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Future Pathways Policy Team Ministry of Business, Innovation & Employment  
PO Box 1473  
Wellington 6140

[FuturePathways@mbie.govt.nz](mailto:FuturePathways@mbie.govt.nz)

**Subject: submission on the Te Arapae Rangi: Future pathways green paper**

This submission is from the Bioenergy Association

## Overview

The Bioenergy Association is pleased that the Ministry is consulting on a proposed "research system which can leverage future economic opportunities in a rapidly changing world, and shape a future economy that is more productive, resilient and diverse. It needs to be adaptable for a rapidly changing future, resilient to changes, and connected; to itself, to industry, to public sector users of research, and internationally." This is a clear statement of objective and should be established as the principal criteria against which all proposed research should be tested. The delivery mechanisms, principles, priorities and research strategies should all be assessed against this objective.

The development of Research Strategies is highly supported but these must be integrated into wider Sector Strategies. A major failing of current research in the energy sector is that it is often not integrated into what the sector most needs.

However too close a connection between the research strategies and a specific sector can also be inhibiting of the identification of priority research as a sector may have many links to other sectors. For example a major issue for the bioenergy and biofuels sector is not energy related but the supply of biomass and organic waste from the forestry and waste sectors.

The green paper is a good step forward but until the two points above are incorporated as foundations of all RSI activities then the current failures of the RSI investment framework will continue.

## Introduction

The Bioenergy Association represents a significant portion of owners of biomass and waste fueled heat plant, solid, liquid and gaseous biofuel producers and suppliers, waste-to-biogas consultants and facility owners, researchers and equipment/appliance suppliers across New Zealand. It has members who have an interest in policies relating to the utilisation of biomass and waste for the

production of energy; reduction of emissions to air in communities from both residential and commercial/industrial scale heating applications, and from decomposition of waste; and wise use of our renewable natural biomass resources for the betterment of communities. Residual organic waste is considered to be a renewable biomass resource.

The Association has **Interest Groups whose members manage the Association's** specific technical matters relating to the wood energy via combustion, waste-to-biogas and biofertiliser via anaerobic digestion, and liquid biofuel sectors, specifically with regard to standards and best practice. The Interest Groups host workshops and dissemination of information to those interested in the respective sectors, or considering investment.

**The Association's scope of interest is** wide spread across the activities within the RSI investment framework which we would refer to as applied research. It has been estimated that around 52% of Bioenergy Association activities are public good related.

This submission is complementary to the individual submissions from members which provide more detail on specific aspects of the draft strategy.

While this submission is very critical of the way research is funded and **undertaken within New Zealand the Association's comments are out of frustration** that the great researchers we have are not allowed to focus on areas where they can make a very large difference and where they could assist New Zealand **transition to a more wealthy low carbon economy where people's wellbeing is** maximized.

## Answers to specific questions

### Priorities

1. The principles must recognize that to transition to a low-emissions economy requires an across government agency paradigm shift in thinking in the use of our renewable carbon neutral natural resources. The continuation of the silo approach perpetuates traditional thinking such as for bioenergy which is often considered only being an energy source yet its biggest benefits are ancillary to energy.
2. The principles should be neutral as to technologies and solutions. Energy research currently has an electricity and hydrogen bias. Approaching the opportunity for a low-emissions economy from a holistic use of renewable natural resources for economic growth, regional economies, employment and achievement of sought after environmental benefits, via the energy pathways, will make achievement of a low-emissions economy self-funding.
3. The lack of sector strategies and plans agreed by Government make it extremely difficult to set priorities when the RSI bodies do not know what

the Government and the sectors want. The RSI community must communicate to government that good applicable research will only occur when it is clear what government and the sector want.

4. In countries such as Canada there is often a requirement that any research funded from public monies must have an oversight group that includes industry as well as other researchers. This is one attempt to bridge the gap between researchers and those who could most value from their research.

## Funding

5. In 20 years the Bioenergy Association has never been consulted by MBIE science funders as to the needs of the sector yet we see millions of dollar being spent on research of topics which are either not the most important, irrelevant, or researcher driven.
6. **Funding is also biased towards "blue sky" research yet it is the assistance** to engineers and technical specialists who are in the field trying to install low carbon solutions who get no funding support. Researchers can get financial assistance to travel overseas and gain first hand experience but there is no assistance for engineers and technical specialists who are the ones actually trying to implement projects.
7. **Research should be equally across all three research Horizon's.** Applied and blue-sky research are equally important but the currently there is a strong bias towards blue sky research and innovation. This bias should be addressed in the principles and priorities for funding. However the bioenergy sector has a membership who could benefit from applied research but because of the high chasm between research programmes and need there is often little value to general industry of research undertaken.
8. Current priorities arise from funders suggesting what they could do and proposing projects. Often these are not necessarily priorities for a sector as it is the tail wagging the dog. The process of proposing projects rather responding to requests for research result in massive effort going into a proposal that is not funded. The funding system needs to be needs driven and arising from sector and government strategies and plans.
9. Some existing funding models are starting to become efficient. An example is the last round of the Waste Minimisation Fund where they set out what they had priorities for funding and sought indicative proposals. Proposals shortlisted were then requested to submit a full proposal.
10. Core funding should come from specific Votes so that the work of funded entities is driven by the needs of the sector and they are also recognized as being the research arm of that sector or Vote. This seems to be successfully done in the Agri

## Institutions

11. The RSI entities should be a firm part of the development of sector strategies and policies. The institutions have extensive experience and knowledge which should be used to better shape sector strategies, plans, policies, and programmes. Science is not something separate but integral to the setting of priorities.
12. The role of Callaghan Innovation **is a mystery to many. It's expertise and capabilities** would be far better utilized if it were distributed out to the other CRI where they often lack, and need, the expertise that may be in Callaghan Innovation if we only knew it.
13. The current suite of established CRI (except Callaghan Innovation) are well established and have good capabilities but could provide even more value if they operated in a **funding structure that didn't waste their time** and was priority focused.

Regards



Brian Cox  
Executive Officer  
Bioenergy Association

