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Submission by Maartje Sevenster Environmental Consultancy and Edge Environment Regarding National Food Plan Green Paper

MSEC and EdgeEnvironment offer consultancy services in life-cycle assessment. Food and agricultural production chains are one of our areas of expertise. Below, we address specific chapters and consultation questions therein that relate to those issues.

Chapter 1

“1.1 Do you agree with the possible overall approach outlined in this green paper to create a more strategic, better integrated and transparent approach to food policy?”

The development of a National Food Plan is a very important undertaking. Food security, safety and sustainability are major and complex issues that require a strategic approach. We feel that in the current Green Paper, however, sustainability does not quite get the attention it deserves. Contrary to popular belief, agriculture is the major contributor to environmental deterioration world wide. In terms of life-cycle impacts, the consumption of food constitutes almost half of the total footprint of an average OECD citizen. For carbon footprint the contribution is 25% to 30% but for other environmental impacts the contribution is more than 50%¹. The World Bank projects demand for food to increase by 50% by 2050, and demand for meat by 85%, mainly as emerging economies like China and India become richer and adopt Western-style eating habits, rich in meat and dairy products. These observations provide both incentive for environmental action and an opportunity for more competitive Australian food production.

In several regions, there already exists a strong focus on full supply-chain sustainability of food products. Ecolabeling and consumer-information tools are some of the instruments that emerge. Amongst others, this is increasingly the case in several Asian nations that are important export markets for Australia, but also in the USA. Food producers in Australia seem to be ill-prepared for demands for information from supply-chain partners. This is regrettable, as Australian production may well compare favourably to that of competing regions and thus transparency about products' life cycle impacts might provide competitive advantages.

Just as overseas markets are assuming responsibility for supply-chain impacts of imported products, Australia should do so as well. As mentioned several times in the Green Paper, food imports are on the rise and this is unlikely to change. The focus on Australian environment only (Chapter 7) is therefore outdated. Supply-chain responsibility should be stimulated regardless of national borders. As an example, imports of soy cake have increased by a factor of almost 20 in a decade (UN trade statistics) and almost half of the current imports are sourced from South America. Even if Australia is still a very small player in the global trade of this commodity, the associated environmental issues require attention.

¹e.g. ACF consumption atlas (accessible online); EIPRO study of the European Commission, 2006

In all these areas, life-cycle assessment is the ideal tool to provide decision support, whether it be for governments, industry or consumer (groups). The primary production sector in Australia is very active in gathering and collating life-cycle data, but information does not seem to progress down the value chain. The consumer has little information and therefore little power. Retailers hold a key position in the food supply chain to promote and enable sourcing and sale of more sustainable food products. This should be done by identifying and working towards reducing environmental impacts overall, not merely transferring impacts across media or stages of the product life cycle, but considering the whole product life cycle in improvement efforts.

Chapter 4

“4.1 Do you agree with the analysis that, broadly speaking, Australia is food secure? If not, why not? Please be specific and provide evidence to justify your position. What additional data could the government draw on to measure Australia’s food security?”

The issue of food security is very much linked to Australia's production being higher than its consumption. With population expected almost to double (40 million in 2056) the buffer between production and consumption will become narrower. Effects of extreme weather already cause interannual variations in wheat yields of a factor of 2 and extremes may become more frequent as climate change progresses². The assumption that productivity will continue to improve should be verified against conditions of sustainable production (e.g. soil nutrient management, greenhouse gasses, acidifying gasses and toxic substances), resource use (e.g. water, fuels, land transformation and minerals). As noted in the PMSEIC report, broadacre productivity in Australia has in fact shown negative growth over the decade between 1997 and 2007.

The Green Paper does not include definition of the time scale considered over which Australia’s food is secure (e.g. 1, 5, 20, 50 100, 500 years).

Chapter 5

As is mentioned in this chapter, the consumer is increasingly interested in the environmental sustainability of food. The trend to eat locally grown produce and buy at farmer's markets is evidence of this. Transport distance is however typically not the most significant factor from an environmental perspective. Effects of smaller distance can easily be undone by e.g. prolonged cold storage and domestic road transport may compare unfavourably with intercontinental shipping. These are the type of issues that life-cycle assessment is excellently positioned to address³. Efforts to empower consumers by providing information should include environmental aspects, as well as safety and nutrition. Sometimes there may be a trade-off between aspects, such as animal welfare and carbon foot print, but e.g. healthy diets and environmentally friendly diets have been found to be well aligned in several recent studies in Europe⁴.

To deal with these complexities, there is an increased recognition and acceptance of the need for ‘systems’ perspective to develop more sustainable systems and societies within the agriculture and food industry⁵. Life cycle assessment (LCA) is widely considered to be a leading holistic method to evaluate the environmental impact during the life cycle of products.

²See also ABARES Science and Economic Insights, issue 1, 2011

³See e.g. Edwards-Jones, Trends in Food Science & Technology, 19, pp.265-74, 2008

⁴E.g., Virtanen et al., 2011, Journal of Cleaner Production, Vol 19; several assessments by the Dutch government found the so-called Willett diet developed at Harvard University to have low overall environmental impacts compared to average consumption pattern. A soon to be published study by the European Commission

⁵Notarnicola, B., Hayashi, K., Curran M.A. and Huislingh, D., 2012. Progress in working towards a more sustainable agri-food industry. Journal of Cleaner Production, Vol. 28, June 2012, pp 1 - 8.

Going further the traditional LCA framework (ISO 14040 and 14044) should be expanded to also:

- Integrate and connect with other methods suitable to address the broad range of challenges facing the agriculture and food industry^{6 7} such as animal welfare, exposures to pesticides, soil function impairment, biodiversity losses, and invasive GM crops⁸, and
- Establish regionally or nationally adapted and relevant methodologies to suit Australia's environmental and technological context for agricultural production.

Consistent methodology is arguably an essential requirement, especially for LCA used for comparative purposes. This is increasingly in focus for major retailers internationally and in Australia with plans and pilot programs introduce consumer-facing environmental information.

Chapter 6

“6.2 The government is seeking to increase the value of Australia's food exports from across the supply chain, including the value-added component.

a) Do you think that a target of doubling the value of our food exports by 2030 is achievable? If not, what target would be?”

We agree that Australia has a role to contribute to the global increase in food demand, but also that this increase need to be delivered within clearly defined sustainable ecological and resource limits.

“b) How could this be achieved in a market-driven economy like Australia? What would government and business need to do?”

Competition should not lead to increase in “external” costs. One could argue that the fact that external damages are not reflected in the price of products in fact leads to an unlevel playing field, or in other words, unfair competition. While it is very hard to internalize such damages properly, the playing field may be levelled via transparency and consumer information (see also Chapter 7) and product stewardship.

Chapter 7

The focus of this chapter , as said before, is too much on the domestic environment. A general culture of producer responsibility and supply-chain information should exist, regardless of the origin of ingredients.

“7.1 Pressure to increase food production in coming years, in response to increased demand from a growing global population, could place additional stress on Australia's natural resource base. What further initiatives could the government consider to encourage sustainable farming and fishing practices that balance economic, social and environmental benefits?”

Government should consider increased support and contributions to building the national database of life cycle information - Australian National Life Cycle Inventory Database (AusLCI). The aim of AusLCI is to provide and maintain a national, publicly-accessible database with easy access to authoritative, comprehensive and transparent environmental information on a wide range of Australian products and services over their entire life cycle. It is an invaluable tool for those

⁶ Jeswani, H.K., Azapagic, A., Schepelmann, P. and Ritthoff, M., 2010, Options for broadening and deepening the LCA approaches. *Journal of Cleaner Production*, 18 (2), 120 – 127.

⁷ Roy, P, Nei, D., Orikasa, T., Xu, Q., Okadome, H., Nakamura, N., Shiina, T., 2009. A review of life cycle assessment (LCA) on some food products. *Journal of Food Engineering*, Volume 90, Issue 1, January 2009, Pages 1–10.

⁸ Notarnicola, B., Hayashi , K., Curran M.A. and Huisingh, D., 2012. Progress in working towards a more sustainable agri-food industry. *Journal of Cleaner Production*, Vol. 28, June 2012, pp 1 - 8.

involved in environmental assessment and particularly life cycle assessment (LCA), as it provides consistent guidelines, principles and methodologies for the collection of life cycle inventory (LCI) data, along with protocols for LCA processes for different sectors.

The database will also provide a consistent source of information to support and provide benchmarks for eco-labelling, and underpin the development of LCA-based policy developments.

AusLCI will assist with:

- Setting metrics and processes for comparing the environmental impact of products and services.
- Levelling the playing field for LCA-based product comparison.
- Fostering innovation in design and manufacturing.
- Promoting education and consensus-building processes.
- Providing whole of life LCA processes that can integrate with existing environmental tools and applications.

AusLCI will enable industry to:

- Benchmark process and product performance against industry standards.
- Make informed decisions in driving process efficiencies, new purchases, furthering environmental goals and quantifying impacts.
- Proactively assess, mitigate and quantify the effort required to offset CO₂ emissions.
- Demonstrate product credentials and increase sales.
- Provide enhanced disclosure to consumers and the ability to respond to public criticism of products.
- Obtain market advantage in the anticipated low impacts and carbon sequestering benefits for individual products over competitors.

AusLCI will enable governments to:

- Guide policy direction and promote sustainable practices within the Australian economy.
- Provide a strong platform for funding, education, policy-making and legislation.
- Assist in decision-making, such as analysis of investment or purchasing decisions.
- Provide enhanced educational resources.

All Australian industry sectors are encouraged to participate in the AusLCI process to develop a single repository for generic Australian LCI data. It will capture production data using a methodology that is accepted by major national industries, government and NGO stakeholders.

“7.2 Australian society places high expectations on the environmental and social responsibility of Australia’s food industry, although this is not always reflected in purchasing behaviour. What is preventing markets from encouraging (via price signals) the food industry’s responsible management of the production base?”

Preserving Australia's resource base is not only the responsibility of the primary sector, but of all those involved in the value chain, including the consumer. The consumer needs to have easy and reliable information to make choices, however, and if the only easy and reliable information is price, then price will be the primary factor in the choice. Retailers also have a major role to play in making choice easier or harder (positioning of products). Another issue is that consumers often indicate (overseas research) that they don't necessarily want to have a choice: they expect government and industry to implement strict standards and don't want to be confronted with the option of buying products that do not meet those standards (as they have rightfully come to expect in food safety).

“7.3 This green paper outlines a number of initiatives aimed at reducing food waste across the food

supply chain in Australia. What specific further waste management measures could the government consider that would meet the multiple objectives of increasing food security, providing healthier diets, improving environmental performance and addressing climate effects?"

Also in this area, retail can play a role. Attracting customers with “hot deals” in meat products should be considered bad practice. It encourages waste of meat – with some of the highest per kg embodied environmental impacts – as people easily buy more than they need and it does not encourage a healthy diet. In some countries there are serious discussions about self-imposed ban of this practice. A possibility that could work towards the mentioned objectives is to decrease prices of fresh produce as the sell-by date comes closer (smart packaging) or sell produce that doesn't look 100% perfect more cheaply, as already happens by certain producers on farmer's markets.

The donation of edible food excess to food banks and food rescue programs is a successful approach that is currently operating (i.e. OzHarvest, Food Rescue, Second Bite, etc.) and could be expanded to achieve higher food recovery. These programs could be enhanced by supporting the training of staff to inspect, handle and safely transport the food and providing liability protection to the donor.

Chapter 8

Sustainability is increasingly a competitive advantage. As mentioned, in Asia, EU and USA, supply-chain information is increasingly demanded from suppliers. The Sustainability Consortium is a powerful conglomerate of large consumer-end multinationals, NGOs, consultancies and government agencies that are moving toward a uniform system of supplier assessment criteria.

The Sustainability Consortium is developing a standardized framework for the communication of sustainability-related information throughout the product value chain. The framework, called the Sustainability Measurement & Reporting System (SMRS) serves as a common, global platform for companies to measure and report on product sustainability. It enables rigorous product level Life Cycle Assessments to be done at a fraction of today's time and cost, and provides a platform for sustainability-related data sharing across the supply chain.

The Sustainability Consortium have expanded from the original US base to South America and Europe, with a view to become a global organisation. The competitiveness of Australian food sector in export markets will be increased if the sector is prepared, proactive and in collaboration with leading international developments.

Concluding remarks

There are several motivations for stimulating and coordinating ecolabeling and other supply-chain measures. The issue is not just to improve environmental performance, but also to empower the consumer and improve competitiveness of the industry, both domestically and internationally. As a net exporting nation, Australian industry could be more involved in international developments in this field (e.g. unifying carbon labeling schemes, The Sustainability Consortium). The assumption of food security in Australia in the longer term may be too optimistic.