Investing in cheaper, cleaner energy and the net zero transformation inquiry

Questionnaire response 82

Name: CropLife Australia

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1. Reduce the cost of meeting carbon targets

1. What could be done to improve the cost-effectiveness and alignment of policies to reduce emissions across the industrial, electricity and transport sectors?

The participant did not respond to this question.

2. Are there gaps in the emissions-reduction policies in the industrial, electricity and transport sectors which should be addressed?

Expanding the role of Low Carbon Liquid Fuels (LCLF) provides a key opportunity to decarbonise Australia's economy. Moreover, the domestic production of LCLFs presents opportunities to the Australian economy beyond the role it will play in lowering emissions in hard to abate industries, such as transport and logistics. In particular, the production of LCLF will see the development of domestic manufacturing focused around adding value to the existing strengths of Australia's primary production capacities.

Although there is considerable policy work on the LCLF sector, feedstock production has received scant attention. A sustainable and commercially viable Australian LCLF industry depends on secure access to low-emissions feedstock. The consultation paper does recognise the importance of efficient crop production to this aim, but beyond advocating consistent demand for feedstock crops, it neglects the policy measures needed to guarantee supply. Any policy response must also heed global concerns that low-carbon biofuels are confronting a feedstock crisis and growing scrutiny over competing uses of arable land for food versus fuel.
Feedstock production depends on Australian farmers. However, our primary producers face uncertain times. They are at the rockface of climate change while also contributing to the range expansion of invasive pests, weeds and disease. They need access to every possible tool available.

This primarily includes access to inputs, most notably Crop Protection Products (CPPs). More than $31 billion of the value of Australia's agricultural production, or 74 percent, is directly attributable to the responsible use of CPPs. Herbicide use in particular has underpinned the widespread adoption of no-till farming in Australia. Consequently, Australian farmers are world leaders in the adoption of no-till practices. These no-till practices preserve soil structure, reduce erosion and maintain crop residues as a protective cover. This cover conserves moisture, fosters microbial activity and contributes to carbon sequestration, aligning with efforts for carbon neutrality and climate change mitigation in Australian agriculture. Across the Australian crop production landscape, the high adoption of no-tillage practices over the 1990s and 2000s resulted in the sequestration of approximately 5 million tonnes CO2~e annually compared to conventional tillage practices.

This is not unique to Australia. A life cycle analysis study recently published by the University of Arkansas bolsters the global literature describing the vital role of CPPs in

fostering improved carbon outcomes. Importantly, without pesticides, the yields of corn, cotto, and soybeans declined up to 70 percent. Cultivating corn, cotto, and soybeans without pesticides resulted in upwards of three times more land, water, energy use and greenhouse gas emissions. The targeted and judicious use of pesticides not only enhance productivity but significantly reduce pressure on water, land and energy resources per unit of production.

Enhancing yield per cultivated area through sustainable intensification has been identified as a climate change abatement tool. This is because it eliminates the need to convert more land (and the resultant emissions created by this deforestation) to meet the increasing global food and fuel demand. Consequently, this approach may contribute to a global reduction in GHG emissions associated with crop production. As a nation whose sustainable agricultural practices are already world-leading, increasing production intensity also alleviates the requirement to convert natural habitats elsewhere in the world into arable land as global demand for food and feedstock increases.

The toolbox must also include the latest developments in biotechnology. With recent unprecedented advances, there are numerous innovations capable of supporting decarbonisation while also providing resistance to adverse conditions. With GM technology already providing enormous opportunity for canola feedstock production, Australian farmers could soon have access to hundreds of new varieties through gene editing.

Gene editing technologies have already emerged as a tool for small-scale crop development. They reduce both the time and number progenitor plants needed to develop a novel crop variety. This means that despite our small and niche market size, Australian innovators can rapidly develop Australia-adapted varieties. When combined with conventional breeding and GM, we can rapidly enhance our agricultural sector. So far, innovation in this area has included:

• Enhanced Crop Yields: As a major exporter of agricultural products, Australia could increase its global market share with gene-edited crops. Uncertain regulations, however, may dissuade agribusinesses from adopting these innovations.
• Pest Resistance: Although Australia is fortunate with respect to biosecurity, it is a constant battle. This might be best exemplified by recent emergence of fall armyworm, varroa mite and red ants as agricultural major pests. However, solutions to these problems are constantly emerging. For example, rust disease resistance in wheat and Panama’s disease in banana.
• Ensuring Sustainability: With ambitious environmental targets, Australia requires significant innovation to ensure these targets are met while not adversely impacting food security. Since the emergence of gene editing techniques, there are continuously new examples of novel crop varieties with improved yields and resistance to numerous abiotic or biotic stresses.
• Investment in Bio-Fortified Crops: With Australia's focus on premium and nutritional food exports, there's a window to lead in bio-enhanced food production. Unclear regulations could halt ventures from investing in this niche yet growing segment. One example, approved last year for use in Norwegian fish farms, is the Australian-developed Omega-3 canola.
• Improved Plant Oil Content: In addition to bio-fortification, Australia continues to

develop crops for highly efficient biofuel. This is achieved through the selection and engineering of plants for increased oil production.

3. Are there any duplicative emissions-reduction policies in the industrial, electricity and transport sectors which could be streamlined?

   The participant did not respond to this question.

2. Speed up approvals for new energy infrastructure

1. Are planning and approvals processes for large energy infrastructure taking too long? If so, what causes the most delay?

   The participant did not respond to this question.

2. How can planning and approvals processes be sped up without unduly compromising regulatory standards?

   The participant did not respond to this question.

3. Should clean energy projects be treated differently to other projects for the purpose of environmental and other approvals? If so, how?

   The participant did not respond to this question.

4. What can be done to build local community support for new energy infrastructure projects?

   The participant did not respond to this question.

5. Please outline any evidence showing the productivity benefits of faster approvals for energy projects.

   The participant did not respond to this question.

3. Encourage adaptation by addressing barriers to private investment

1. What are the barriers and enablers impacting decisions by owner-occupiers, landlords and developers about how housing is built and updated over time so that it is resilient to the effects of climate change?

   The participant did not respond to this question.

2. What information do people need to make decisions about where to live, how to build and how to upgrade their homes to appropriately factor in climate change?

   The participant did not respond to this question.

3. What are the most cost-effective retrofitting options for improving the resilience of Australia's existing housing stock? What are their costs and benefits?

   The participant did not respond to this question.

4. What role might minimum standards play in ensuring the resilience of Australia's housing stock?

   The participant did not respond to this question.

5. The impacts of climate change are being factored into the regulation of where and how houses are built in different ways around Australia. What does leading practice look like? Where is there room for improvement? Are there lessons we can learn from other countries?

   The participant did not respond to this question.