment and thus transition away from use of fossil gases. Incentives promoted for investment are:

- Accelerated depreciation for new AD facilities,
- Financial assistance similar to GIDI for local authorities and private investors to invest in AD facilities.
- Increase in the levy for disposal of organic waste to landfill,

15

- A subsidy for biogas production
- A mandate for percentage of biomethane to be blended with natural gas, with the percentage increasing each year until 100%.

The growing requirement from international food purchasers to have the food produced and processed sustainably will provide a significant driver for New Zealand food producers to recycle organic residues from agriculture and food processing to produce biogas and biofertiliser. To scale up biogas output, farmers could choose high yielding 'break crops' to be used entirely as AD feedstock. Past CRI research has demonstrated a rotation system known as CLN or Closed-Loop Nitrogen cropping, where substantial biogas is produced and no synthetic N fertilizer is needed due to use of the digestate biofertiliser.

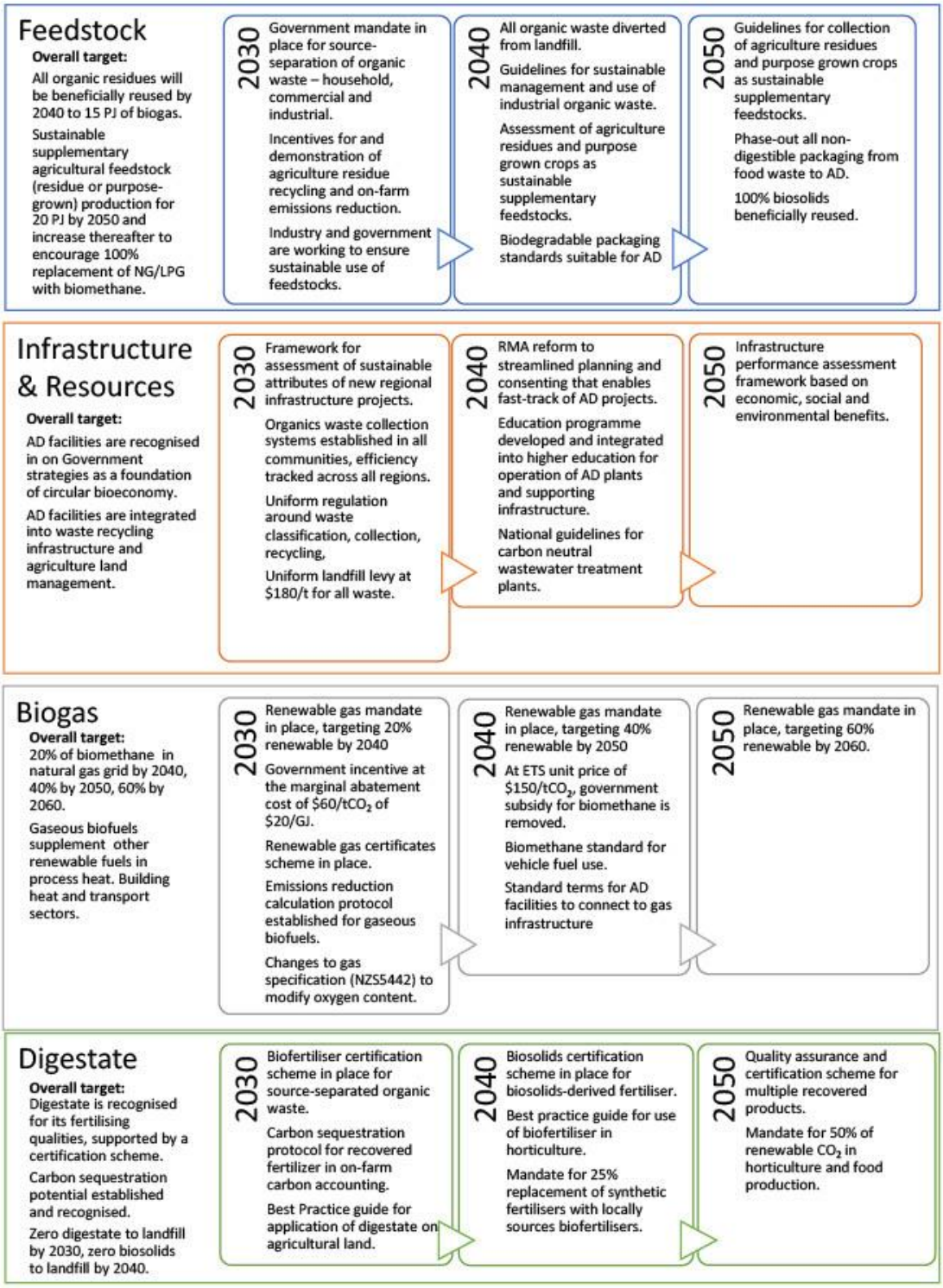
The pull for biogas to replace natural gas and biofertiliser to replace imported synthetic fertilisers will encourage farmers and their food processors to produce more biogas. In many cases the pull for biofertiliser will result in biogas being the co-product. In this case, net biofertiliser output could be achieved using legume crops in the rotation or using manure slurry or food waste if available within 20 km. These have excess nutrients that need to be spread onto more crop land (as is often the case for farm AD systems in the EU).

	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?
16	5 Gas trading is an essential market driver for the economics of an AD facility. The financial viability of an AD facility is unlikely to be positive without an ability to sell surplus biogas/biomethane. A component of the value of the sale price is the emission reduction credits which a user would obtain when the renewable gas is used instead of natural gas. Transporting of sold biomethane is ideally by injection into the natural gas network so there needs to be a means of certification that the injected gas is truly renewable.
	What role do you see for the government in supporting such a scheme?
17	The renewable Gas Certification Scheme should be owned and managed by the sector regulator, Gas Industry Company. Government or Gas Industry Co oversight could help ensure that the scheme incentivises the development of new renewable gas supply, facilitates emissions reductions, and adheres to commonly accepted international standards. Such involvement could also boost market confidence in the scheme. Government incentives should be limited to supporting renewable gases where clear value can be obtained such as where used for residential, manufacturing and electricity peaking applications, but not for production of methanol or other export products bases solely on the low cost of gas as a feedstock. Selective incentives for renewable gases would avoid the need to ban gas use. A certification scheme is required now so it is suggested that until a robust scheme can be established that default values from the MfE Greenhouse Gas Inventory are used.
	Carbon Capture, Utilisation and Storage
	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?
18	2 If CO_2 can be captured it should be beneficially used either as renewable CO_2 for commercial applications such drinks etc. or used as a feedstock to manufacture new products. The CO_2 is too valuable a product that it is stored solely as a means of disposal. Encouragement of CCUS would be a policy failure. The focus should be on carbon capture and use (CCU). Where the use is in a long lived product then that is the only form of storage which we should be encouraging.
	What are the most significant barriers to the use of CCUS in New Zealand?
19	n/c

20	**Do you see any risks in the use of CCUS?**
	n/c
21	**In what ways do you think CCUS can be used to reduce emissions from the use of fossil gas?**
	n/c
	Options to increase capacity and flexibility of gas supply
	What role do you see for gas storage as we transition to a low-emissions economy?
22	Gas storage will allow the use of biogas/biomethane for applications where controllable use has a high value. For example storage of biomethane for peak generation of electricity from peaking gas turbine electricity power stations will allow greater generation from uncontrollable generation as from wind and solar. Many of the Taranaki gas fields are suitable for storage and retrieval of biomethane. Liquification of biomethane is another storage method which requires investigation as it is often used in the natural gas sector internationally and could be a valuable dry hydro year firming mechanism.
23	**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?**
	5 Gas storage will assist if it to be used only for electricity peaking applications.
	What should the role for government be in the gas storage market?.
24	Providing assistance to potential investors as the public benefit of gas storage is likely to be far greater than the private benefit.
25	**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?**
	If the Gas Transition Plan is properly included as part of the Energy Strategy, and supported by Government, there should be no need to import LNG.
	What risks do you anticipate if New Zealand gas markets were tethered to the international price of gas?
26	It is a sign of policy failure if New Zealand gas markets are tethered to international price of gas as New Zealand has so many opportunities to produce renewable gases there should be no need to import gas.
	General comments

Biogas Routemap

Vision: Waste-to-Biogas (Anaerobic digestion) is an integral part of New Zealand's resilient and sustainable food and energy production cycle. Conversion of organic material to biogas and biofertiliser is a fully integrated and certifiable processing route for organic residues and supplementary feedstock with recognised socio-economic and environmental benefits.



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