

Submission

Victorian Sustainability Victoria's next decade of action

November 2021



More land is appropriated from wildlife for food production than any other purpose. So using more land than we need because of high food waste levels has direct impacts on animals.



Animal Justice Party

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The Animal Justice Party 2021

Images

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This Page: Mount Ash Forest, Kinglake, Dr Nadine Richings © 2020

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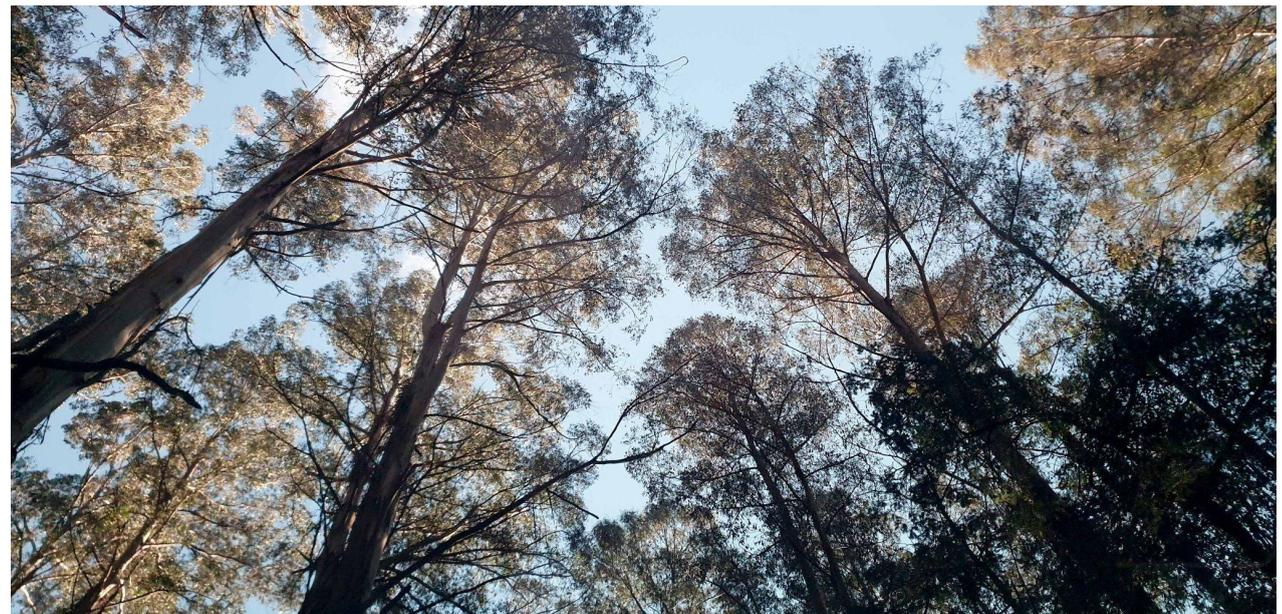
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The Animal Justice Party acknowledges the First Nations peoples as the custodians of the land on which we live and work.

About the Animal Justice Party

The Animal Justice Party (the AJP) is a political party established in 2009 to secure the interests of animals and nature through Australia's democratic institutions of government. Our vision is a planet on which animals and nature have the right to live and thrive free from negative human interference and a human society which functions with kindness and compassion within its ecological limits as a responsible member of the Earth community. The AJP seeks to foster respect, kindness, and compassion towards all species particularly in the way governments design and deliver initiatives, and the manner in which these initiatives function.

In New South Wales the AJP has two elected representatives in the Legislative Council of NSW, Mark Pearson MLC and Emma Hurst MLC. In Victoria, the AJP has an elected representative in the Legislative Council, Andy Meddick MLC, and two councillors in Local Government, Councillors Julie Sloan and Charlie Vincent.

This submission was prepared by the Victorian Submissions Working Group within the AJP. The working group makes this submission on behalf of the AJP with the approval and the endorsement of the Board of Directors.

Introduction

Meeting Victoria's emissions target of net-zero emissions by 2050¹ requires a multifaceted approach. Creating a more sustainable Victoria is one step towards achieving this goal, but will also have many other benefits for our environment, wildlife, and communities.

We are rapidly changing the climate. It is not only getting warmer but less predictable. This is nothing short of a global emergency requiring immediate and substantial action across all sectors of society. We must act before we cross "tipping points" that will make further climate deterioration unstoppable and irreversible. Even when we stop emitting greenhouse gases, warming will continue for some decades². The Australian Government is fully aware of the disastrous impacts of climate change across Australia³. Some 85 percent of our population living along the coast will be impacted by rising seas, storm surges, flooding, heatwaves, and damage to public infrastructure. More residences will be threatened by larger and more frequent bushfires, causing loss of homes and lives. Our ability to respond to these disasters will be jeopardised, as "the changing frequency, magnitude and distribution of extreme weather may result in natural disasters occurring in new areas and where emergency management experience

¹ <https://www.climatechange.vic.gov.au/legislation/climate-change-act-2017>

² <https://www.science.org/doi/10.1126/science.1103934>

³ <https://www.industry.gov.au/policies-and-initiatives/australias-climate-change-strategies>

is limited. Natural disasters could increasingly occur in close succession, limiting the time available for a community to recover between events.”⁴

Our agricultural yields will be diminished by natural disasters and sustained drought conditions, putting our food security at risk. Water will become more scarce and freshwater aquifers will become contaminated by seawater. These issues will create social and political problems for future governments as our population struggles to adapt to an unforgiving and unpredictable climate.

Entire ecosystems are already suffering from extreme climatic events. A world that becomes 2-4 degrees warmer will kill billions of individual animals with many species going extinct⁵. Research suggests that half of all threatened species in Australia are especially vulnerable to climate change. The negative impacts will be on a scale comparable to habitat loss⁶. Shrinking habitat area also increases vulnerability to climate change, exacerbating the problem further. As local conditions change, animals will need to relocate to more suitable habitats, or perish.

Grazing and associated land clearing is a major cause of climate change. So, in addition to phasing out fossil fuels, we will also have to phase out sheep and cattle farming. This is essential not only to reduce methane emissions, but also to allow reforestation.

The AJP believes humans can thrive while simultaneously reducing our adverse impacts on the natural environment, particularly wildlife. The human activity which has the most adverse impacts on the most animals is food production. Changing the way we eat can dramatically reduce our impact on animals. The AJP advocacy for a plant based diet is therefore a key plank in our environment policy. No organisation or government can have an effective environment policy without food policy and security being central.

In addition to food choices, we measure all resource choices by their impacts on animals. In general terms, this implies we favour recyclable and upcycled materials over those which are consumed and thrown away. If two materials are interchangeable, we favour the one with the lowest land footprint, all other things being equal.

AJP favours sources of clean energy that minimise habitat destruction or other harmful impacts on animals and the environment.⁷

Sustainability Victoria’s (SV) purpose is to accelerate Victoria’s transition to a circular, climate resilient clean economy – contributing to achieving the Government’s targets for 2025 and 2030 as set out in Recycling Victoria and the Climate Change Strategy.

⁴ <https://www.industry.gov.au/policies-and-initiatives/australias-climate-change-strategies>

⁵ <https://www.ipcc.ch/sr15/chapter/chapter-3/>

⁶ Pimm SL. Biodiversity: Climate change or habitat loss—which will kill more species? *Curr Biol*. 2008; 18: 117–119

⁷ <https://animaljusticeparty.org/policieslist/environment/environment/>

This consultation focuses on three areas:

- *Investment and innovation: Incentives and insights to deliver a clean economy*
- *Behaviour Change and Education: Leading effective change*
- *Community Action: Place-based projects and programs*⁸

The AJP supports the goal of creating a more climate resistant and cleaner economy, and the ‘vision’ that SV is working towards, where sustainable living is the norm and sustainable decision making is the default. Whilst the SV plan discusses many worthwhile programs and actions, current and for the future, there is a glaring omission in the lack of discussion about the impacts of animal agriculture on climate change through water consumption, land clearing and greenhouse gas emissions. Every Victorian household and business can do better and this could be supported by better education and programs, but until we address the contribution of animal agriculture to a NON sustainable future, these grass-roots actions pale in significance.

Our submission tackles this critical reform by discussing the three focus areas and where the ‘gaps’ are in the plan; recommendations are provided throughout our submission.

This submission is guided by our mission and vision and underpinned by our policies. The AJP has policies on animals, environment and human issues⁹. Our policies on climate change¹⁰, energy¹¹, environment¹², environmental law¹³, introduced animals¹⁴, land clearing¹⁵, marine animals¹⁶, mental health¹⁷, waste¹⁸, wildlife care¹⁹, and wildlife protection²⁰ are particularly relevant to this consultation.

Thank you for the opportunity to contribute to this consultation.

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https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/4416/3306/9218/SV2030_Strategic_Plan_Consultation_draft.pdf

⁹ Animal Justice Party Policies <https://animaljusticeparty.org/policies/>

¹⁰ Animal Justice Party *Climate Change Policy* <https://animaljusticeparty.org/wp-content/uploads/2018/06/climate-changeA4.pdf>

¹¹ Animal Justice Party *Energy Policy* <https://animaljusticeparty.org/wp-content/uploads/2019/04/ENERGY-NAT-Basic.pdf>

¹² Animal Justice Party *Environment Policy* <https://animaljusticeparty.org/policieslist/environment/environment/>

¹³ Animal Justice Party *Environmental Law Policy*

https://animaljusticeparty.org/wp-content/uploads/2019/04/ENVIRONMENTAL_LAW-NAT-Basic.pdf

¹⁴ Animal Justice Party *Introduced Animals Policy*

<https://animaljusticeparty.org/wp-content/uploads/2021/05/IntroducedAnimalsMay2021.pdf>

¹⁵ Animal Justice Party *Land Clearing Policy* <https://animaljusticeparty.org/wp-content/uploads/2017/11/land-clearingA4.pdf>

¹⁶ Animal Justice Party *Marine Animals Policy* <https://animaljusticeparty.org/wp-content/uploads/2017/11/marine-animalsA4.pdf>

¹⁷ Animal Justice Party *Mental Health Policy* <https://animaljusticeparty.org/wp-content/uploads/2018/04/mental-healthA4.pdf>

¹⁸ Animal Justice Party *Waste Policy*

<https://animaljusticeparty.org/wp-content/uploads/2020/05/Animal-Justice-Party-Waste-Information-Sheet-May-2020.pdf>

¹⁹ Animal Justice Party *Wildlife Care Policy* <https://animaljusticeparty.org/wp-content/uploads/2021/02/Wildlife-care.pdf>

²⁰ Animal Justice Party *Wildlife Protection Policy* <https://animaljusticeparty.org/wp-content/uploads/2021/02/Wildlife-Protection2021.pdf>

1. The Vision for Victoria

Upon first reading, the vision for Victoria presents an idyllic, sustainable and responsible future. A closer read, however, highlights that the vision is limited, despite covering a range of lifestyle aspects.

Positives

- Models sustainable business practices as the norm.
- Discusses housing and infrastructure upgrades to reduce environmental impacts.
- Promotes sustainable household practices and communities as the norm.
- Promotes inclusivity and sustainability within communities.
- Depicts placing higher value on sustainable lifestyle choices and big picture thinking, rather than the current practice of prioritising convenience and cost.
- Promotes greater transparency in the sustainability impacts of decision making, assisting with people taking ownership of their lifestyle choices and impacts as consumers of goods.

Negatives

- Lists wind turbines as the solution to meeting emissions targets, rather than advocating for exploration and innovation across all fields of clean energy which is restrictive and ignores the environmental impacts of building them.
- Discusses the threat of food security whilst ignoring the impacts of animal agriculture and food/protein source choices on waste production, pollution and the climate emergency.
- A strong focus on individual choices ignores the contribution of decisions made by industry and commercial enterprise.
- Does not address people taking ownership of their food choices, nor their impacts on the natural environment surrounding them.
- Does not adequately address water usage or water security.
- No mention of upgraded waste management systems. It's great to discuss using coffee grounds in compost rather than landfill, but whilst many public spaces lack recycling bins, and a significant proportion of recyclables goes to landfill²¹, it seems that focusing on these small-scale programs ignores the bigger systemic issues which must be addressed.

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<https://www.awe.gov.au/sites/default/files/env/pages/5a160ae2-d3a9-480e-9344-4eac42ef9001/files/national-waste-report-2020.pdf>

Recommendations:

1. Create a comparative study between emerging and renewable energy sources and gas/electrification.
 2. Phase out intensive animal agriculture to reduce greenhouse gas emissions, reduce water usage, and stop the majority of grain production being used to feed animals.
 3. Investigate and compare the impacts of households and businesses on sustainability, in areas such as energy usage and waste management. Prioritise resource allocation.
 4. Support programs which educate, motivate, empower and potentially incentivise (at least in the short term) to encourage people to take greater ownership of their choices.
 5. Promote extending waste management resources and infrastructure within Victoria, This will improve transparency, accountability and have economic benefits such as job creation and promoting a circular economy.
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2. Focus Area 1: Investment and Innovation

Clean meat (Plant-based or Cultured meat)

This is a critical area of innovation in the area of food security.

Today, almost 11 percent of the planet's 7.5 billion people suffer from undernourishment of which 821 million suffer from chronic hunger. If we can't feed everyone now, it's vital that we take drastic action as the population increases. Clean meat requires 99 percent less land and five times less water. Clean meat could allow many more people across the globe to access high quality meat at a sustainably lower environmental cost²².

Clean meat means meat produced without animals. It can be either cultured meat, meaning meat produced from individual animal cells, or meat engineered from 100 percent plant components. Former Stanford biochemistry professor Patrick Brown started Impossible Foods²³ in 2011. His goal was to produce products made from plants that could compete head on with meat and win over meat lovers; producing things that taste like meat, except perhaps better. Brown attracted the attention of former Microsoft boss turned philanthropist Bill Gates and an army of brilliant scientists who used cutting edge research to find out how to make plant proteins give the taste and mouth-feel of meat proteins.

We all know how different bread is from wheat; the method to achieve this remarkable transformation has been known for thousands of years, but the chemistry is complex. Making plants taste like meat involves combining many types of plants and some complex science, but

²² <https://www.worldanimalprotection.org.au/news/7-reasons-why-lab-grown-meat-will-be-better>

²³ <https://impossiblefoods.com/au-en>

the proof is in the eating and reports are that the Impossible Foods burger is incredibly close²⁴ to the real thing; it even “bleeds” a little. One of the tricks they use is soy leghemoglobin, this is a plant heme molecule analogous to the heme molecule in meat. This molecule is found naturally in the roots of soybean plants but Impossible Foods produce it using genetically engineered yeast. This is environmentally far better than harvesting the large amount of soybeans they would otherwise need. The burger is just the first in a long set of meat mimics that Impossible Foods aims to produce. These foods have the potential to create mainstream meat replacements for people with little or no concern for animals. They will also be far less environmentally destructive than the animal production systems they replace.

Like Impossible Foods, Beyond Meat aims to produce products that closely mimic the look, taste and cooking sensation of meat. Bill Gates has invested in Beyond Meat, which has also developed various plant based burgers based on either soy or pea protein. Their burgers change colour and even “bleed” like meat through the use of beet colouring.

The alternative approach to plant based “meat” is to start with an individual animal cell and grow this in a laboratory into a collection of animal muscle cells. The challenges in this case mainly revolve around gene programming and supplying the appropriate raw materials and conditions to encourage the development of the desired tastes and textures. This work is far less advanced and carries the intrinsic risk of reproducing meat’s adverse health impacts along with the taste²⁵.

Engineered meats have considerable promise to both reduce animal production and all of the associated environmental issues and health benefits such as less saturated fat, less antibiotic resistance, no growth hormones, no bacterial contamination and it will eventually be cheaper than conventional meat. Most importantly, global hunger will be reduced²⁶.

Recommendations:

6. Ask the National Health and Medical Research Council (NHMRC) to report on the state and potential for engineered and cultured meat, dairy and egg products.
 7. Encourage the intake of plant based “meat” to reduce world hunger and provide a healthier option.
 8. Subsidise the development of clean “meat” grown from animal cells²⁷.
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<https://www.npr.org/sections/thesalt/2016/06/21/482322571/silicon-valley-s-bloody-plant-burger-smells-tastes-and-sizzles-like-meat>

²⁵ <https://animaljusticeparty.org/wp-content/uploads/2018/04/cultured-meatA4.pdf>

²⁶ <https://www.worldanimalprotection.org.au/news/7-reasons-why-lab-grown-meat-will-be-better>

²⁷ <http://animaljusticeparty.org/cultured-meat/>

Clean Energy Innovation

The AJP is concerned about the reliance on fossil fuel energy sources in Australia. These have been scientifically proven to contribute to climate change. While we recognise that humans rely on energy in their daily lives, we seek a solution that is not only sustainable, but also considers the lives of other animals. Energy production is a major source of greenhouse gases.

Alarmingly, Australia has the highest per capita emissions in the Organisation for Economic Co-operation and Development (OECD), with 25 tonnes of greenhouse gases being emitted per person every year. Australia has committed to reducing emissions by five percent from 2000 levels by 2020, in line with The Paris Agreement (2015). Electrical energy generates a disproportionate amount of greenhouse gases, but all fossil fuels have to be eliminated. Our energy sources are placed into context in Figure 1. In 2017, despite our commitment to the Paris Agreement, emissions increased²⁸ by 0.8 percent – the third consecutive year with an increase in emissions. It is clear that our current energy systems and strategies are failing.

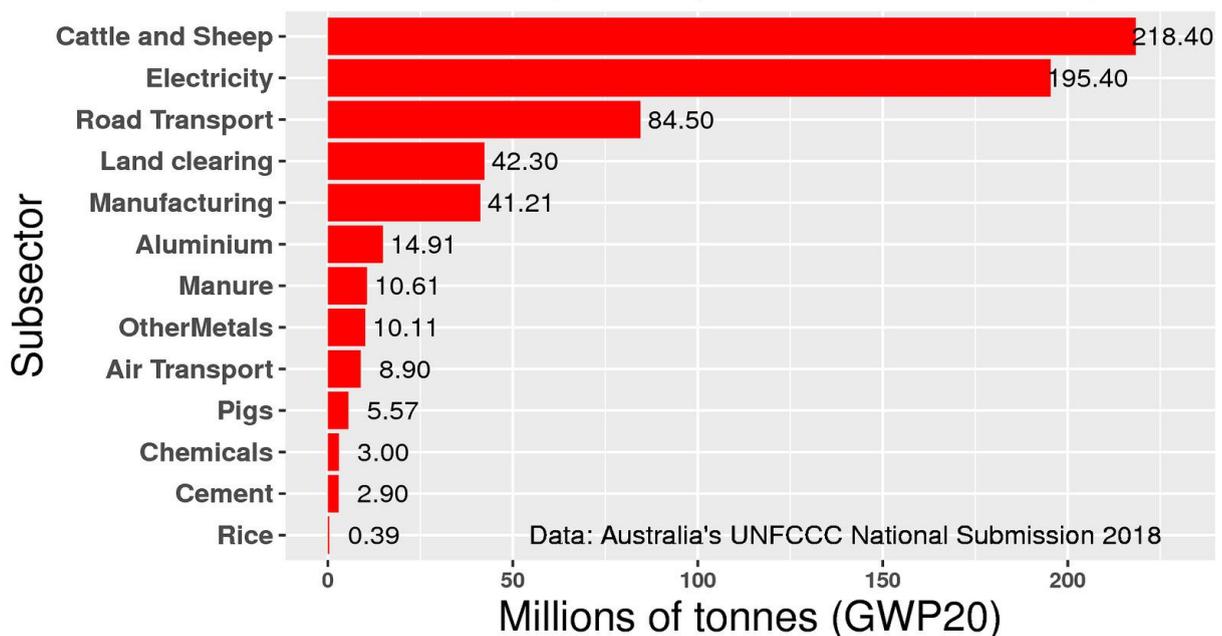


Figure 1 - The relative climate impact of major sectors over the next 20 years in Australia.

While “clean energy” and “renewables” are often put forward as solutions, these terms are somewhat misleading, as all energy-harvesting technologies generate pollutants during their life-cycles. Renewables, for example, require considerably²⁹ more mining than nuclear. The mining requirements of renewables increases still further if mining for battery or other storage technologies is included.

²⁸ <https://www.climatecouncil.org.au/emissions-data-released-2017>

²⁹ <https://acola.org.au/wp/esp/>

Understanding the full consequences of energy production systems is necessary for meeting demand while also safeguarding the ecological systems on which we depend³⁰. Significant losses of global biodiversity and ecosystem services are already occurring as a direct result of increasing climate change. We need systems which simultaneously minimise impacts on animals at a species and individual level, while reducing greenhouse gas emissions rapidly³¹.

The challenge we face is how to maximise our opportunities to transition towards renewable sources of energy, without causing damage, or creating other negative environmental consequences. We need not only a roadmap to reduce net carbon emissions to zero, but a roadmap to create a clean energy future for Victoria with zero negative environmental impact during the process.

News headlines about new technology that will be “game-changing” are a daily occurrence. There is no shortage of laboratory-sized “breakthroughs”. The arduous and usually unsuccessful path from laboratory to deployment at global scale is not sufficiently recognised; the first is relatively easy to find funding for, not so the second. The US DoE Global Storage Database³² contains some 50 different types of “large battery”. *How many total installations does each of these have in the world?* Only three have more than 50 installations; Lithium-ion, Lithium-Iron Phosphate and Ice Thermal. If you want to roll out a technology at scale, then standardisation is more important than model churn. At some point you have to stop waiting for silver bullets and start building. Approaches to infrastructure dependent on the whims of private investment will always be hostage to investment, leaving last week’s technology in favour of next week’s.

Recommendations:

9. Immediately cease subsidies of non-clean energy.
10. Consider the environmental impact of all new innovations in clean/renewable energy³³ on the environment, human and planetary health and wildlife and wildlife habitat.
11. Eliminate vested interests in decision-making.
12. Prioritise long-term solutions which will help us meet our climate emissions target.
13. Evaluate the environmental impact of each source of alternative energy, in both the short and long-term.
14. Evaluate alternative forms of energy to consider the environmental implications of different geographical locations. For example, offshore wind farms must be evaluated separately to land-based wind farms.

³⁰ <https://academic.oup.com/bioscience/article/65/3/290/236920>

³¹ Animal Justice Party *Energy Policy* <https://animaljusticeparty.org/wp-content/uploads/2019/04/ENERGY-NAT-Basic.pdf>

³² <https://www.sandia.gov/ess-ssl/global-energy-storage-database-home/>

³³ <https://animaljusticeparty.org/policieslist/environment/energy/>

15. Protect existing forests and marine habitats from further destruction³⁴.
 16. Invest in the development of new, clean, animal-friendly energy technologies³⁵.
 17. Create an independent body to oversee the transition to net zero emissions goals, to minimise disruptions caused by changes in government and corresponding agendas and vested interests.
 18. Offer support and financial incentives to drive innovations in clean energy production.
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Sustainable housing

Sustainable housing has two distinct areas where action is required: retrofitting existing housing structures and creating the framework to ensure future builds meet the highest possible standards of sustainability in all areas, *e.g.*, materials, energy, water usage and liveability.

The guidelines created by Sustainability Victoria for building ‘7-star efficiency’ houses are comprehensive and set a high standard of sustainability within the building code, addressing areas such as insulation, geographical facing, air leakage and air conditioning, however there is still scope for making more sustainable choices in a range of areas. The sources of wood, and even the way that it’s cut can have significant impacts on our environment. Choosing Australian plantation timber as opposed to cheaper wood sourced overseas from wildlife habitat will have a more positive impact, and/or using radial timber³⁶ means less wood is wasted, therefore less trees are required. We must continue to search for new ways to improve sustainability at every stage of the building process.

When planning for future housing, consideration must be given to the long-term implications of proposed building or development works. The focus needs to change from ‘how many houses will fit on the land?’ to ‘what does healthy living look like in this area?’; ‘what will be the impact of the houses on that land? On future residents? Nearby established residents? Wildlife? Climate change?’

Consideration must be given to site selection for new residences, energy efficiency, thermal comfort of residents and the ability of appliances to conform to standards and support the aims of the Victorian 2050 net emissions targets.

Housing development clears land, destroys habitat, and kills or displaces wildlife, triggering biodiversity loss and ecosystem decline. Biodiversity loss and ecosystem decline is so severe in Victoria it triggered a Parliamentary Inquiry with almost 1,000 submissions from Victorians³⁷. The

³⁴ <https://animaljusticeparty.org/policieslist/environment/climate-change/>

³⁵ <https://animaljusticeparty.org/policieslist/environment/energy/>

³⁶ <https://radialtimbers.com.au/>

³⁷ <https://www.parliament.vic.gov.au/epc-lc/inquiry/995>

built environment must incorporate biodiversity-sensitive, water-sensitive, and climate-sensitive design.

Sustainable decisions are easier to make when a dwelling is being built from scratch, retrofitting existing houses, especially for renters or those in a lower socioeconomic bracket, are more challenging as resources are limited and decisions on where to allocate resources must be made for maximum effectiveness. Upgrades to existing structures must be investigated in respect of the costs involved and creating minimal disruption to residents, whilst still ensuring they meet new standards of living and efficiency.

Programs such as incentives for adding/extending insulation, and to seal door and window air leaks that decrease thermal efficiency are some of the cost effective and efficient methods of improving sustainability in existing homes.

Reviewing energy sources and moving away from Victoria's heavy reliance on gas is another. Currently, 66 percent of Victorian households use gas for water heating and 64 percent use gas for space heating³⁸. If there is to be a significant push towards electrification, requiring the replacement of these appliances, there needs to be careful consideration of the costs involved. The costs for individuals in changing large-scale appliances such as heaters and water heaters could be prohibitive, particularly for lower socioeconomic populations. This may be despite government subsidies and the long term savings attributable to newer, more energy efficient appliances. The costs of changeover must also be assessed.

The focus must move towards transitioning away from gas as soon as possible. Less users will alleviate the pressure on the existing infrastructure and therefore lessen the need for upgrades, hopefully allowing existing systems to see out their lifetime without requiring significant works. This highlights the need for timely changes to occur.

We acknowledge that enormous changes will be required within households and large and small-scale commercial enterprises to significantly reduce or eliminate our usage and reliance on gas as an energy source. Time will be needed to evaluate and consider the future alternatives, so there will be an ongoing need for gas supply in the short-term, and this supply needs to be stable and reliable. However, any significant investment in this supply would be imprudent, as it will only waste resources that could be better directed towards cleaner sources of future energy supply.

³⁸ Victorian Government (2021) Help Build Victoria's Gas Substitution Roadmap: Consultation Paper. https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/1716/2544/4975/Victorias_Gas_Substitution_Roadmap_Consultation_Paper.pdf

Recommendations:

19. Conduct a comparative study on the costs and benefits of a range of additional sustainability measures for new houses such as different sources of materials and their long term environmental impacts.
20. Create a matrix for evaluating and comparing sustainable, retrofitting projects which considers costs, convenience, benefit and efficiency. Use this to advocate for an incentive scheme to increase affordability and therefore uptake.
21. Create guidelines for sustainable decision making at all stages of planning and building to better educate people on where they can make more sustainable choices.
22. Encourage residents to plant indigenous plants and develop their gardens to support wildlife.
23. Investigate the health impacts of increasing thermal comfort and efficiency of homes. Compare with data from other nations where available, to assess the impacts of increased costs to achieve thermal comfort, compared to increased savings in health expenditure and hospitalisations.
24. Create targets for energy, waste and thermal efficiency for new houses and infrastructure that align with 2050 zero net emissions targets.
25. Study the costs forecast of increasing insulation, and therefore thermal efficiency, of buildings via a subsidy scheme, and the projected energy savings from the resultant reduction in energy use for heating and cooling.
26. Investigate the ecological cost of electrification compared to current gas use.
27. Study the costs and benefits associated with using personal or neighbourhood batteries powered by renewable energy sources.
28. Evaluate planning schemes to ensure land use provides strong protection for biodiversity.
29. Promote urban biodiversity and healthy, inter-species competition by planting indigenous plants and re-establishing local ecosystems.
30. Develop a Biodiversity Management Plan to monitor and manage Victoria's biodiversity and ecosystems.
31. Develop and enact a plan to improve habitat and vegetation quality across Victoria.
32. Develop a streetscape strategy to plant indigeneous plants along naturestrips and in planter boxes on footpaths where naturestrips are absent.
33. Improve connectivity across all of Victoria – develop nature linkages with indigenous vegetation in north-south and east-west directions.
34. Develop a land acquisition and retention plan to improve connectivity across Victoria.
35. Investigate the forecast increase in landfill from the replacement of gas appliances with electrical appliances. Determine what proportion of components can be recycled and reused. Investigate the indirect environmental costs of large-scale appliance conversion , for example, mining for raw materials to produce components, destruction of wildlife

habitat from increased mining, increased emissions from fossil-fueled transport required to deliver new appliances to homes and businesses, and removing old appliances to landfill.

36. Consider a minimum energy efficiency standard for all appliances. Immediately cease production/import of all appliances that fall below this minimum standard.
37. Consider a target date for phasing out the sale of gas appliances. A realistic time frame must be set to allow for implementation, for example, within the next ten years.

Circular Economy

In 2018, a committee of the Australian Senate called for the Government to “. . . prioritise the establishment of a circular economy in which materials are used, collected, recovered, and re-used, including within Australia.”

But consider timber, a traditional, popular, renewable material used for building, furniture, and energy. Is its use and disposal considered “circular”? Forests are habitat and their harvesting impacts many animal species. The forestry industry has also always been one of the most dangerous for humans. In essence it is a sustainably destructive industry.

Other grown materials, such as hemp, biofuels, wool or cotton, are also complex industries needing careful analysis. Simply being natural isn't enough. Wool, for example, involves substantial suffering, regardless of how sustainable it is. Some materials are sustainably destructive and wool is sustainably cruel. Circularity makes the most sense with elements, particularly metals and their alloys. But even here there are trade-offs and compromises. What if an element is more energetically expensive to recycle than to mine? Recycling in that case may only be sensible if it can be conducted 'cleanly' (meaning with near zero CO2 emissions).

Some materials may be easily recycled, but undesirable for toxicity and safety reasons, such as batteries. Lead acid batteries are readily recycled but also a dangerous weapon in the wrong hands. Unfortunately the nature of battery use makes control impossible.

In summary, we aim to minimise our eco-footprint while providing a good standard of living for everyone on the planet. When a circular economy of some material helps, then we should support it, but when it doesn't then we shouldn't. To assume that circularity is always good is to prejudge complex technical issues when we should be measuring impacts and making intelligent choices.³⁹

³⁹ <https://animaljusticeparty.org/wp-content/uploads/2020/05/Animal-Justice-Party-Waste-Information-Sheet-May-2020.pdf>

Recommendations:

38. Encourage recycling and composting programs in businesses and public institutions and educate the public about waste issues.
39. Stop the dumping of clothing and edible food by retailers and create/support projects which ensure these products are sent to people in need.
40. Invest in innovative enterprises which reduce and reuse waste.
41. Oppose “planned obsolescence” and barriers to repairing or upgrading consumer goods.

3. Focus Area 2: Behaviour Change and Education

The AJP would like to address the following statements made by Sustainability Victoria:

“Sustainability Victoria (SV) knows that Victorians take climate change seriously, with more than 78 percent believing the issue requires urgent action”.

“Victorians and their communities are at the heart of everything SV does. It is our vision and hope that our leading work in behavioural insights will inspire people to take the actions needed that will lead us to a net-zero emissions future. Behaviour change is key to this action”.

“Behaviour change is needed whenever somebody must do something differently to what they did before. It must consider the systems involved at all levels - individuals and households, as well as the broader organisations, rules and contexts surrounding and influencing them. SV needs to remove the barriers to change at all levels and use a variety of tools (often at once) to do this. Campaigns are one of many strategies and channels SV can use to enact behaviour change”.⁴⁰

Primary Production

One of the key areas for **behaviour change** with regards to climate change is in regards to primary production which includes agriculture, plantation forestry, productive fisheries, and the infrastructure, workforce and communities supporting these industries⁴¹.

A common factor that influences primary industries, the water cycle and the natural environment, is animal agriculture. The AJP is particularly concerned about the effects of animal agriculture on climate change. It is the second largest contributor of greenhouse gas emissions, the leading cause of deforestation and biodiversity loss and is water-intensive. It is an

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https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/3916/3306/8718/Focus_Area_2_Behaviour_change_and_education.pdf

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https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/4116/2579/0466/Primary_Production_Climate_Change_Adaptation_Action_Plan_2022-2026_for_consultation.pdf

under-acknowledged driver of climate change accounting for 24 percent of global greenhouse gas emissions by economic sector as shown in Figure 2.

24 percent which is not usually taken into consideration when the causes of climate change are discussed but which it is imperative to include in the Sustainability plan for Victoria.

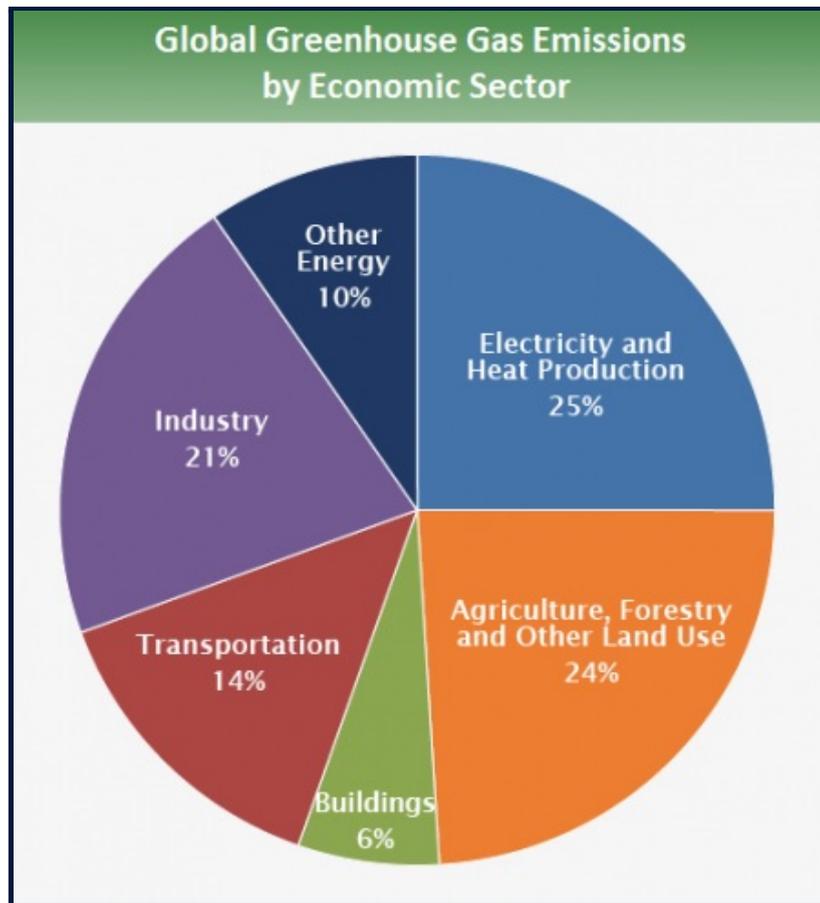


Figure 2. Is the Meat industry the number one cause for Global warming, resource depletion, and increase in greenhouse gases?⁴²

Climate change impacts are a significant challenge for Victoria's primary industries. Victoria's climate has become drier and warmer. From 1997 to 2009, Victoria experienced the Millennium drought. During this time, Melbourne's water stores dropped from almost full to two-thirds empty in three and a half years⁴³. We are also likely to experience more frequent and more extreme events, such as heatwaves and bushfires.

⁴²

<https://www.quora.com/Is-Meat-industry-the-number-one-cause-for-Global-warming-resource-depletion-and-increase-in-greenhouse-gases>

⁴³ <https://www.liveability.vic.gov.au/water>

Non-human animals will succumb to extreme changes in climatic events before we do. A world that becomes two or more degrees warmer will kill billions of individual animals, and could eliminate a substantial proportion of animal species and habitats⁴⁴.

Farmed animal species contribute directly and indirectly to deforestation, water pollution, air pollution, greenhouse gases, global warming, desertification, erosion, and human non-communicable diseases, such as cardio-vascular diseases, cancers, inflammatory diseases and obesity. Virtually anywhere in the world, the damage done by ruminants, pigs, and poultry, and those who grow feed crops for them, is visible on the land⁴⁵.

The concepts of transformative and transformational adaptation have emerged in recent years, to address the need for major, non-marginal transitions in sectors such as agriculture, in response to climate change. However, there is less empirical evidence of transformation in practice. Incremental adaptation may be inadequate to deal with rapid shifts and tipping points for food production under climate change⁴⁶.

The sooner the agricultural sector starts to transform, the more resilient it may be.

Our major adaptation concerns are that we start to transform from animal-based agriculture, to plant-based.

Early and effective action is essential to prepare for and manage the impacts of climate change and make our industries, regions and communities more resilient. Victoria is preparing the *Primary Production Climate Change Adaptation Action Plan 2022-2026*⁴⁷, to support primary industries to adapt. The Victorian Government has a goal to reduce Victoria's emissions to net zero by 2050 and build more resilient communities that are prepared to deal with the impacts of climate change. Adapting to the impacts of climate change will not only reduce current and future risks, it will also build social and economic resilience and ensure Victoria is best placed to take advantage of opportunities.

Climate Change

The *United Nations Intergovernmental Panel on Climate Change (IPCC)* released the Sixth Assessment Report on the 9th August 2021⁴⁸. Every region on the planet is affected by anthropogenic climate change, and extreme droughts, floods, wildfires, heatwaves and storms are all set to increase in frequency and severity if global heating continues. If drastic and immediate action is taken we may prevent a global temperature rise above 1.5°C. Even in the

⁴⁴ <https://animaljusticeparty.org/policieslist/environment/climate-change/>

⁴⁵ <https://www.smithsonianmag.com/travel/is-the-livestock-industry-destroying-the-planet-11308007/>

⁴⁶ <https://www.frontiersin.org/articles/10.3389/fsufs.2018.00065/full>

⁴⁷

https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/3416/2579/0683/At_a_Glance_Primary_Production_Climate_Change_Adaptation_Action_Plan_2022-2026_for_consultation.pdf

⁴⁸ IPCC (2021) Sixth Assessment Report - AR6 Climate Change 2021: The Physical Science Basis. <https://www.ipcc.ch/report/ar6/wg1/>

best case scenarios, some of the changes are irreversible for millennia, including rises in sea-levels. The World Alliance of Scientists published their 2021 review of the planet's health based on vital signs on 28th Jul 2021⁴⁹ – it has worsened since their first report in Jan 2020⁵⁰, in which they posed a six-point plan for climate action. Given the extent of damage and expected ongoing climate damage, we cannot act too extremely, or too urgently; nothing will be an over-reaction. We must act with urgency and extreme responses to have any impact on the extent of climate damage – the Victorian Government's action plans on sustainability must include appropriate, immediate and timely actions. The recent United Nations Climate Change Conference has emphasised this requirement.

Biodiversity Loss

Climate change is one of the five major drivers of biodiversity loss and ecosystem decline^{51 52}. The *United Nations Global Biodiversity Outlook 5* report recognises the Biodiversity Emergency and that we need to act with urgency to modify our actions in key areas⁵³. It identifies eight critical transitions that are required to shift to a "sustainable coexistence with nature". One of these transitions is **climate action**, and five of the transitions are **related to industry**. If Victoria can act with urgency to employ this plan, we will be well-placed to preserve biodiversity and ecosystems and support the health and well-being of all Victorians, regardless of species. The eight transitions are:

1. The land and forests transition: conserve intact ecosystems, restore ecosystems, combat and reverse degradation, and avoid and reduce land-use change.
2. The sustainable fisheries and oceans transition: protect and restore marine and coastal ecosystems, and manage all ocean activities to ensure sustainability.
3. The sustainable freshwater transition: an integrated approach to guarantee water for nature and people, improve water quality, protect critical habitats, control introduced species and safeguard connectivity to allow the recovery of freshwater systems from mountains to coasts.
4. The sustainable agriculture transition: redesign agricultural systems through agro-ecological and biodiversity-sensitive practices.

⁴⁹ Ripple WJ, et al. (2021) World Scientists' Warning of a Climate Emergency 2021, *BioScience*, 2021;biab079, <https://doi.org/10.1093/biosci/biab079>

⁵⁰ Ripple WJ, et al. (2020) World Scientists' Warning of a Climate Emergency, *BioScience*, 70(1): 8-12, <https://doi.org/10.1093/biosci/biz088>

⁵¹ IPBES (2019): Global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. E. S. Brondizio, J. Settele, S. Díaz, and H. T. Ngo (editors). IPBES secretariat, Bonn, Germany. 56 pages. <https://ipbes.net/global-assessment>

⁵² IPBES (2020) Models of drivers of biodiversity and ecosystem change. <https://ipbes.net/models-drivers-biodiversityecosystem-change>

⁵³ Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5. Montreal. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>

5. The sustainable food systems transition: enable sustainable and healthy diets with an emphasis on diverse foods, mostly plant-based, and reduce consumption of animal products and production of waste.
6. The biodiversity-inclusive One Health transition: manage ecosystems, including agricultural and urban ecosystems and wildlife, through an integrated approach to promote healthy ecosystems and healthy people.
7. The sustainable climate action transition: employing nature-based solutions, alongside a rapid phase-out of fossil fuel use, to reduce the scale and impacts of climate change, while providing positive benefits for biodiversity and other sustainable development goals.
8. The cities and infrastructure transition: deploy ‘green infrastructure’ and make space for nature within built landscapes to improve the health and quality of life for citizens and to reduce the environmental footprint of cities and infrastructure.

Animal Agriculture and Food Security

Animal agriculture is a major driver of climate change, so a switch to a plant-based diet would be a significant response and solution. Globally, it is essential that we decrease the numbers of farmed animals to reduce both methane and other greenhouse gas emissions, and to allow reforestation⁵⁴.

Animal agriculture is the second largest contributor of greenhouse gas emissions, accounting for 18 percent of global, human-induced greenhouse gas emissions. Cows and sheep produce methane, a gas which is 28 times more potent than carbon dioxide, and nitrous oxide, a molecule 265 times more potent than carbon dioxide⁵⁵.

According to the U.N. Convention to Combat Desertification, it takes up to twenty five kilos of grain to produce just one kilo of beef (Figure 3)⁵⁶. Producing beef is also highly water-intensive (Figure 4). This is a highly inefficient use of resources⁵⁷ and must be addressed in any meaningful strategy to tackle climate change and increase sustainability.

⁵⁴ <https://animaljusticeparty.org/policieslist/environment/climate-change/>

⁵⁵ <https://animaljusticeparty.org/policieslist/environment/climate-change/>

⁵⁶ <https://ourworldindata.org/grapher/feed-required-to-produce-one-kilogram-of-meat-or-dairy-product>

⁵⁷ <https://ourworldindata.org/grapher/water-withdrawals-per-kg-poores>

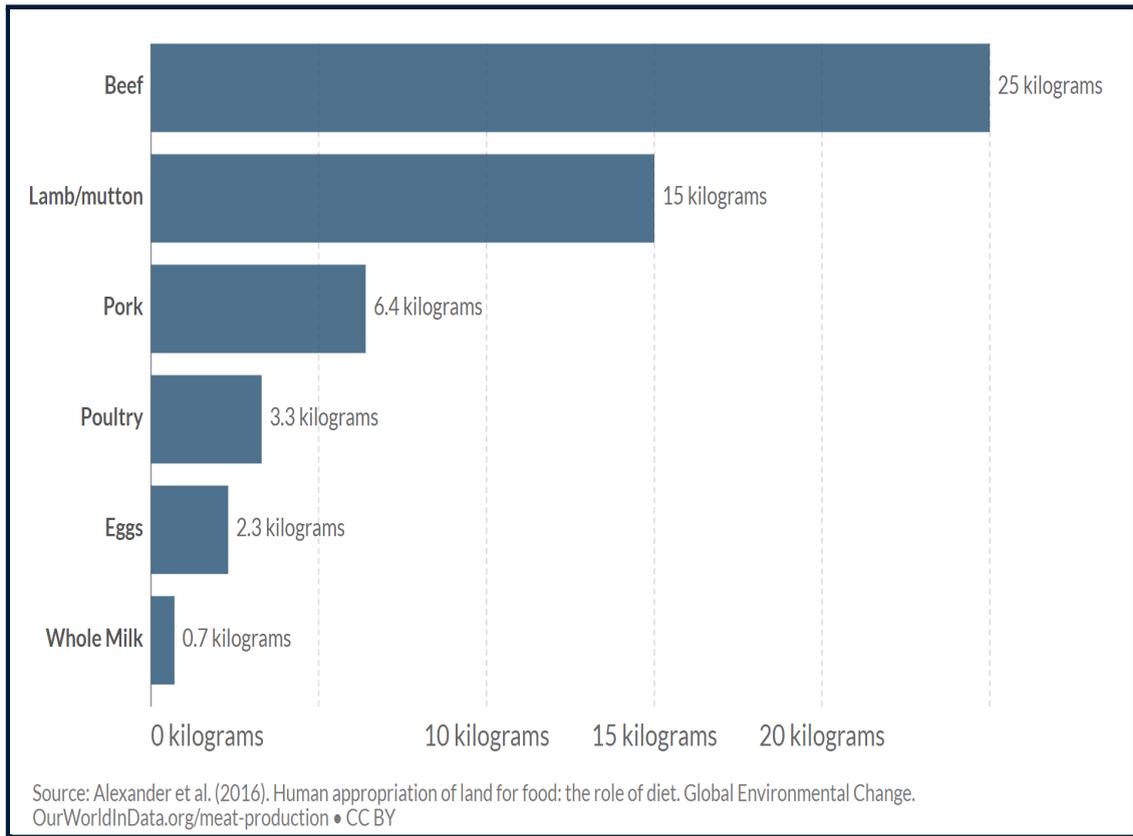


Figure 3 - The quantity of animal feed required to produce one kilogram of animal-based food; measured as dry matter feed in kilograms per kilogram of edible weight output.

Source: Our World in Data (<https://ourworldindata.org/grapher/feed-required-to-produce-one-kilogram-of-meat-or-dairy-product>)

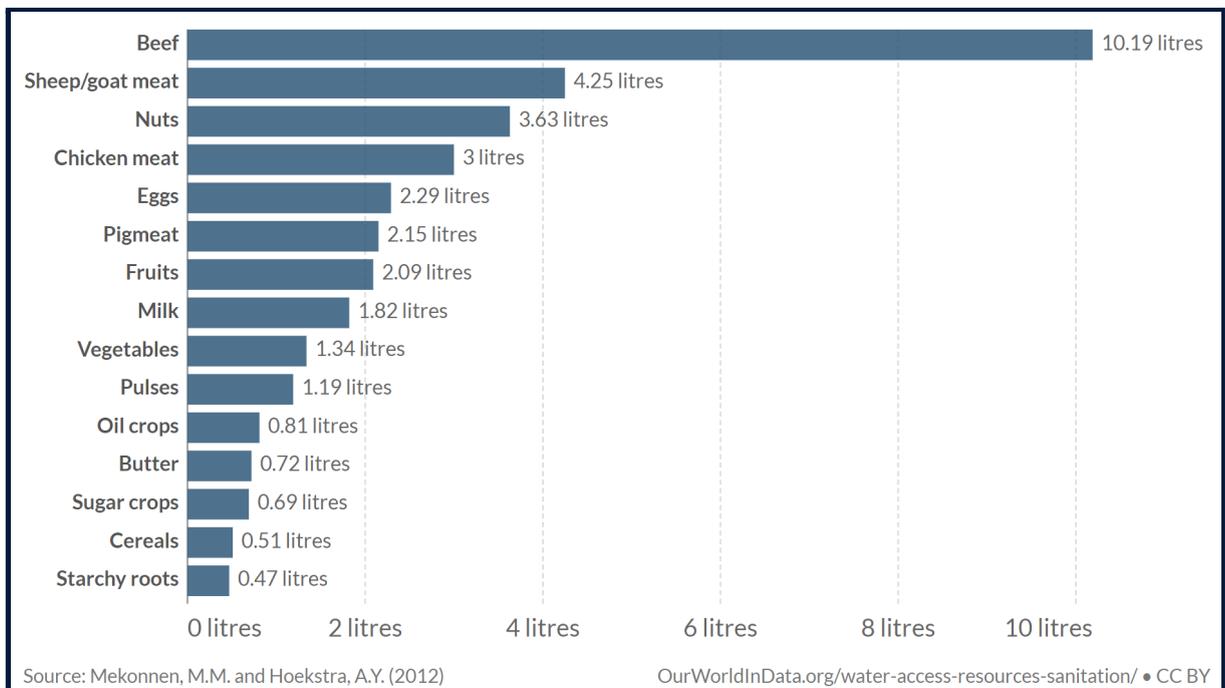


Figure 4 - The global average water footprint of food production (per tonne of food product), including water requirements across its full supply chain and the quantity of freshwater pollution as a result of production.

Source: Our World in Data (<https://ourworldindata.org/grapher/water-requirement-per-kilocalorie>)

According to Agriculture Victoria, agricultural land in Victoria occupies 128,000 square kilometres or around 56 percent of the state⁵⁸. Two thirds of the crops we grow are to feed animals which are farmed for people to eat.

Dairy cows also produce greenhouse gas emissions which contribute to climate change. Poor handling of manure and fertilisers can degrade local water resources and cause algal blooms⁵⁹. Farmers can significantly reduce environmental impacts through better management practices, in particular employing biodiversity-sensitive farming practices and eco-agriculture/agro-ecology^{60 61}, and transitioning to growing plants for plant-based food.

Recommendations:

42. Act immediately to develop and employ a sustainable agriculture transition, as recommended in the *United Nations Global Biodiversity Outlook 5*⁶²
43. Act immediately to develop and employ a sustainable freshwater transition, as recommended in the *United Nations Global Biodiversity Outlook 5*²⁴
44. Phase out intensive animal agriculture to reduce greenhouse gas emissions, reduce water usage, and stop the majority of grain production being used to feed animals.
45. Rapidly transform Australian agriculture to allow reforestation by reducing grazing.
46. Consider options for encouraging tree planting on farms to assist with positive carbon effects, and to provide shade and shelter for farmed animals during the process of transitioning away from animal agriculture. This may include providing trees or subsidies to encourage tree planting initiatives.
47. Create action plans for emergency situations: how will animals be protected from flood or bushfire situations? How will grains and vegetables be transported around the state during these events to ensure food security?
48. Encourage the federal government to implement a carbon tax on animal agriculture industries.
49. Provide subsidies, education and support for farmers engaged in animal agriculture to transition to other forms of farming or to use their land for eco-tourism.
50. Phase out subsidies to intensive animal industries because they are both cruel and provide a breeding ground for new diseases which pose large public health risks, such as SARS-related epidemics and the current COVID-19 pandemic.
51. Transition the dairy industry to plant-based milk.

⁵⁸ <https://www.agriculture.gov.au/abares/research-topics/aboutmyregion/vic>

⁵⁹ <https://www.worldwildlife.org/industries/dairy>

⁶⁰ Scherr, S. J., & McNeely, J. A. (2008). Biodiversity conservation and agricultural sustainability: towards a new paradigm of 'ecoagriculture' landscapes. *Philosophical transactions of the Royal Society of London. Series B, Biological sciences*, 363(1491), 477–494. <https://doi.org/10.1098/rstb.2007.2165>

⁶¹ Vogt MAB. Agricultural wilding: rewilding for agricultural landscapes through an increase in wild productive systems. *J Environ Manage*. 2021 Apr 15;284:112050. doi: 10.1016/j.jenvman.2021.112050. Epub 2021 Feb 11. PMID: 33582481.

⁶² Secretariat of the Convention on Biological Diversity (2020) *Global Biodiversity Outlook 5*. Montreal. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>

Climate Crisis and food production

Farming and food choices are intimately connected. The human activity which has the most adverse impacts on the most animals and on our environment, is food production⁶³. Changing the type of food we eat to a plant-based diet will dramatically reduce our impact on animals and the environment; global land use for agriculture could be reduced by 75 percent if all people ate a vegan diet (Figure 5)⁶⁴. The reclaimed land could be regenerated to create habitat and provide ecosystem services, including carbon drawdown and oxygen production.

No organisation or government can have an effective climate change policy without food policy being central. This is supported by major global strategies to address the trio of global crises that threaten our survival – biodiversity emergency, climate emergency and emerging diseases^{65,66}.

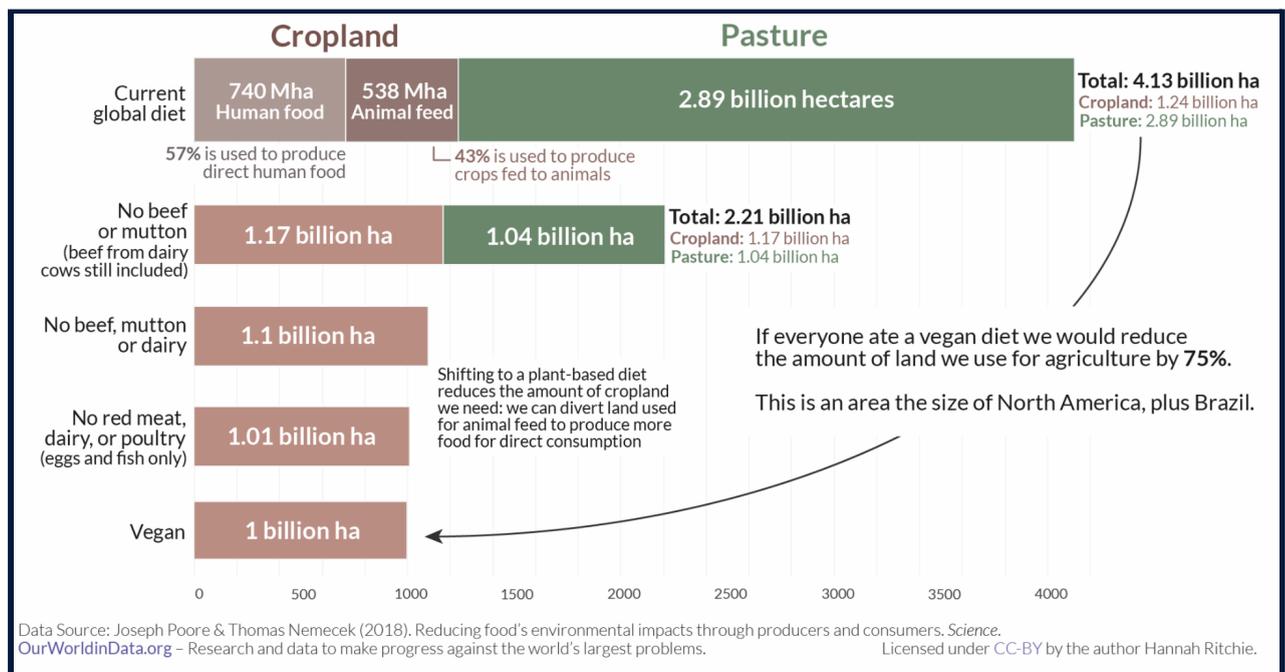


Figure 5- Global land use for agriculture determined for varied diets, assuming everyone in the world adopted a given diet. Cropland is used to grow plant-based food for people or other animals, pastureland is used to graze farmed animals. Source: Our World in Data (<https://ourworldindata.org/land-use-diets>)

⁶³ <https://ourworldindata.org/environmental-impacts-of-food>

⁶⁴ <https://ourworldindata.org/grapher/ghg-kcal-poore>

⁶⁵ Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5. Montreal. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>

⁶⁶ Ripple WJ, et al. (2020) World Scientists' Warning of a Climate Emergency, *BioScience*, 70(1): 8-12, <https://doi.org/10.1093/biosci/biz088>

Additionally, a substantial amount of independent research has been conducted on global diets⁶⁷ to determine which ones are healthiest for humans⁶⁸. The global EAT Lancet Commission subsequently recommends a 50 percent reduction in harmful products such as red meat⁶⁹ and sugar. Processed meat is listed as a Group 1 carcinogen⁷⁰, and consumption of unprocessed red meat carries health risks⁷¹.

The AJP understands that widespread dietary change will be a lengthy process, and that animal production methods must be improved urgently as an interim measure; so our priority is to phase out factory farming⁷².

Over the next year in Australia, 500 million land animals will be confined and killed for food, and more than 50 billion land animals will be raised and slaughtered around the world^{73,74}. Others are exploited in the dairy industry, causing enormous animal suffering.

Victorians will require government support and guidance to understand the impacts of diet choice on the survival of the planet, other species and humans. This should include advice to make behavioural shifts away from animal products, which is an area that conservation scientists have researched⁷⁵.

The Paris Agreement's goal of limiting the increase in global temperature to 1.5° or 2°C above pre industrial levels requires rapid reductions in greenhouse gas emissions. Although reducing emissions from fossil fuels is essential for meeting this goal, other sources of emissions may also preclude its attainment. We show that even if fossil fuel emissions were immediately halted, current trends in global food systems would prevent the achievement of the 1.5°C target and, by the end of the century, threaten the achievement of the 2°C target. Meeting the 1.5°C target requires rapid and ambitious changes to food systems as well as to all nonfood sectors. The 2°C target could be achieved with less-ambitious changes to food systems, but only if fossil fuel and other non-food emissions are eliminated soon.⁷⁶

⁶⁷ EAT-Lancet Commission. (undated) Healthy Diets From Sustainable Food Systems: Food Planet Earth, Summary Report. https://eatforum.org/content/uploads/2019/07/EAT-Lancet_Commission_Summary_Report.pdf accessed 11/8/2021

⁶⁸ Walter W. Rockström J, et al. (2019) Food in the Anthropocene: the EAT–Lancet Commission on healthy diets from sustainable food systems. *The Lancet Commissions* 393 (10170) p447–492

[https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31788-4/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31788-4/fulltext) accessed 11/8/2021

⁶⁹ Aune D, Chan D.S.M. et al. (2013) Red and processed meat intake and risk of colorectal adenomas: a systematic review and meta-analysis of epidemiological studies. *Cancer Causes Control* 24, 611–627

⁷⁰ WHO (2015) Cancer: Carcinogenicity of the consumption of red meat and processed meat.

<https://www.who.int/news-room/q-a-detail/cancer-carcinogenicity-of-the-consumption-of-red-meat-and-processed-meat> accessed 11/8/2021

⁷¹ Diallo A, et al. (2018) Red and processed meat intake and cancer risk: Results from the prospective NutriNet-Sante cohort study. *Int. J. Cancer*: 142, 230–237

⁷² <http://animaljusticeparty.org/policieslist/animals/farming/>

⁷³ <https://www.abs.gov.au/statistics/industry/agriculture/livestock-and-meat-australia/latest-release>

⁷⁴ <https://www.veganaustralia.org.au/animals#:~:text=In%20Australia%2C%20over%20500%20million,few%20moments%20of%20taste%20gratification.>

⁷⁵ Selinske MJ, Fidler F, Gordon A, Garrard GE, Kusmanoff AM, Bekessy SA. We have a steak in it: Eliciting interventions to reduce beef consumption and its impact on biodiversity. *Conservation Letters*. 2020;e12721.

<https://doi.org/10.1111/conl.12721>

⁷⁶ https://cfpub.epa.gov/ncer/abstracts/index.cfm/fuseaction/display.pubFullText/publication_id/85164

Basically, without changes to current food systems, limiting the increase in global temperature to 1.5 C will not be possible even if fossil fuel emissions are stopped soon.^{77,78}

Recommendations:

52. Act immediately to develop and employ a sustainable food systems transition, as recommended in the *United Nations Global Biodiversity Outlook 5*⁷⁹.
53. Rapidly transform Australian agriculture to employ biodiversity-sensitive farming practices and eco-agriculture/agro-ecology.
54. Compare the benefits of a range of protein sources on short and long-term health implications.
55. Alter dietary guidelines to encourage a plant-based diet.
56. Educate all health care professionals on the benefits of plant-based diets.
57. Educate the population about the adverse health effects of eating animal products.
58. Provide education on the link between animal agriculture and climate change.
59. Provide advice and support to make behavioural shifts away from animal products.
60. Improve food labelling to clearly indicate any components of animal origin.
61. Direct carbon taxes into sustainable plant-based food agriculture systems and education.
62. Investigate the water requirements of a range of other crops and grains which are more suited to warmer, low water climates, drawing from knowledge gained in other countries.
63. Investigate the viability of diversifying to transition to more drought-resistant crops.
64. Investigate how to identify changes to seasonal patterns early and develop criteria to identify the required adaptive changes.
65. Explore barriers to adoption of new technologies or potential alternative income stream opportunities
66. Explore alternate income stream possibilities through alternative uses for land.
67. Explore methods of farming that utilise recycled water, thereby reducing reliance on freshwater supplies and promoting a circular economy.
68. Explore ways to promote the local food economy such as 'shop local' initiatives. Minimise reliance on transporting food greater distances.
69. Explore how to protect water supplies from incursions of seawater as sea levels rise from climate change effects.
70. Investigate how current education courses could introduce flexible options to assist workers to be more prepared for a more climate-resilient primary production work environment. Identify where new opportunities exist and gaps can be filled.

⁷⁷ <https://www.science.org/doi/10.1126/science.aba7357>

⁷⁸ <https://pubmed.ncbi.nlm.nih.gov/33154139/>

⁷⁹ Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5. Montreal. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>

71. Invest funding in grants and subsidies to promote education opportunities for upskilling workers in primary production areas and assisting with transitioning into other related areas.
 72. Support workers in primary industry to identify transferable and universal skills to transition into careers that have a low or zero carbon footprint⁸⁰ and biodiversity footprint.
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Climate change and Deforestation

Our survival, and the survival of other species, depends on ecosystem services⁸¹, which are certain essential resources and services that come from nature, and include:

- provisioning services, such as water, food and fibre;
- regulating services, such as climate regulation and flood regulation; and
- cultural services, such as spiritual, emotional, recreational and aesthetic benefits.

We cannot be healthy, safe or well without a healthy environment.

Deforestation destroys the natural world and therefore threatens the ecosystem services on which we depend. Animal agriculture is the leading cause of land clearing and deforestation (Figure 6). One third of the Earth's surface is land, 71 percent of land is habitable and 46 percent of habitable land is used for agriculture⁸². Only 23 percent of agricultural land is used for crops for human food, the other 77 percent is used for animal agriculture (grazing and crops to feed animals).

Clearing also increases soil salinity and is a primary cause of greenhouse gas emissions⁸³. The world has lost one-third of its forest since the last ice age, see figure 6.

⁸⁰ Quantis (2019) Accounting for Natural Climate Solutions Guidance launches to support forest protection and soil restoration as part of corporate carbon strategies. 04 Feb 2019. <https://quantis-intl.com/accounting-for-natural-climate-solutions-guidance-launches-to-support-forest-protection-and-soil-restoration-as-part-of-corporate-carbon-strategies/>

⁸¹ Birkhofer, K. et al (2015) Ecosystem services—current challenges and opportunities for ecological research. *Frontiers in Ecology and Evolution*. 12 January 2015. <https://doi.org/10.3389/fevo.2014.00087>

⁸² Our World in Data: Deforestation (<https://ourworldindata.org/deforestation>)

⁸³ <https://animaljusticeparty.org/land-clearing/>

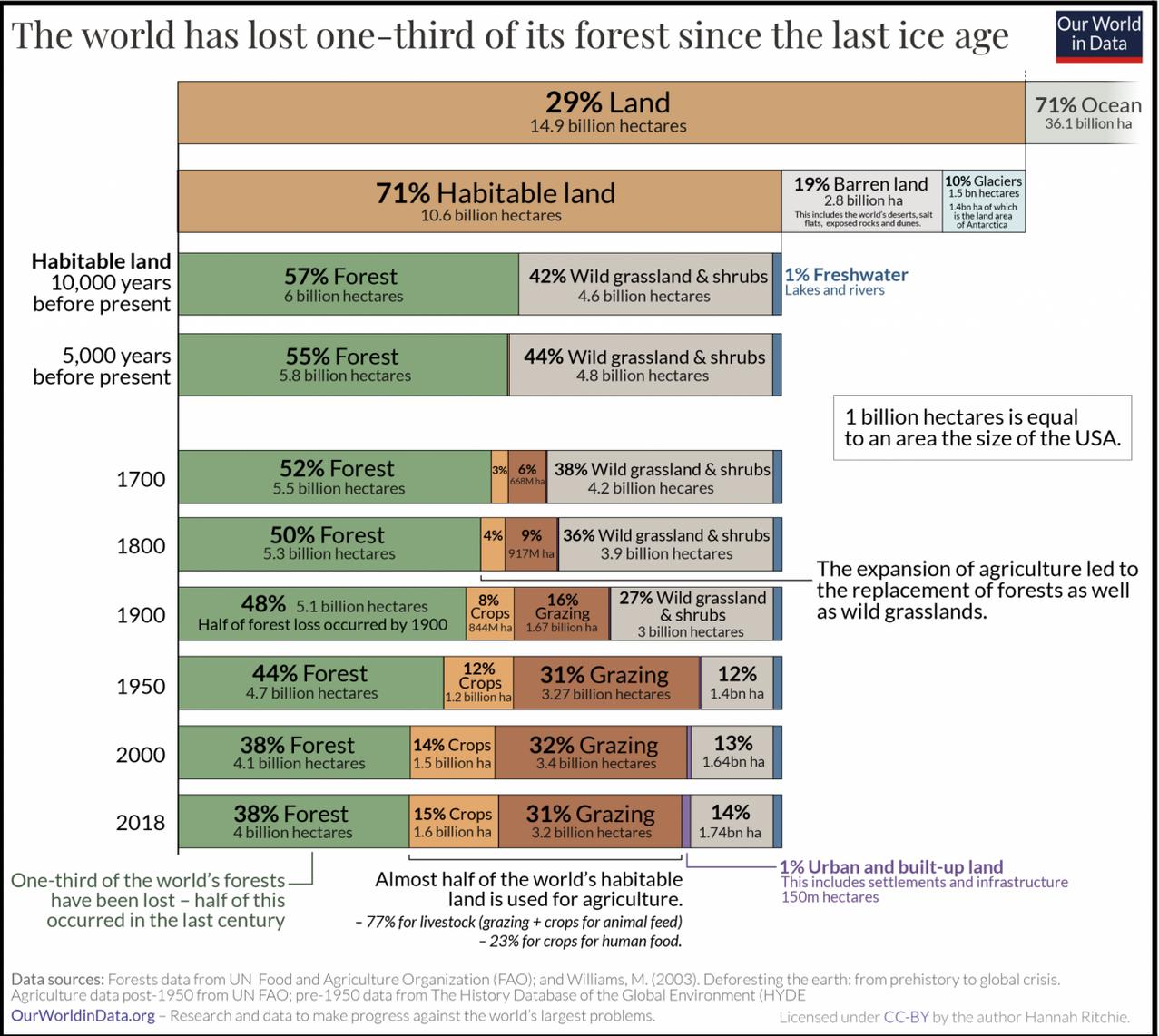


Figure 6 - Changes in land use over time. The turn of the 20th century is when global forest loss reached the halfway point: half of total forest loss occurred from 8,000BC to 1900; the other half occurred in the last century alone. (Source: Our World in Data <https://ourworldindata.org/world-lost-one-third-forests>)⁸⁴

Recommendations:

- 73. Act immediately to develop and employ a land and forests transition, as recommended in the *United Nations Global Biodiversity Outlook 5*⁸⁵
- 74. Immediately cease all land clearing associated with animal agriculture.
- 75. Introduce habitat protection as a fundamental and consistent planning principle in all regions and sectors.

⁸⁴<https://ourworldindata.org/world-lost-one-third-forests>

⁸⁵ Secretariat of the Convention on Biological Diversity (2020) Global Biodiversity Outlook 5. Montreal. <https://www.cbd.int/gbo/gbo5/publication/gbo-5-en.pdf>

76. Amend state-based animal welfare legislation to include an enforceable duty of care towards animals on a landholder's property during all land use changes.
77. Protect existing forests and marine habitats from further destruction.
78. Explore the possibility of plantation trees other than those currently used, which have lower requirements for water, but still meet economic requirements.
79. Transition immediately to only using plantation timber. Stop logging native forests earlier than the current 2030 target.

Climate change and Fisheries

Our oceans produce up to 70 percent of the oxygen we breathe, via marine plants⁴⁸. A main source of oxygen is phytoplankton. In the last few years, phytoplankton have dropped by 50 percent due to animal agriculture, commercial fishing and other human-related activities.⁸⁶

According to the Food and Agriculture Organisation of the United Nations, most of the world's fisheries are either fully exploited or over-exploited⁸⁷.

Increases in global consumption have led to the development of aquaculture⁸⁸. Victoria has been involved in fish farming for over 20 years. Animal aquaculture involves the intensive farming of fish, molluscs, crustaceans, octopuses, and amphibians. It occurs in oceans, estuaries and freshwater bodies, and in factory farm-style industrial facilities. In 2018, the Australian animal aquaculture industry killed over 97,000 tonnes of animals⁸⁹. We do not know the number of animals killed each year, because the industry measures their deaths in tonnes, not individual lives lost.

Aquaculture is a major cause of suffering in animals. They are kept in crowded conditions, are removed from their pens by capture (often by vacuum), and their handling and transportation causes extreme stress and injury⁹⁰. Lobsters can be kept alive in storage facilities outside their natural environment for several months and denied any ability to express their natural behaviours⁹¹. The conditions of these 'fish farms' are so traumatic to individuals, that up to one quarter of farmed salmon float lifelessly on the surface of their tanks, suffering from a condition that scientists say is akin to severe depression⁹². Fishes and complex invertebrates, such as octopus, are sentient animals. The science clearly shows they experience pain and suffering from animal aquaculture⁹³.

⁸⁶ <https://www.nationalgeographic.org/activity/save-the-plankton-breathe-freely/>

⁸⁷ <https://vfa.vic.gov.au/aquaculture>

⁸⁸ Stevens JR et al. (2018) The rise of aquaculture by-products: Increasing food production, value, and sustainability through strategic utilisation. <https://www.sciencedirect.com/science/article/abs/pii/S0308597X17305328>

⁸⁹ <https://www.agriculture.gov.au/abares/research-topics/fisheries/fisheries-and-aquaculture-statistics>

⁹⁰ <https://thefishsite.com/articles/catching-handling-and-transport-the-implications-for-fish-welfare>

⁹¹ <https://www.independent.co.uk/environment/cruelty-crustaceans-save-lobster-6096317.html>

⁹² <https://royalsocietypublishing.org/doi/full/10.1098/rsos.160030>

⁹³ <https://www.wellbeingintlstudiesrepository.org/cgi/viewcontent.cgi?article=1112&context=animsent>

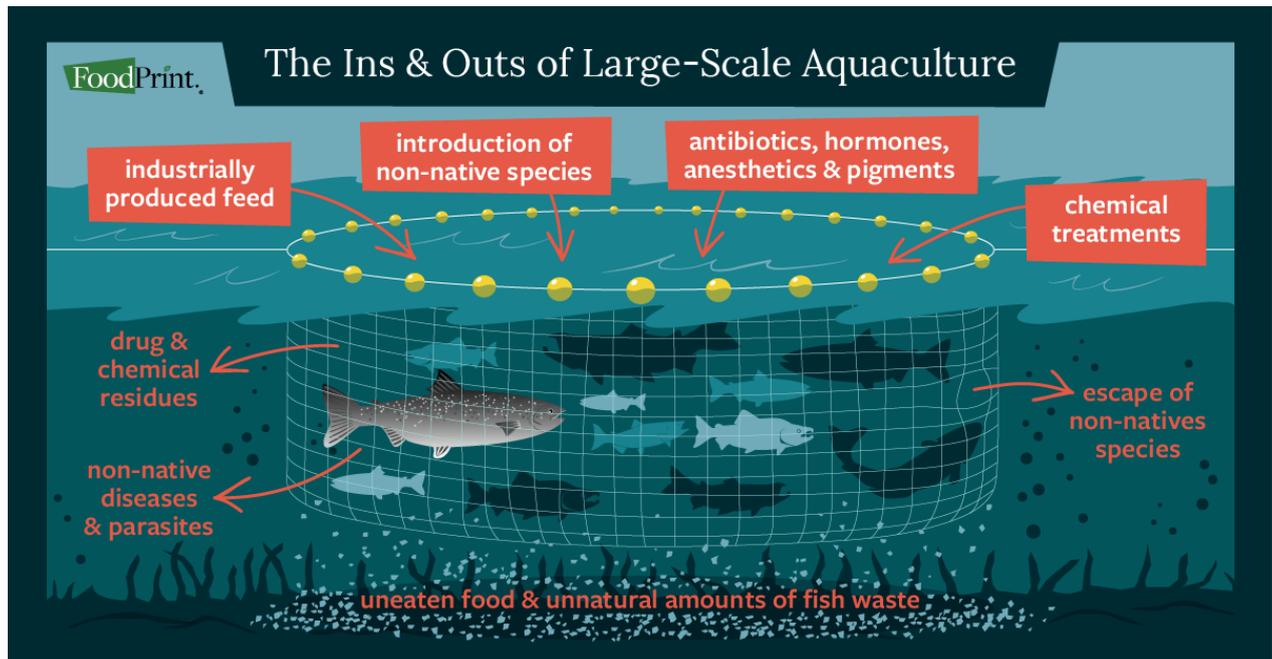


Figure 7 - The footprint of farmed seafood

(Source: <https://foodprint.org/reports/the-foodprint-of-farmed-seafood/>)⁹⁴

People often believe that animal aquaculture is a way to reduce human impacts on wild aquatic animals. However, this is generally not the case⁹⁵. Many 'fish farms' use wild fishes as feed⁹⁶, with only a low percentage of feed converted to fish meat⁹⁷. This means that aquaculture causes a much larger impact, on both the environment and the suffering of fishes, than is commonly believed – see figure 7.

Animal aquaculture also often involves killing the predators, especially birds, who feed from the pens. Boundary nets used in aquaculture often entangle marine mammals, such as whales, dolphins and seals⁹⁸.

Beyond its impact on the welfare of wild and farmed aquatic animals, aquaculture contributes to a range of environmental and health problems. Among these are destructive land use, ecosystem degradation, land and water pollution, water use, erosion, and diseases⁹⁹. Waste from animal aquaculture is responsible for poor water quality caused by bacterial contamination and low dissolved oxygen which can lead to marine dead zones¹⁰⁰. Impacts can also include mass

⁹⁴ <https://foodprint.org/reports/the-foodprint-of-farmed-seafood/>

⁹⁵ <https://doi.org/10.1038/35016500>

⁹⁶ <https://doi.org/10.1073/pnas.0905235106>

⁹⁷ <https://doi.org/10.1038/35016500>

⁹⁸ <https://www.abs.gov.au/AUSSTATS/abs@.nsf/featurearticlesbytitle/2F9296E45B52B49BCA256CAE0015CAAC>

⁹⁹ <https://doi.org/10.1016/j.ocecoaman.2015.10.015>

¹⁰⁰ https://docs.google.com/document/d/173qDjMxSJiYfu2B1_joPTY9qYRsfMx_A4c4D_x6v_tQ/edit?usp=sharing

breakouts¹⁰¹. Many of these problems can be measured and monitored through existing imaging satellites, and the Australian Space Agency has expressed interest in monitoring these impacts¹⁰². Satellites have proven to be very effective in monitoring land clearing around Australia¹⁰³.

The AJP is opposed to animal aquaculture and will advocate to end the practice. In the interim, the AJP advocates for sound, evidence-based regulation and monitoring of aquaculture operations to minimise impacts on animals and the environment.

The AJP advocates plant-based aquaculture, not animal-based. This includes opportunities to develop algae industries (including seaweed^{104,105}) as part of a transition towards cruelty-free farming. Sea grasses can also be farmed as carbon sinks, similar to forestry on land.

Recommendations:

80. Act immediately to develop and employ a sustainable oceans transition
81. Protect all marine animals and their environment from adverse commercial industries including fishing (wild and farmed), gas exploration (including seismic testing), land based agricultural run-off, offshore wind farms and harmful dredging.
82. Transition away from animal aquaculture (including aquaponics), with economic incentives.
83. Enhance regulation and monitoring around the environmental impacts of animal aquaculture, including through the use of satellite imagery.
84. Develop seaweed and other algae products and promotional marketing strategies to broaden the appeal of such aquatic foods to Australian consumers.
85. Invest in research and development to clean up our oceans and restore their health.
86. Subsidise the development of biodegradable products, and work toward the banning of harmful plastics which pollute our oceans.
87. Reduce harmful anthropogenic noise in the ocean and waterways, regardless of source.
88. Conduct an audit of nutrition advice from the government and other bodies to ensure it is evidenced-based. The background to all nutritional advice should first make it clear that eating fish or any other marine animal isn't required for good health.
89. Establish guidelines for nutrition advice from government agencies recommending that nutritional characteristics cannot be separated from environmental and suffering costs.
90. Ensure that aquatic animals are protected under the law, including in all animal welfare legislation.

¹⁰¹ <https://www.abc.net.au/news/2020-11-23/salmon-breakout-after-fire-huon-aquaculture-tasmania/12912222>

¹⁰² <https://publications.industry.gov.au/publications/advancing-space-australian-civil-space-strategy-2019-2028.pdf>

¹⁰³ <https://www.qld.gov.au/environment/land/management/mapping/land-clearing>

¹⁰⁴ <https://www.agrifutures.com.au/farm-diversity/cultivated-seaweed/>

¹⁰⁵ <https://doi.org/10.1108/BFJ-03-2018-0189>

91. Implement better labelling of all marine animal products to include accurate and transparent details of production methods and, where appropriate, bycatch levels and that any bycatch estimates be verified by independent observers.
92. Fund research via industry levy into the least painful fishing methods.
93. Explore the viability of large-scale planting programs for sea grasses and sea kelp (as have been trialled on a small scale along eastern Victorian coastlines)
94. Create a method to monitor the ongoing progress, successes and failures of the various climate change adaptive strategies being employed. Develop criteria to assist with comparing and assessing the strategies.
95. Educate the public on the serious harm to aquatic animals and the environment caused by animal aquaculture, and on the latest science revealing the sentience and the emotional and cognitive abilities of aquatic animals.

Education

Australia's education system does not address climate science in a cohesive and meaningful manner¹⁰⁶. Climate change science must be delivered to children and young people in an evidence-based, effective, age-appropriate manner across diverse disciplines. Children and young people should have opportunities to engage with nature, have practical experiences and directly observe life and its many interactions; for example school-community gardens¹⁰⁷.

When preparing varied government responses, we urge policy makers to recognise that young people will frequently be at the forefront of emerging new technologies in the fields of climate change science, climate action, species conservation, and planetary and human health. Therefore, educators must be supported to develop appropriate, evidence-based curricula and learning modes to respond to advances in these disciplines.

Considering that every year education services are delivered to one-third of Victorians¹⁰⁸ via our education sector, (which encompasses early childhood through to adult education and training), there is a large proportion of our state's population who are engaged with our education system at any one time. When the family members of these students are added to these numbers, it results in a significant proportion of the community coming into contact with, or impacted by, our education services on a regular basis.

¹⁰⁶ Whitehouse H & Larri LJ (2019) Ever wondered what our curriculum teaches kids about climate change? The answer is 'not much'. The Conversation. 19 Sep 2019.

<https://theconversation.com/ever-wondered-what-our-curriculum-teaches-kids-about-climate-change-the-answer-is-not-much-123272>

¹⁰⁷ Harvey B, et al. (2020) School-community gardens plant the seeds of change to address global warming. The Conversation. 13 May 2020. <https://theconversation.com/school-community-gardens-plant-the-seeds-of-change-to-address-global-warming-134776>

¹⁰⁸

https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.vic-engage.files/4016/2578/9268/Education_and_Training_Climate_Change_Adaptation_Action_Plan_2022-2026_for_consultation.pdf

This creates a unique opportunity for our education and training sector to lead the way. From increasing awareness and knowledge about the importance of lifestyle changes to providing a roadmap to demonstrate how to adopt these changes. Discussions around climate change impacts and mitigation strategies need to become commonplace within the community.

Education must be supported more broadly in the community. Local Government Areas, NGOs and community groups should be funded to develop and deliver evidence-based information on the three crises – biodiversity emergency, climate emergency and emerging diseases.

The community should be encouraged to engage with nature through varied initiatives. Community science initiatives should be funded, supported and promoted, including software applications (*e.g.*, FrogID), online databases (*e.g.*, iNaturalist) and community-based surveys (*e.g.*, Birds in Backyards). Community-based programs that encourage biodiversity should be promoted and financially supported, *e.g.*, Gardens for Nature.

We must find diverse, novel and accessible ways to convey the message about biodiversity loss, climate damage and planetary health. For example using different forms of art, such as story-telling, film-making, music, sculpture and paintings¹⁰⁹.

We must value and recognise First Nations knowledge and request their engagement¹¹⁰.

Recommendations:

96. Ensure that all students have a good understanding of environmental science, including climate science, biodiversity and environmental science¹¹¹.
97. Communicate effectively. Ensure regular communication with parents regarding proposed climate change adaptation strategies, and that there are sufficient opportunities for feedback and engagement throughout this process.
98. Ensure age-appropriate comprehension of climate change is built into the curriculum at all levels and across all subjects.
99. Include sustainable living practices within the curriculum at all ages.
100. Investigate potential new roles and career paths that will develop as a result of climate change adaptation strategies or new and emerging technologies, such as renewable energies.
101. Develop criteria for identifying new career pathways in a timely manner, and prioritise their inclusion into curricula to ensure our future workforce has opportunities to leave

¹⁰⁹ Boulton E, (2016) It's time for a new age of Enlightenment: why climate change needs 60,000 artists to tell its story. The Conversation. 8 June 2016.

<https://theconversation.com/its-time-for-a-new-age-of-enlightenment-why-climate-change-needs-60-000-artists-to-tell-its-story-58774>

¹¹⁰ Firesticks Alliance: <https://www.firesticks.org.au/>

¹¹¹ <http://animaljusticeparty.org/policieslist/humans/education/>

- school skilled in these areas. Create opportunities where adult workers have easily accessible opportunities to upskill.
102. Identify key skills that will be useful in adapting to climate change impacts, and ensure these are incorporated into the curriculum across all subjects, as many of them may be transferable skills.
 103. Develop plans to ensure that remote students will not be disadvantaged by limited access to places of learning during times of climate change-induced crisis such as bushfire or flood, or lack of communications access to online learning.
 104. Ensure that local Traditional Custodians are included in developing curriculum on climate change adaptation so that their knowledge on caring for Country is recognised.
-

First Nations Knowledge

For over 65,000 years, Australia's Indigenous community cared for Country by using land management that worked with the environment. Using traditional burning, fishing traps, and sowing and storing plants, they were able to create a system that was sustainable and supplied them with the food they needed. When Europeans arrived, they brought farming practices suited to an environment very different to Australia, that in the long-term caused erosion and salinity.

While many historical European accounts of Indigenous land management have faded, today there is a shift to recognise that Indigenous people had sophisticated sustainable agricultural systems¹¹². There is growing adoption of these practices to repair the damage done by European farming.

Since the catastrophic bushfires in Victoria in 2019/20, there has been an increasing awareness of inadequate recognition of First Nations people as custodians of traditional fire management, a risk exacerbated greatly by climate change. Their knowledge and practice must be integrated into contemporary fire management and sustainable practices by government agencies for the betterment of all Australians and the Country on which we all depend; however, it must be adequately respected, planned and resourced.

Aboriginal people have a saying :

***'Don't be greedy. Don't take more than you need
and respect everything around you'.¹¹³***

¹¹² <https://landcareaustralia.org.au/project/traditional-aboriginal-burning-modern-day-land-management/>

¹¹³ <https://www.mdba.gov.au/sites/default/files/pubs/D17-6996-WRP-requirements-Part-14-Aboriginal.pdf>

Recommendations:

105. Enable Traditional Custodians to enact their right to self-determination in management of the natural environment immediately.
 106. Ensure that there is a process of consultation with Traditional Custodians during consultations such as this.
 107. Recognise that First Nations people are experts in managing this continent safely with fire and reducing fire risk.
 108. Consult with indigenous fire experts at the Firesticks Alliance¹¹⁴
 109. Adopt the recommendations from the '*National Indigenous Dialogue on Climate Change*'¹¹⁵
 110. Invite First Nations People trained in cultural burning to work authoritatively and collaboratively with government to lead fire management nationally and in all states and territories.
 111. Integrate Cultural traditional burning practices with contemporary fire management, recognising the integration as part of an evolving knowledge base.
 112. Employ First Nations people to take care of Country. Consider the cost as an investment against the grave environmental cost of not taking care of Country.
 113. Create opportunities for collaboration between First Nations fire practitioners and all levels of government so that non-Indigenous people can learn and integrate ancient knowledge of the Australian landscape into our contemporary land management strategies.
-

Consumer habits

Consumer habits have undergone significant changes over recent years and many of these changes have impacts on sustainability. Factors influencing this has been the rise of online shopping (with an attendant rise in packaging for transit), the availability of cheap goods which are easy to discard and replace (e.g., clothes, toys and household goods from shops like K-mart) and technology which has a planned obsolescence (such as TVs, computers and appliances such as air conditioners and washing machines) that consumers have come to accept as the 'norm'.

Changing the behaviours associated with these is likely an uphill battle; for example, suggesting to a time-poor single parent that they take a screaming toddler to the shops rather than order

¹¹⁴ Firesticks Alliance. Cultural burning: health communities, healthy landscapes. <https://www.firesticks.org.au/>

¹¹⁵ see pg 7 - Statement from Traditions Owners, In Morgan M, et al. 2019. National Dialogue on Climate Change. Earth Systems and Climate Change Hub Report No. 11, NESP Earth Systems and Climate Change Hub, Australia. <https://publications.csiro.au/rpr/download?pid=csiro:EP198062&dsid=DS1>

online at a convenient time and wait for it to arrive is not a worthwhile education campaign, however, advocating for more sustainable packaging, will lessen the impact of these evolving consumer habits.

The two approaches which appear to have the potential to create the greatest impact, are to make it easier to make the sustainable choice rather than the alternative, or to lessen the impact of those making an unsustainable choice. Embracing novel or interesting initiatives may help with the uptake of these programs. One such example is a UK company who offers to remove and replant your Christmas tree each year, then returns it to you each subsequent year until it becomes too big to comfortably transport¹¹⁶. A program such as this could equally be implemented here and whilst only making a small impact overall, helps to cement sustainable habits as the preferred approach.

Recommendations:

114. Study changes in consumer behaviour and develop a plan to mitigate the negative sustainability impacts.
 115. Educate consumers on the impacts of their choices in order to raise awareness and promote conscious consumer choices.
 116. Support and promote novel initiatives in creating sustainable consumer habits.
-

Contribute to a circular economy by minimising waste.

The AJP policy on waste aims to eliminate food waste and environmental pollution while reducing energy and material use. We support recycling and a “circular economy” where these have positive impacts. We recognise that the environmental problems we face ultimately also require a reduction in consumption and an end to the consumption of animals.

High levels of food waste mean we need to appropriate more land for food production than we would otherwise need. It is also particularly tragic when an animal is raised in pain on a factory farm, trucked and slaughtered in fear, only to end up in the bin. Australians are reported to throw out \$825 million worth of fresh meat each year.

Single-use plastics are wreaking havoc with marine life; plastic bags, balloons, straws and drink bottles to name a few, frequently find their way into the ocean. This not only causes injury, entanglement and death to sea animals, but contaminates marine life. While single-use plastic may currently be an everyday convenience for many, these items are simply not necessary in today’s society. We believe it is important to educate the public about the impact of their

¹¹⁶ <https://www.countryliving.com/uk/homes-interiors/interiors/a29695669/rent-christmas-tree-cotswold-fir/>

choices, and on sustainable alternatives while also encouraging enterprises that are actively reducing their waste. It is clear that we must rely less on plastic in our future.

Additionally, abandoned fishing equipment is a significant part of the plastic pollution problem, trapping and killing large numbers of marine animals. A further issue is invisible energy waste which can have a large impact, particularly when the energy comes from burning fossil fuels. For instance, a modern mobile phone embodies as much energy as it took to produce a motor vehicle in the 1980s and many people upgrade their phones without a second thought.

There has been an increase in community-focused reuse and recycle initiatives, such as the ‘Brimbank Recycling Day’ which became a drive through event during COVID-19 restrictions¹¹⁷. These have the added benefit of reducing landfill, helping families in need access goods more easily and affordably and creating a more positive community environment. These events should be encouraged, with increased frequency.

Recommendations:

117. Develop a single-use plastics prevention policy.
 118. Encourage and enable recycling and composting programs in businesses and public institutions and educate the public about waste issues.
 119. Educate and encourage residents to eliminate food waste.
 120. Support local ‘reuse and recycle day’ initiatives.
-

Plastic Free Shopping Precincts and Rubbish Removal

Initiatives such as the ‘plastic free Elsternwick’ trial¹¹⁸, supported by shops along the Glenhuntly Rd shopping strip, worked to raise awareness of the impacts of single use plastics, reduce waste and unite local business and the community in a common goal.

These projects should be expanded to cover other businesses and shopping strips, with support from local government regarding education and implementation.

Since much of Victoria’s coastline contains housing or supports businesses, the likelihood of plastics and other rubbish entering our waterways is significant.

¹¹⁷

<https://www.brimbank.vic.gov.au/news-and-events/media-releases/media-releases-2021/february-2021/media-release-drive-through>

¹¹⁸ <https://www.gleneira.vic.gov.au/services/sustainable-living/plastic-free-elsternwick>

Recommendations:

121. Develop education opportunities and resources for businesses and residents regarding sustainable living and initiatives.
 122. Support and encourage local participation in community science projects such as the Port Phillip microplastics survey¹¹⁹.
-

Recycling

As the recycling industry has grown, it is evident that it is just like any other large industry, particularly when handling toxic material. For example, Adelaide has a higher rate of recycling per person¹²⁰ compared to the rest of Australia, however it has experienced a string of recycling plant fires over the past decade, all spreading toxic smoke over a large area.

Recycling may be different from other industries, but it still has costs and benefits which need to be measured and considered when decisions are made. Recycling some goods may be hazardous and costly in both time, energy, water, strong solvents or other materials.

Australia has been exporting its recycling to developing countries and has had an “out of sight, out of mind” attitude to the extreme hazards associated with recycling some goods. While we support recycling in our policy and objectives we understand that it isn’t an end in itself but a means to an end; namely to reduce our adverse impacts on the planet.

Hence, recycling should be viewed as the last final step when other methods have failed. Ideally we should be promoting goods which have a long life of use, as well as a circular economy where items can be reused, or the concept of ‘upcycling’ where products are reused in novel ways and valued. A reusable metal bottle or bamboo travel coffee mug is a much more sustainable purchase to make than a single-use plastic bottle, even if the bottle can be recycled, as that process still requires resources to prevent it from entering landfill, whereas the reusable drink receptacles have years of potential use.

Encouraging the community to make these choices requires education around why it’s so important and it needs to be ‘flipped’ so that the sustainable choice is the ‘easier’ one and therefore becomes the default, rather than the unsustainable choice being the ‘easy way out.’

¹¹⁹ <https://ecocentre.com/>

¹²⁰

<https://www.adelaidenow.com.au/news/south-australia/south-australian-recycling-is-highest-rate-per-capita-in-australia-but-we-can-do-more/news-story/8c93df1674550ab9430c000916c0989e>

Recent initiatives such as moving away from single use plastic bags in the grocery chain have had mixed results. Whilst the 15c charge has deterred many people and effected a change in their shopping habits, it has taken time to produce this change and many people still view the change as punitive rather than an incentive to bring bags next time. Additionally some people then purchase bags for their rubbish bins so the net sustainability 'gain' is zero. An alternative approach would have involved better education around why the changes were being made and also promotion of alternatives such as biodegradable bags for rubbish.

Another recent example is the removal of bins along various beachside areas of Ocean Grove.¹²¹ Whilst the idea that this will encourage people to bring less rubbish or to take their rubbish home and therefore less will end up in the ocean is theoretically positive, if people don't comply, then more will end up in the ocean. Rubbish bins with better lids, that were emptied more often in peak times, together with education around alternatives, may be a more sustainable solution.

Another area of recycling where improvement would lead to more sustainable outcomes, is where everyday items can only be recycled at a transfer station, *e.g.*, styrofoam, or requires transport to a recycle point such as 'redcycling'¹²². Whilst disposal of items such as paint may be a once yearly task, foam packaging and soft plastic are often daily disposal items. We need recycling methods which are less onerous for these items to increase uptake and decrease landfill, combined with a campaign to encourage manufacturers to embrace the use of more sustainable packaging.

The long-term future of Australian waste management also must be considered; creating infrastructure to support recycling in Australia rather than overseas increases transparency and also lessens the fuel emissions required to transport our waste longer distances. Job creation is an added benefit.

Recommendations:

123. Support greater education around sustainability policy changes in order to engage them and gather their willing support for change.
124. Investigate ways to make sustainable choices easier and cheaper than the alternatives.
125. Investigate how to improve the convenience of recycling common items such as soft plastics.
126. Review public rubbish collection timetables, especially during warmer months when more people are out in the community. Ensure bins are available in public spaces for

¹²¹

<https://www.geelongadvertiser.com.au/news/bellarine-peninsula/concerns-over-ocean-grove-beach-waste-management-after-bins-removed/news-story/89e61b6250cb570e9e7672be1791c957>

¹²² <https://redcycle.net.au/>

recycling, composting and rubbish. Consider a trial of soft plastic recycling collection at key locations *e.g.*, near waterways.

127. Advocate for and support community campaigns to ask manufacturers to use more sustainable packaging.
 128. Investigate incentivising recycling programs.
 129. Expand waste management infrastructure within Australia
-

4. Focus Area 3: Community Action

Community Science

Community science (also known as citizen science) projects can be a very effective and inclusive way to engage local community members of all abilities¹²³, as well as promoting a sense of pride and stewardship and potentially capturing a volunteer workforce that will assist with ongoing maintenance and protection activities. The data collected may also be invaluable in guiding future decision making.

Collaboration with established groups such as Landcare, Field Nats and other wildlife groups is important, but small-scale or one-off events such as Waterwatch¹²⁴, Clean up Australia Day¹²⁵ or summer/winter/backyard bird counts¹²⁶ can be a great way to include those who might not want to, or be able to commit to a group regularly, but would like to be involved in community volunteering activities. These are also excellent activities to connect and unite people of all ages, backgrounds and abilities both socially and with the natural environment and the lives of non-human animals.

Recommendations:

130. Investigate the viability of employing community science projects such as ‘waterwatch’.
 131. Consider community engagement activities such as clean-up days and tree planting days.
 132. Foster stewardship of coastal and marine areas by supporting local environment groups, developing eco-tourism programs and supporting community science programs.
-

¹²³Garrison H, et al (2021) Involving society in science: Reflections on meaningful and impactful stakeholder engagement in fundamental research. EMBO Rep (2021)22:e54000 <https://doi.org/10.15252/embr.202154000>

¹²⁴ <http://www.vic.waterwatch.org.au/>

¹²⁵

https://www.cleanup.org.au/?gclid=Cj0KCQjw4eaJBhDMARIsANhrQAAAdiWe8BfwilFhGIKISL12J9iyRL7o3dW62jx7Dz1CWEbng5j00d4aAoZFEALw_wcB

¹²⁶ <https://aussiebirdcount.org.au/>

Waste Management Initiatives

The AJP applauds programs such as Detox Your Home¹²⁷ which are currently run by Sustainability Victoria in conjunction with local councils and R.U.M (Return of Unwanted Medicines)¹²⁸, both of which help to reduce water and environmental pollution from the ‘dumping’ of medicines and chemicals. These programs should be expanded to be available on more days, at more locations and include a pickup option for those who may find it difficult or onerous to transport items, particularly paint or agricultural chemicals.

Recommendations:

133. Expand current programs to safely dispose of chemicals in order to minimise environmental impact.
 134. Promote existing services to increase uptake of these programs.
-

Greening Initiatives

Creative solutions must be sought for ‘greening’ our local areas, especially urban and inner city areas. For example, tram and bus shelters could have small gardens on their roofs, this would provide habitat for birds and insects. Projects of this nature have been adopted overseas in places like Leicester who are making ‘bee bus stops’ to provide increased pollination habitat for declining bee populations.¹²⁹ Vertical gardens and less concrete and more green nature strips also provide more green spaces in restricted areas.

Recommendations:

135. Consider creative solutions to improve biodiversity and green spaces in urban and inner city areas.
-

¹²⁷ <https://www.gleneira.vic.gov.au/services/rubbish-and-recycling/rubbish-or-recyclable-our-a-z-guide/detox-your-home>

¹²⁸

https://returnmed.com.au/?gclid=Cj0KCQiAys2MBhDOARIsAFF1D1f9K-xVluNIqmbMyOgOWfey7OHeu5QgtqizRZ1pQkz_2aaqvH79H5UaArcUEALw_wcB

¹²⁹ <https://mymodernmet.com/leicester-green-roof-bee-bus-stops/>

5. What's missing from the plan?

The primary strategy missing from this plan to create a more sustainable Victoria in the future is any mention of the impacts of animal agriculture. As we discussed these at length earlier, we will simply reiterate that no plan or framework for creating a sustainable future is complete without addressing this impact.

Water-saving initiatives are also largely absent from this consultation. Whilst we acknowledge that this is listed in the consultation document as being due to the management structure and decision making process for water management, the goals of reducing water consumption from all sources, improving the health of our waterways and ensuring future water security should still be discussed for the completeness of this plan. Additionally, some ideas or innovations may fit under other jurisdictions and therefore fall within the scope of this consultation, but this can only be determined with further investigation and discussion .

Recommendations:

136. Study the effects of animal agriculture on a sustainable future Victoria as part of this consultation,
 137. Discuss water saving initiatives as part of this consultation.
 138. Introduce habitat protection as a fundamental and consistent planning principle in all regions and sectors.
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Conclusion

Sustainability improves the quality of life of all living beings, protects our ecosystem and preserves natural resources for future generations. It looks to protect our natural environment, human and ecological health, while driving innovation and not compromising our way of life.

In conclusion, the Sustainability Victoria plan presented appears superficially good but is lacking in major areas. For example, without behavioural change to do with our food system, millions of people are destined to starve and limiting the increase in global temperature to 1.5 C will not be possible even if fossil fuel emissions are stopped soon.

Given the extent of our current climate crisis we cannot act too extremely, or too urgently; nothing will be an overreaction in order to work towards a sustainable future.

The AJP argues that we must act immediately and with extreme responses to have any impact on the extent of current and future climate damage. Moreover, the Victorian Government's action plans on Sustainability must include appropriate and timely actions. The recent United Nations Climate Change Conference has emphasised this requirement.

We can't just consume our way to a more sustainable world.

– Jennifer Nini