

# AgZero2030



Climate Change Consultation  
Department of Water and Environmental Regulation  
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29 November 2019

## Western Australian climate change policy consultation submission

Thank you for the opportunity to make a submission on the vitally important topic of Western Australia's climate change policy.

Climate change caused by 1°C global warming from excess greenhouse gases in the atmosphere due to human activity has already harmed Western Australia and its people, including those of us involved in the agricultural sector. The adaptability of primary producers will be challenged further with increasing warming of the climate. Discerning overseas agriculture commodity markets will demand further evidence that the ag industry is engaged in climate solutions and this evidence will be linked, somewhat, to the prices we receive for our commodities.

Western Australia now has the opportunity to lead on climate solutions. We will help. AgZero2030 supports efforts in WA's agricultural sector to play our part in limiting global warming to 1.5°C.

We ask the WA government to ensure its climate policy embodies the 1.5°C goal and includes plans and actions that will help in global efforts to achieve that goal.

We also ask that the WA government recognise the important role that rural WA has in looking after the health of our country, soil, water, and nature for future generations. Supporting the social and financial wellbeing of our rural communities will help us in our stewardship efforts.

We ask you to please support rural and regional WA through the agricultural sector by ensuring that its views and needs are taken into account when planning WA's climate policy, and that the climate solutions you support maximise benefits and minimise costs to rural communities.

Yours sincerely

**AgZero2030**

Chair: Simon Wallwork

Working group: Cindy Stevens, Christie Kingston, Tony York, Dale Park,  
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## About AgZero2030

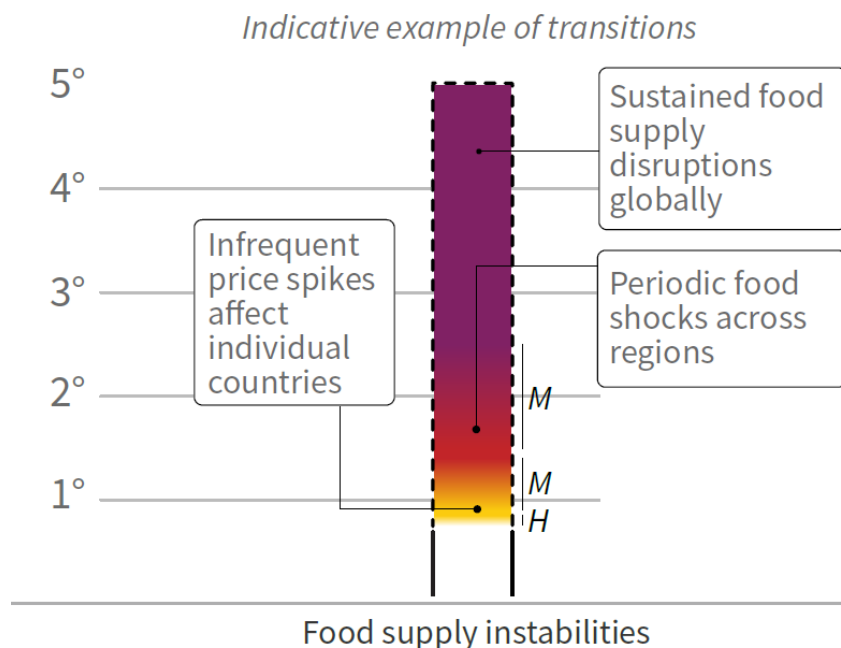
AgZero2030 is a new and growing collective of WA organisations and people involved in agriculture and its supply chain. AgZero2030 wants to play a part in ensuring the wellbeing of rural WA into the future. We recognise that while our industry's emissions are part of the problem, we are also part of the solution.

AgZero2030 evolved from a Twitter chat among primary producers<sup>1</sup> in May 2019 about climate change, which led to the formation of the *WA Climate Solutions Working Group*. On 3 September, sixty influential leaders involved in WA agriculture attended our **Creating Climate Solutions in WA Agribusiness Forum** at the UWA Club and chose to form a *WA Climate-smart Ag Collective* (later renamed AgZero2030). At the forum, the collective members came up with three goals to work on as a collective *and* in their own spheres of influence.

- 1) Support WA ag to be part of the climate solution by being carbon neutral by 2030.
- 2) Share stories of the diverse range of profitable climate-smart ag practices in WA.
- 3) Welcome and encourage good climate policy that will benefit Western Australia.

There is a whole range of motivations among AgZero2030 members for supporting efforts to limit global warming to 1.5°C. These include:

- Respond to consumer preferences – serve the carbon neutral market, avoid sanctions.
- Minimise cost increases (e.g. diminishing affordability and availability of insurance).
- Minimise production risks.
- Care for communities and their social cohesion.
- Care for nature.
- Care for food security and its contribution to peace.



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<sup>1</sup> <https://twitter.com/WallworkSimon/status/1130771368226672641?s=20>

<sup>2</sup> <http://www.ipcc.ch/srccl>

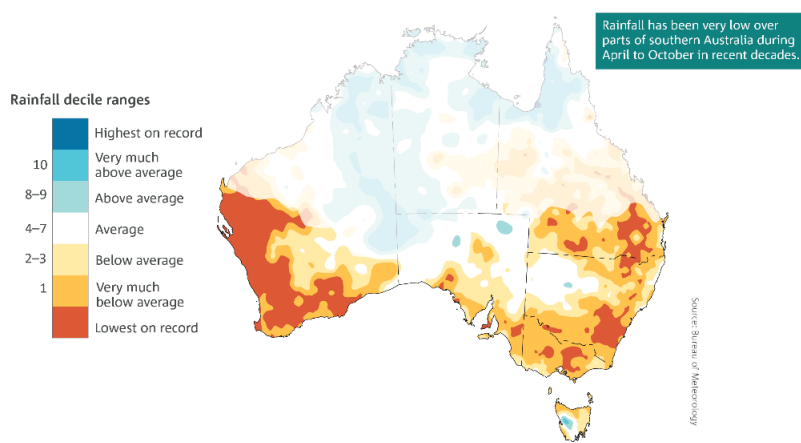
## Climate change trends and their impact on WA agriculture

Accustomed to managing the risks of our existing climate variability, many primary producers have been adapting to the significant changes in WA's climate over recent decades.

*"To date, any impacts from climate change have been largely offset by the increases in production/yield that have been achieved through the research programs delivered by the Rural RDCs and others.*

*Looking forward to 2030, the impact on most [agricultural] sectors is significant... Beyond 2030 the impacts, in the absence of concerted global action, are likely to be more severe, with an acceleration in productivity losses being the norm for most commodities."*<sup>3</sup>

Here are some examples of changes and impacts.



### Rainfall

Rainfall has been very low in the growing season.

For example, trends at Merredin and Northam show decreases in autumn and winter rainfall and increases in spring and summer rainfall.<sup>4</sup>

As most of WA's agriculture is rainfed, rainfall reductions in the growing season limit productivity.

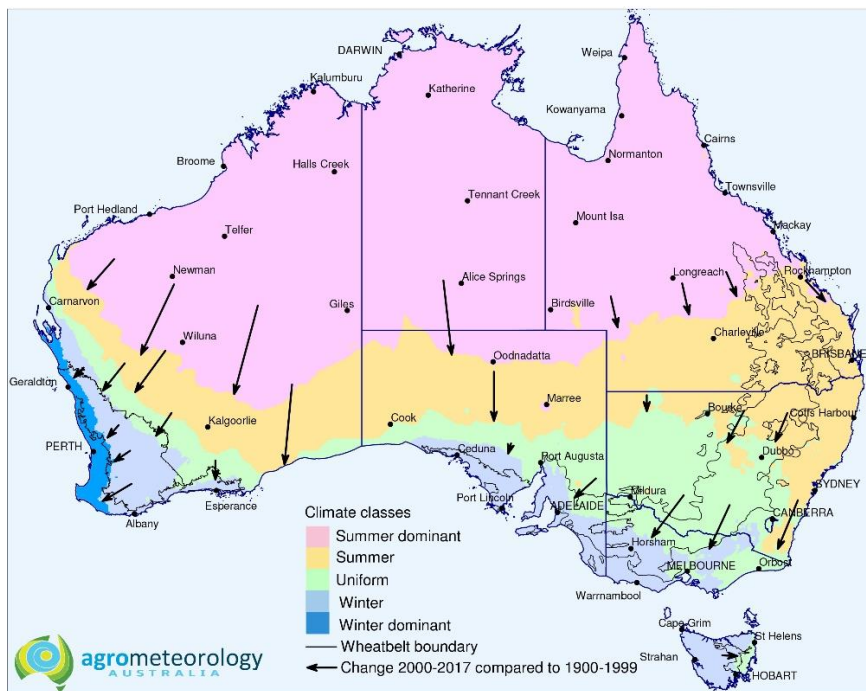
The trends in rainfall changes are projected to continue.

<sup>3</sup> Supporting Agriculture to Adapt to Climate Change: Stream 1: Understanding Climate Change and Current Approaches

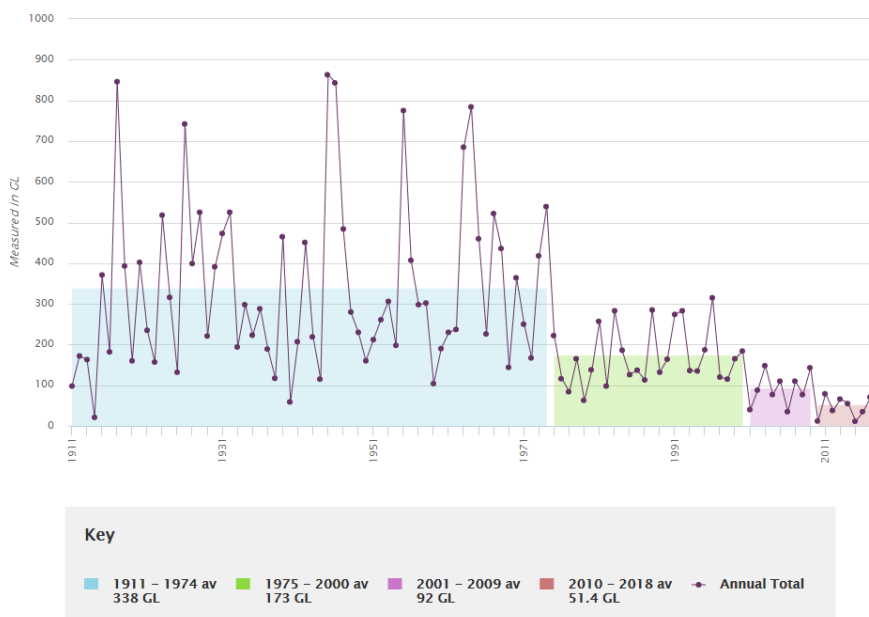
<sup>4</sup> <http://www.bom.gov.au/climate/climate-guides/guides/034-Wheatbelt-WA-Climate-Guide.pdf>

## Australia Seasonal Rainfall Zones

Based on rainfall data 2000-2017



© Agrometeorology Australia, 2018



## Seasonality

Seasonal rainfall zones have already changed.<sup>5</sup>

Dr David Stephens is also working on visual representations of other seasonal zone changes.

## Streamflow

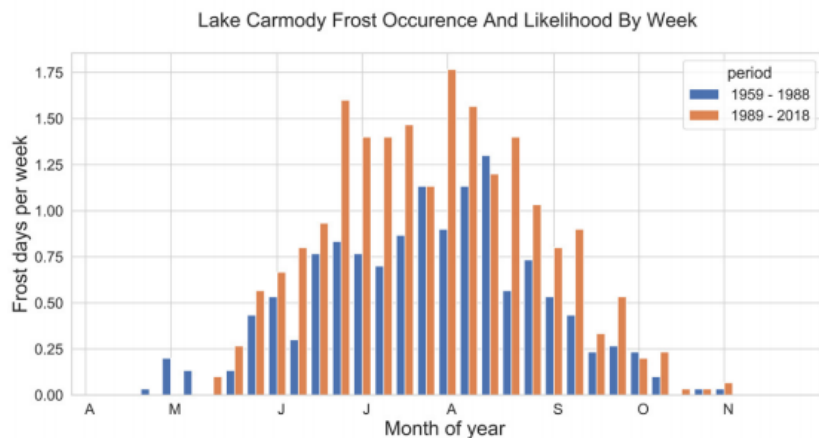
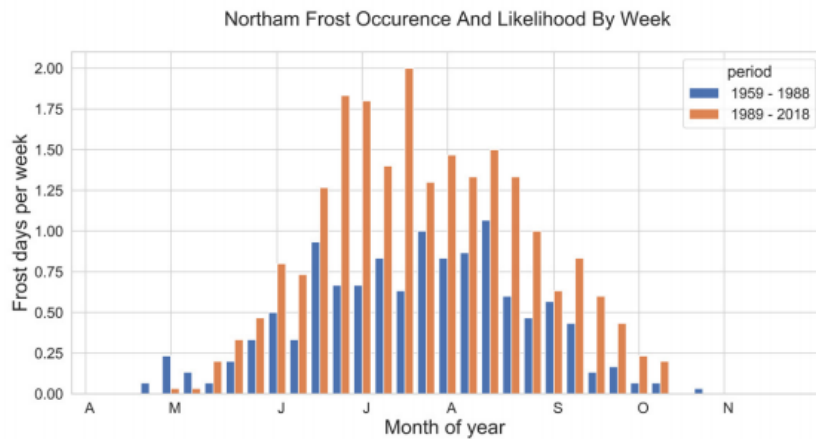
This graph<sup>6</sup> shows historical streamflow into Perth dams. Declining rainfall means Perth's dams receive much less streamflow than in years past.

Steady, regular rain is needed in order to soak our catchments and get the streams flowing into our dams, whether in Perth or rural and regional WA.

The drying trend is projected to continue in the SW of WA.

<sup>5</sup> Stephens, D.J. (2018). Australia's New 21st Century Rainfall Zones and Associated Drivers (poster). 12th International Conference on Southern Hemisphere Meteorology and Oceanography, 5th – 9th February. Sydney, Australia.

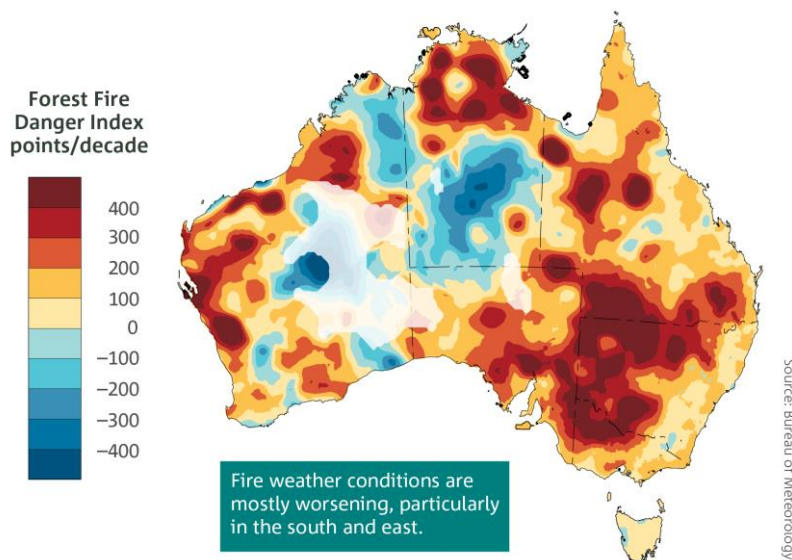
<sup>6</sup> <https://www.watercorporation.com.au/water-supply/rainfall-and-dams/streamflow/streamflowhistorical>



## Frost

Dryer times increase frost risk. Frost can negatively impact crop yields and pastures.

*“More frosty nights have tended to occur through dry winter and spring periods, when soil moisture is low and cloud cover infrequent.”<sup>8</sup>*



## Fire risk

Fire risk is worsening in many parts of Western Australia.

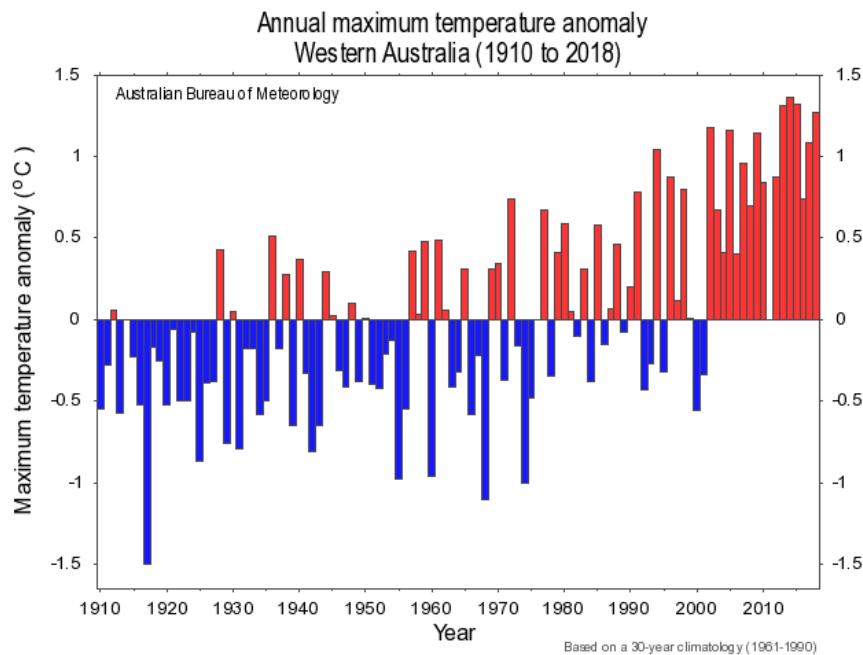
Rural areas need additional support for emergency services.

The number of days when grain growers can safely harvest could reduce further, increasing the risk of grain loss.

Fire risk is projected to worsen.

<sup>7</sup> <http://www.bom.gov.au/climate/climate-guides/guides/034-Wheatbelt-WA-Climate-Guide.pdf>

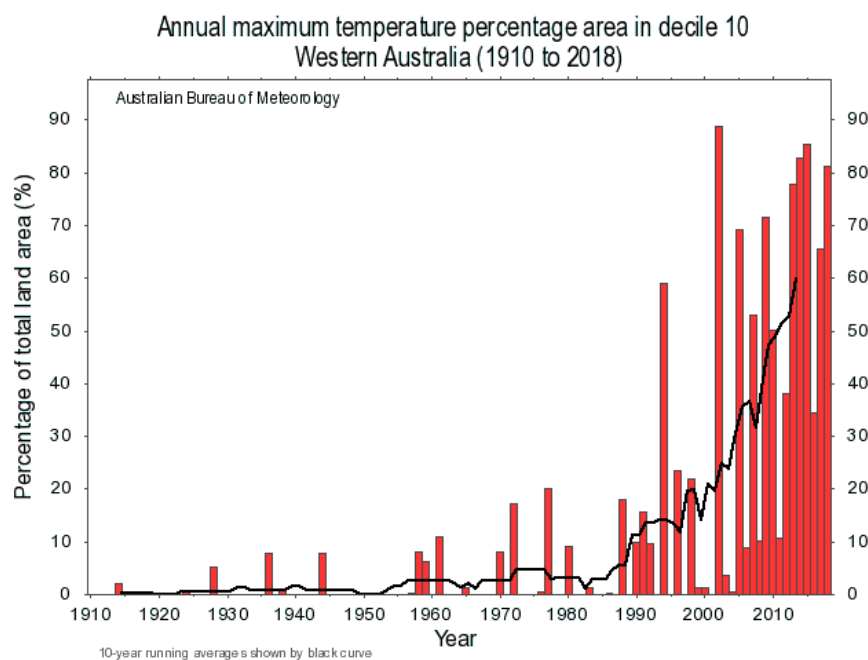
<sup>8</sup> <http://www.bom.gov.au/climate/climate-guides/guides/034-Wheatbelt-WA-Climate-Guide.pdf>



## Heat

Extra heat exacerbates drought, worsens fire risk, and causes stress to plants and animals including people.

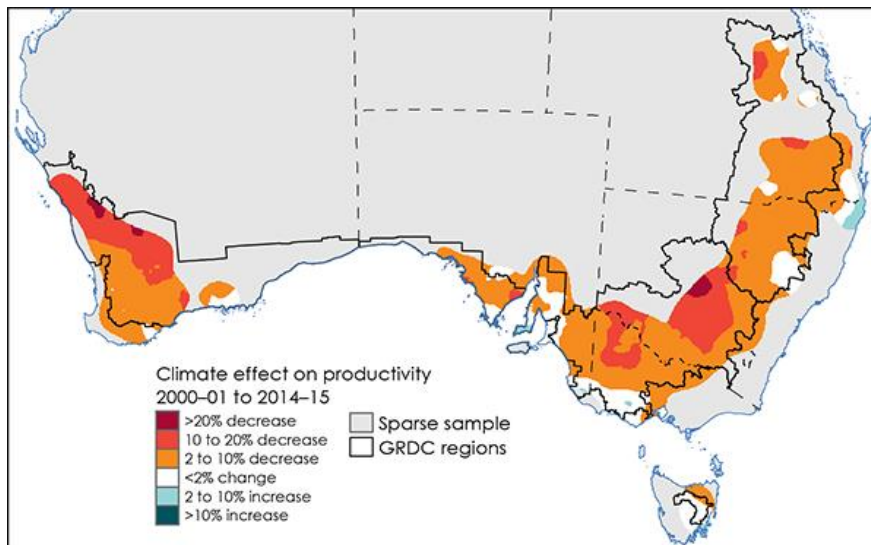
Heatwaves are deadly. The Australian Medical Association has referred to “*elevated suicide rates at higher temperatures*”<sup>9</sup> and warns that “*Projected increases in heatwaves will result in increased heat-related deaths and hospital admissions.*”<sup>10</sup>



The dangerous heating trends are projected to continue.

<sup>9</sup> <https://ama.com.au/ausmed/aussie-health-risk-due-climate-change-inaction>

<sup>10</sup> <https://ama.com.au/position-statement/ama-position-statement-climate-change-and-human-health-2004-revised-2015>



Hughes et al. 2017<sup>11</sup>

## Lost productivity

*“The recent changes in climate have had a significant negative effect on the productivity of Australian cropping farms, particularly in south-western Australia... In Western Australia, climate conditions between 2000–01 and 2014–15 lowered TFP by an average of 7.7 per cent—relative to what would have been seen under long-run average conditions (1914–15 to 2014–15).”<sup>12</sup>*

*“Looking forward to 2030, the impact on most [agricultural] sectors is significant... Beyond 2030 the impacts, in the absence of concerted global action, are likely to be more severe, with an acceleration in productivity losses being the norm for most commodities.”<sup>13</sup>*

## Pests and diseases

Increases in summer rainfall increases the risk of disease carryover for both plants (green bridge) and livestock (i.e. worms). Plants and animals which are drought or heat stressed are more susceptible to disease. As the climate changes new weeds take hold in areas they previously did not exist.

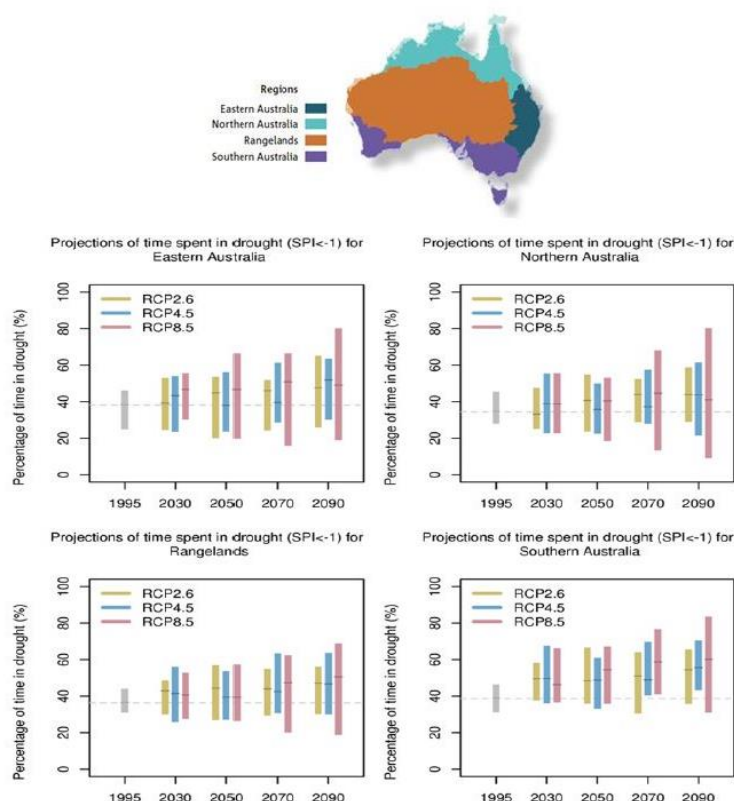
<sup>11</sup> Image from <https://www.agriculture.gov.au/abares/research-topics/climate/farm-performance-climate#key-findings>

<sup>12</sup> <https://www.agriculture.gov.au/abares/research-topics/climate/farm-performance-climate#key-findings>

<sup>13</sup> Supporting Agriculture to Adapt to Climate Change: Stream 1: Understanding Climate Change and Current Approaches



FIGURE 3.16 PROJECTED CHANGE IN PROPORTION OF TIME SPENT IN DROUGHT



SOURCE: CSIRO AND BUREAU OF METEOROLOGY 2015, CLIMATE CHANGE IN AUSTRALIA INFORMATION FOR AUSTRALIA'S NATURAL RESOURCE MANAGEMENT REGIONS: TECHNICAL REPORT, CSIRO AND BUREAU OF METEOROLOGY, AUSTRALIA

## Drought

Climate change is worsening drought risk in Western Australia.

The proportion of time spent in drought is projected to increase.

*“The current trajectory is effectively tracking the RCP8.5 projections... In the absence of concerted global action to curb emissions, climate change is likely to have significant implications for agriculture.”<sup>14</sup>*

## Extreme weather events

The impacts of climate change on the food system have many flow-on effects.

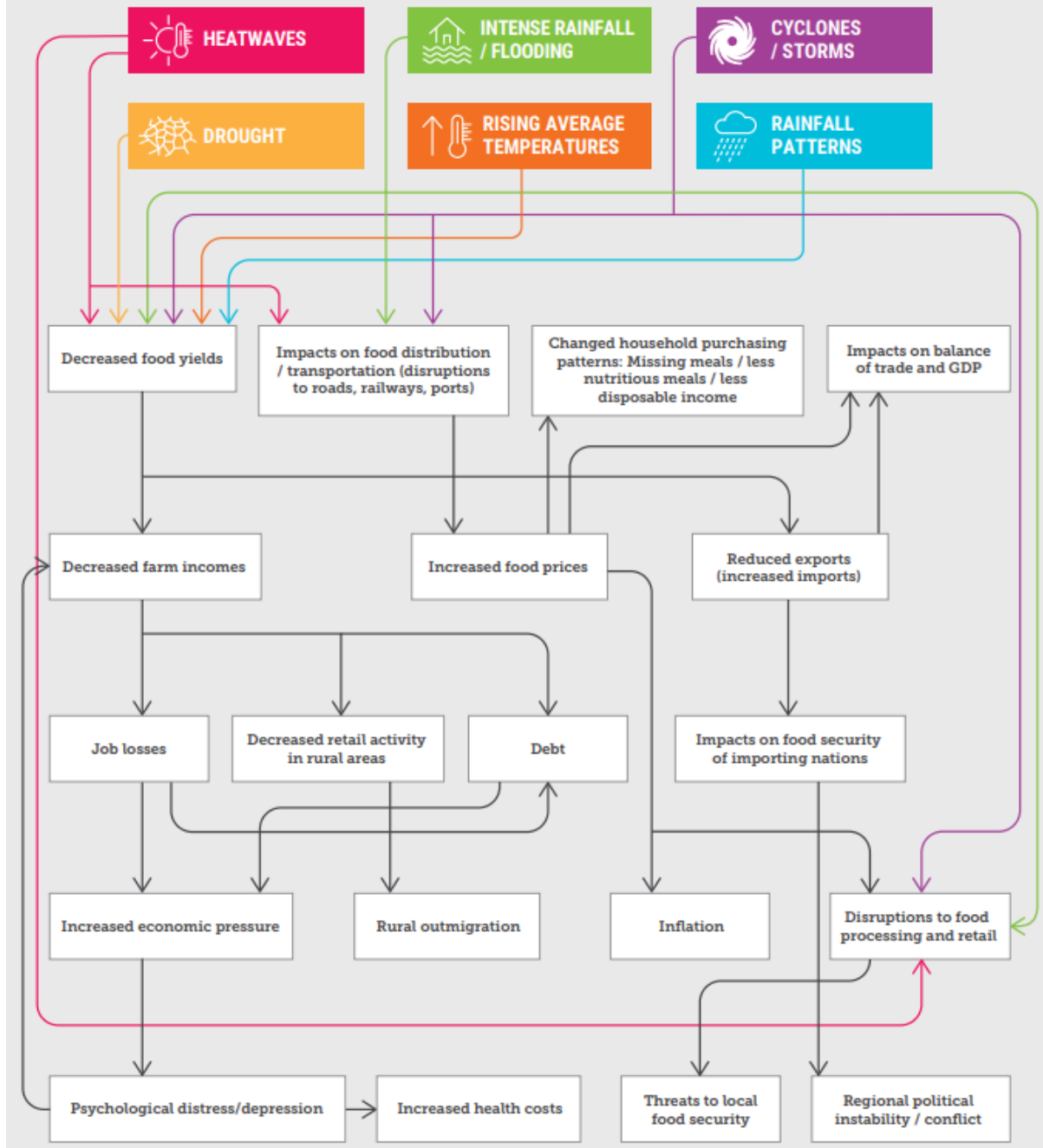
*“Extreme events like droughts, heatwaves, cyclones and floods have an impact on agriculture and food production; this is already affecting Australia’s economy and will cost us much more in the future.”*

*Repeated extreme weather events can reduce agricultural productivity by reducing investments in new technologies and production efficiencies, leading to a permanent loss in productivity improvements that might otherwise help to counteract the effects of climate change.”<sup>15</sup>*

<sup>14</sup> Supporting Agriculture to Adapt to Climate Change: Stream 1: Understanding Climate Change and Current Approaches

<sup>15</sup> Compound Costs: How Climate Change is Damaging Australia’s Economy, Steffen et al (2019)

# IMPACTS OF CLIMATE CHANGE ON THE FOOD SYSTEM



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<sup>16</sup> Compound Costs: How Climate Change is Damaging Australia's Economy, Steffen et al (2019)

## Limits to adaptation

While our incredibly resilient and innovative primary producers have been adapting admirably, the projections are serious and there are limits to adaptation.

That is why we ask for climate policy, based on WA's share of the remaining global carbon budget, that will enable WA to play its part in global efforts to limit global heating to 1.5°C (an awful target, but the best that can be hoped for), to give us a better chance to keep producing food and fibre in WA than we would have if global heating increases more than that.

## Local climate change information exchange

To help landholders look after our country, their businesses and therefore communities, it is important they have access to localised information about climate change trends, impacts and projections. A concerted effort is required to ensure the successful exchange of this information within the agriculture sector, plus information about risks and solutions. Fully understanding and comprehending the challenges ahead, the accelerating nature of climate change, and the possible solutions that can be adopted is essential to help our sector play our part in the brightest possible future for WA.

## Nature, culture and communities

Although the examples of climate change impacts in the previous section refer to impacts on agriculture, it is important to understand the impacts on the wellbeing of rural and regional communities more broadly.

*“Rural and regional communities are disproportionately affected by the impacts of climate change. The systemic disadvantages experienced by rural and regional communities over those in urban areas are likely to worsen if climate change continues unabated. Rural and regional communities are already adapting to the impacts of climate change but there are limits and costs. While rural and regional communities are on the frontline of climate change impacts, tackling climate change also provides these communities with many opportunities.”<sup>17</sup>*



Climate change is also having a major impact on our unique and precious native plant and animal communities<sup>18</sup>, many of which are already in peril from a range of existing threats. WA has many thousands of species found nowhere else in the world, and they deserve our protection. AgZero2030 acknowledges the incredible work of many people and organisations who work to protect WA's natural heritage.

Landcare work is often done voluntarily using landholders' own time and money, so it is important that we have a source of income to do this work. Climate change has already limited our income, threatens our future income and therefore our ability to provide environmental stewardship services. Hence the importance of limiting avoidable global heating, and for considering some form of ecosystem services payments to ensure those on the land are able to care for their country, even when farm income is limited.

Ecosystem restoration is one of many climate solutions. If considered in relation to other land uses and food security, it could provide yet another opportunity for a win-win-win if the cultural knowledge and heritage of our first nations peoples is

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<sup>17</sup> Hughes et al (2016). On the Frontline: Climate Change & Rural Communities.

<https://www.climatecouncil.org.au/resources/ruralreport/>

<sup>18</sup> Dr Adam Cross, Centre for Mine Site Restoration, Curtin University said this about the impacts of climatic stress: "Our biota have adapted to the unique conditions of Western Australia over very long and comparatively stable geological periods. Most species are endemic (many are micro-endemics), most are highly specialized, and some exhibit among the world's most complex biological associations. The adaptations that make our biota unique are putting them at greatest risk from rapid environmental change." Dr Cross referred to predictions for Western Australia that *envisage extinction or range collapses for significant portions of our biota* (e.g., 25% of all Banksia species. Fitzpatrick MC, Gove AD, Sanders NJ, Dunn RR. Climate change, plant migration, and range collapse in a global biodiversity hotspot: the Banksia (Proteaceae) of Western Australia. *Global Change Biology*. 2008 Jun;14(6):1337-52.)

increasingly respected and given a valued place in an ecosystem restoration industry, with meaningful jobs.

One climate solution co-benefit that future generations would no doubt really appreciate is for WA to take the opportunity to do what we can save WA's ecological communities, some of which are already struggling to exist where they currently are. Do we just accept the loss of ecological communities in the projected 2°-3°C or greater world? If not, what ecological communities need to be recreated in which locations to prepare for a 2°-3°C world? This work will take the expertise of teams of ecologists, climatologists, hydrologists and others in collaboration with local governments, landholders and more. Some landholders may be interested in having 'climate future plots'<sup>19</sup> on their properties.

The opportunities and benefits of doing this well would provide a beacon of hope in a warming world, and be a wonderful legacy for Western Australia to leave for future generations. We recognise that the WA government has limited funds, but may have a role in project design to attract private funds, given the global context<sup>20</sup> and increasing desire by many to value and protect nature.

We ask that the WA government seeks to enable solutions that have multiple co-benefits for nature, first nations people, the agricultural sector and others in the rural and regional communities on the frontlines of climate change, solutions which will also benefit future generations and help position WA as a climate leader going forward. Co-benefits could include:

- Protection of our natural and cultural heritage. (Meaningful ecological jobs for first nations people. Conciliation. Protection of ecological communities. Climate future plots.)
- Salinity control. (Will help with future carbon sequestration and water quality/availability.)
- Invasive species control.
- Clean energy affordability, reliability and income opportunities for rural communities. (E.g., virtual power plants<sup>21</sup>, rural communities benefiting from WA's renewable exports opportunities, including from manufacturing using renewable energy.)

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<sup>19</sup> At the Ecological Society of Australia conference on 25 Nov 2019 Dr Sacha Jellinek described the aims of climate future plots as 1) Creating climate resilient (re)vegetation in cleared and fragmented landscapes, 2) Introducing new plant genetics to enhance resilience into existing natural landscapes such as national parks, 3) Producing 'climate ready' seed from seed production areas, 4) Establishing research plots to assess how plants survive, grow and reproduce.

<sup>20</sup> The global context is distilled in the *Summary for Policymakers of the Global Assessment Report on Biodiversity and Ecosystem Services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (2019)* as... "Nature and its vital contributions to people, which together embody biodiversity and ecosystem functions and services, are deteriorating worldwide. Direct and indirect drivers of change have accelerated during the past 50 years. Goals for conserving and sustainably using nature and achieving sustainability cannot be met by current trajectories, and goals for 2030 and beyond may only be achieved through transformative changes across economic, social, political and technological factors. Nature can be conserved, restored and used sustainably while simultaneously meeting other global societal goals through urgent and concerted efforts fostering transformative change." <https://ipbes.net/news/ipbes-global-assessment-summary-policymakers-pdf>

<sup>21</sup> <https://www.powerledger.io/product/vpp/>

## WA emissions: total, agriculture and drawdown

WA's emissions are rising<sup>22</sup>. AgZero2030 champions efforts in WA's agriculture sector to achieve net-zero emissions by 2030.

### WESTERN AUSTRALIA

Total emissions for Western Australia in 2017 were 88.5 Mt CO<sub>2</sub>-e (a 23.4% increase on 2005). Annual emissions and emissions by sector for this State are shown in Figures 9 and 10, respectively.

Figure 9: Western Australia, annual emissions, 1990 to 2017

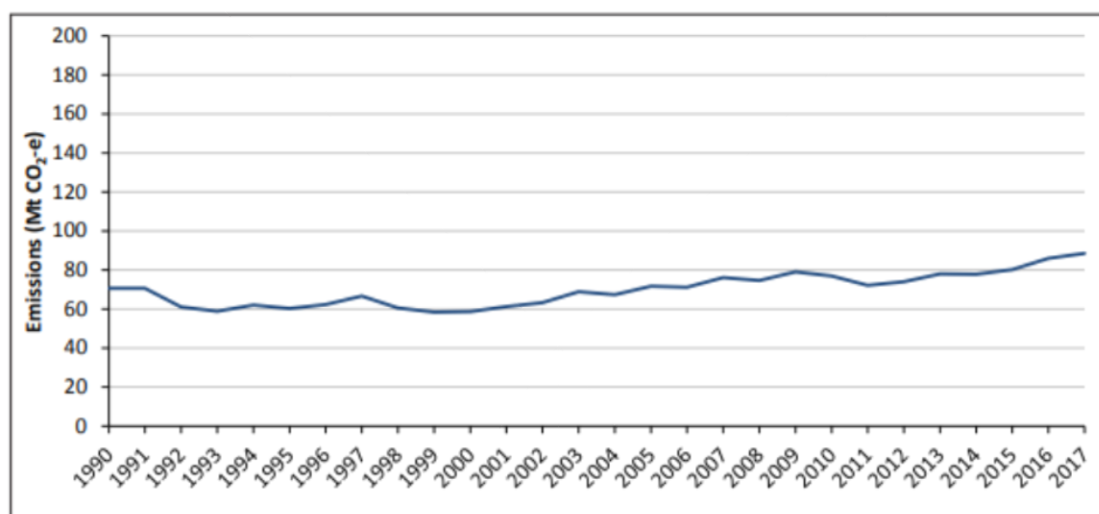
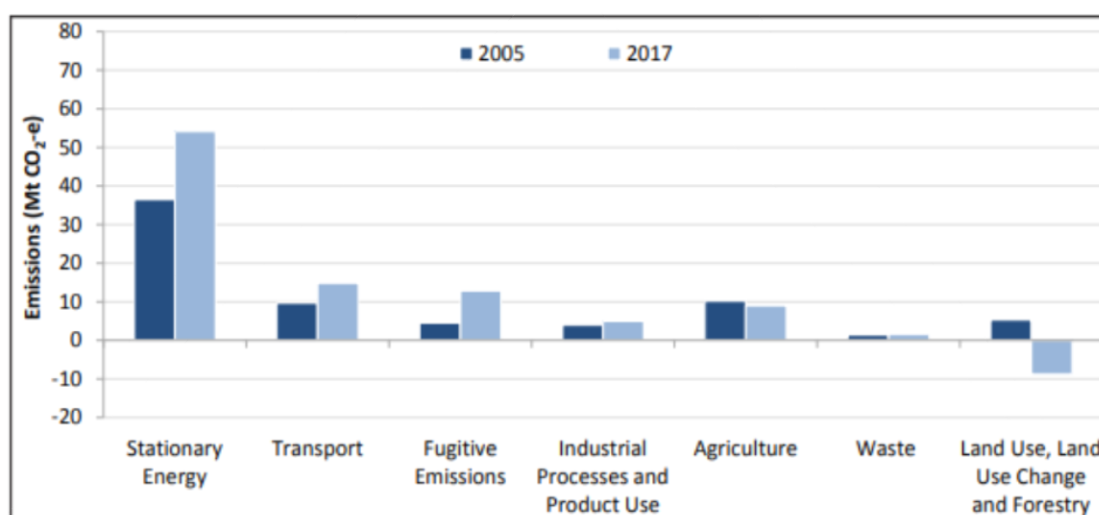


Figure 10: Western Australia, annual emissions by sector, 2005 and 2017



Agricultural emissions are already offset to an extent from practices that draw carbon into landscapes: our negative ag emissions are counted under Land Use, Land Use Change and Forestry.

<sup>22</sup> <https://www.environment.gov.au/system/files/resources/917a98ab-85cd-45e4-ae7a-bcd1b914cfb2/files/state-territory-inventories-2017.pdf>



There is potential to further reduce our emissions and increase our carbon sinks, hence allowing the WA agriculture sector to be a greater part of the climate solution. The opportunities we have to adapt to climate change are often extensions of existing practices and are win-wins with reducing emissions. For example, increasing soil carbon helps crop productivity, and reducing methane emissions from livestock (e.g. through breeding) can mean more efficient animals. Many primary producers are keen to learn more – through their existing trusted networks – about evidence-based, locally relevant practices.

Producers already aim to increase soil carbon for productivity and resilience reasons. However, drawing carbon down and holding it there is easier said than done, and producers need locally relevant research and extension to achieve more in this area. Continued assistance from the state government for programs and policies that assist and motivate our sector to achieve emissions reductions and carbon drawdown may assist uptake and help us contribute to WA's overall net-zero goal.

The current policy and regulatory framework for carbon markets nationally has significant barriers to participation,<sup>23</sup> so we support efforts by the WA government to improve accessibility and relevance for WA.

There is a need for a readily available tool for landholders to accurately and economically measure their soil carbon content. Many producers would be interested in a carbon calculator – an industry accepted, widely available tool to measure the carbon position of agriculture businesses. Many would also be interested in more research into the state of play of WA livestock systems and how they can play a role in minimising farm emissions and increasing carbon drawdown.

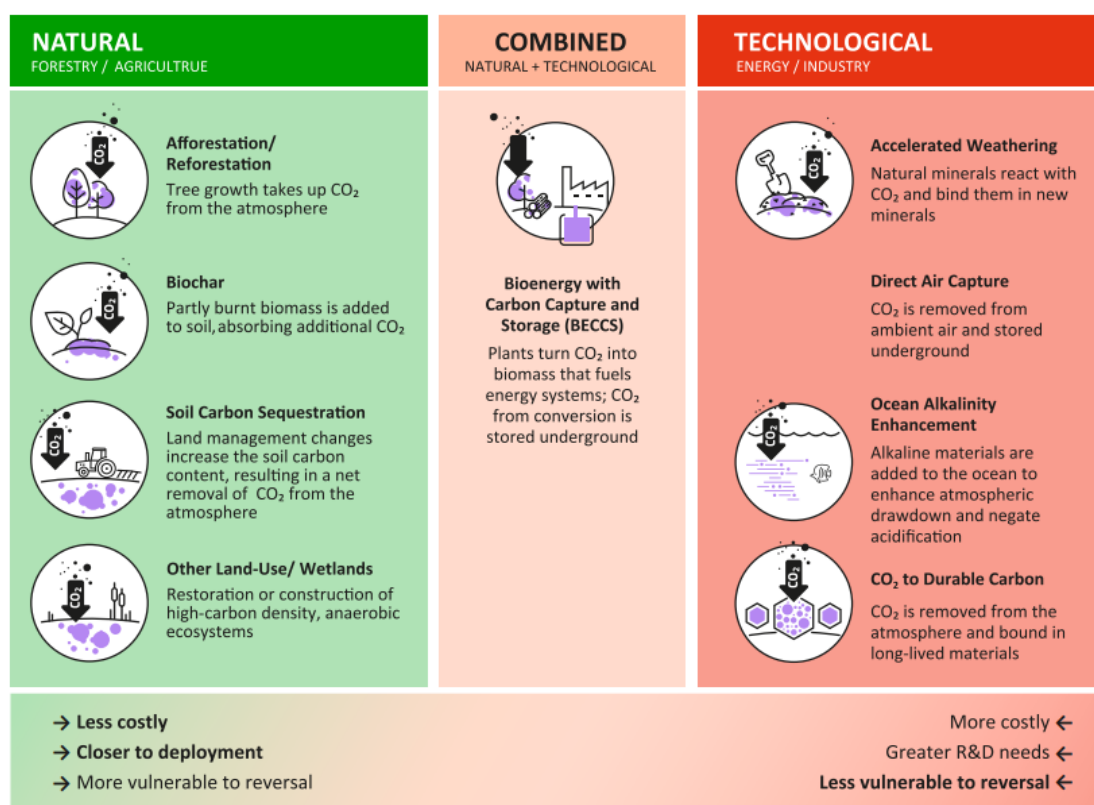
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<sup>23</sup> Improving carbon markets to increase farmer participation, AgriFutures Australia, 2019

## Carbon sinks vulnerable to reversal

As the image below points out, natural carbon sinks are vulnerable to reversal.

**Figure 11** — Major strategies for negative emission technologies



Source: UNEP (2017), Figure 7.1.

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Yes, we undoubtedly need to sequester more carbon in nature for multiple co-benefits (eg well-planned vegetation for shade, shelter, wind breaks, attract more rainfall, address salinity, create wildlife corridors), but reversible carbon sinks must not be overly relied upon for achieving net-zero emissions at state level, given the difficulty of achieving and maintaining carbon sinks in a warming, drying climate with increasing extreme weather events. Natural carbon sinks can go up in smoke or be reduced in drought. If a landholder has been paid for storing carbon, and the carbon is lost through a disaster outside of the landholder's control, what are the implications for the landholder? Is a 1 to 1 ratio for carbon emitted versus carbon stored in nature fair? Have the externalities for the landholder and surrounding community (fire risk and impact on communities' emergency services, impact on insurance availability and affordability) been factored in?

<sup>24</sup> Christensen, J. and Olhoff, A. (2019). Lessons from a decade of emissions gap assessments. United Nations Environment Programme, Nairobi. <https://www.unenvironment.org/resources/emissions-gap-report-10-year-summary>



A hypothetical net-zero of 100m/t p/a CO<sub>2</sub>-e emissions minus 100m/t p/a CO<sub>2</sub>-e drawdown won't be net-zero anymore if some of the carbon in natural stores is lost through fire or drought. The lower our state's emissions are, and the more drawdown we have, the better. In fact, we hope that WA moves from a net-zero goal to a net-drawdown goal as soon as possible.

## Recognise and mitigate the risks of climate solutions

As much as we need to protect natural bush, revegetate, reforest, create future climate plots, etc, it increases fire risk to communities that are already stretched for emergency services support. There are already farm assets in WA that are uninsurable due to fire risk posed by surrounding bush. Climate change will increasingly affect our ability to access and afford insurance, with insurers already withdrawing availability for some farm assets for some risks. Rural and regional Australia needs more support for emergency services, especially given the worsening fire risk and risk of other extreme weather events. We need policymakers to understand the insurance and other risks involved in some land-based climate solutions.

Our sector can benefit from providing offsets, but the risks must be recognised and mitigated.

The WA Environmental Protection Authority's role is to protect the Western Australian environment – that includes protecting it from damage from climate change. We encourage the WA government to accept the greenhouse gas guidance proposed by the EPA WA requiring proponents to explain, justify and prove how their project will avoid, reduce, and *as a last resort* offset their emissions. The use of offsets (which are reversible) should not be taken as a license to continue extracting ancient carbon from underground, burning it and adding heat-trapping gases into our shared atmosphere. Because WA shares the world's atmosphere, and all greenhouse gas emissions are cumulatively causing global warming, it also makes sense for the EPA to request mitigation proof around scope 3 emissions of project proponents.

## Transport and energy

We note that the agricultural emissions figure doesn't include *all* food system emissions, for example transport and energy. Like everyone else, we are currently locked into a fossil-fuel dependent system, and look forward to an orderly and fair clean energy transition. AgZero2030 intends to highlight ag leaders' clean energy efforts in order to inspire our sector to embrace clean energy opportunities that are relevant and affordable to them.

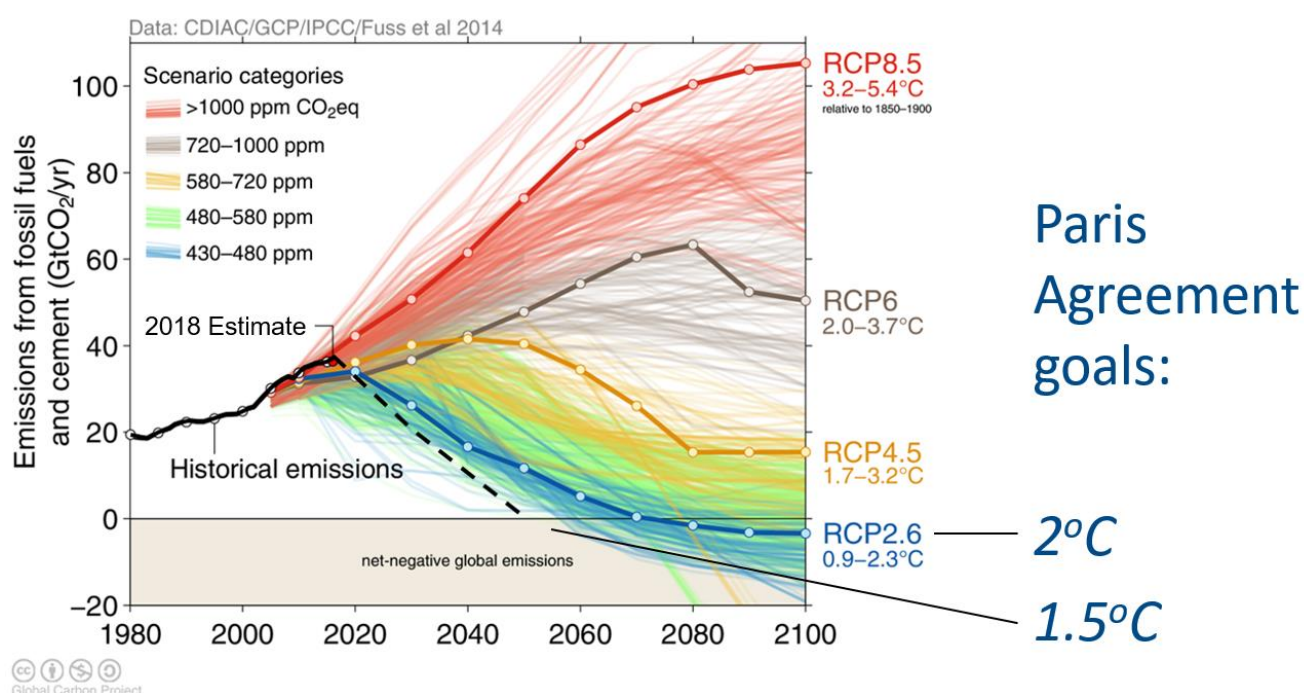
We encourage the WA government to seize the opportunities for a clean energy transition (including renewable exports) and help make the financial benefits available to rural Western Australians.

The specifics of what the energy transition will mean for our sector in terms of transport, fuel and electricity is currently unknown, but we expect innovation in this area to accelerate. Many in our sector work on very slim profit margins, so everything that can be done to assist in making our sector's clean energy transition profitable and easy – *and* allow rural communities to earn income from clean energy generation, storage, load management, etc – would be much appreciated and will ultimately help the WA government achieve its net-zero aim. There is huge potential for rural Western Australia to be part of a large renewable export industry.

## WA's share of the global carbon budget

The 2018 Intergovernmental Panel on Climate Change (IPCC) Special Report on Global Warming of 1.5°C concluded that limiting the temperature increase to 1.5°C with no or limited overshoot would mean reducing global emissions by about 45 per cent from 2010 levels by 2030 and reaching net zero around 2050.

Given the harm done already at only 1°C, and the difference in the projected impacts at 1.5°C and 2°C (2°C is *much worse*)<sup>25</sup>, AgZero2030 supports efforts to limit global warming to 1.5°C.



Rising emissions in WA are pushing up Australia's emissions.<sup>26</sup> All discussion about emissions and climate change policy in WA need to be considered in the context of WA's share of the remaining number of tonnes of CO<sub>2</sub>-e that can be emitted before hitting 1.5°C.

*"The science and the global challenge are clear: unless NDC [nationally determined contributions] ambitions are increased immediately and supported by action, exceeding the 1.5°C goal can no longer be avoided and the well below 2°C goal will slip increasingly out of reach. The Emissions Gap Report (United Nations Environment Programme [UNEP] 2018) showed that nations must triple the level of ambition in their current NDCs to get on track towards limiting global warming to below 2°C, while a fivefold increase is needed to align global climate action and emissions with limiting warming to 1.5°C by the end of this century. For this to be realistic new and enhanced NDCs must be agreed by 2020 and the implementation of existing actions must be accelerated."*<sup>27</sup>

<sup>25</sup> <http://www.ipcc.ch/sr15>

<sup>26</sup> <http://www.environment.gov.au/system/files/resources/6686d48f-3f9c-448d-a1b7-7e410fe4f376/files/nggi-quarterly-update-mar-2019.pdf>

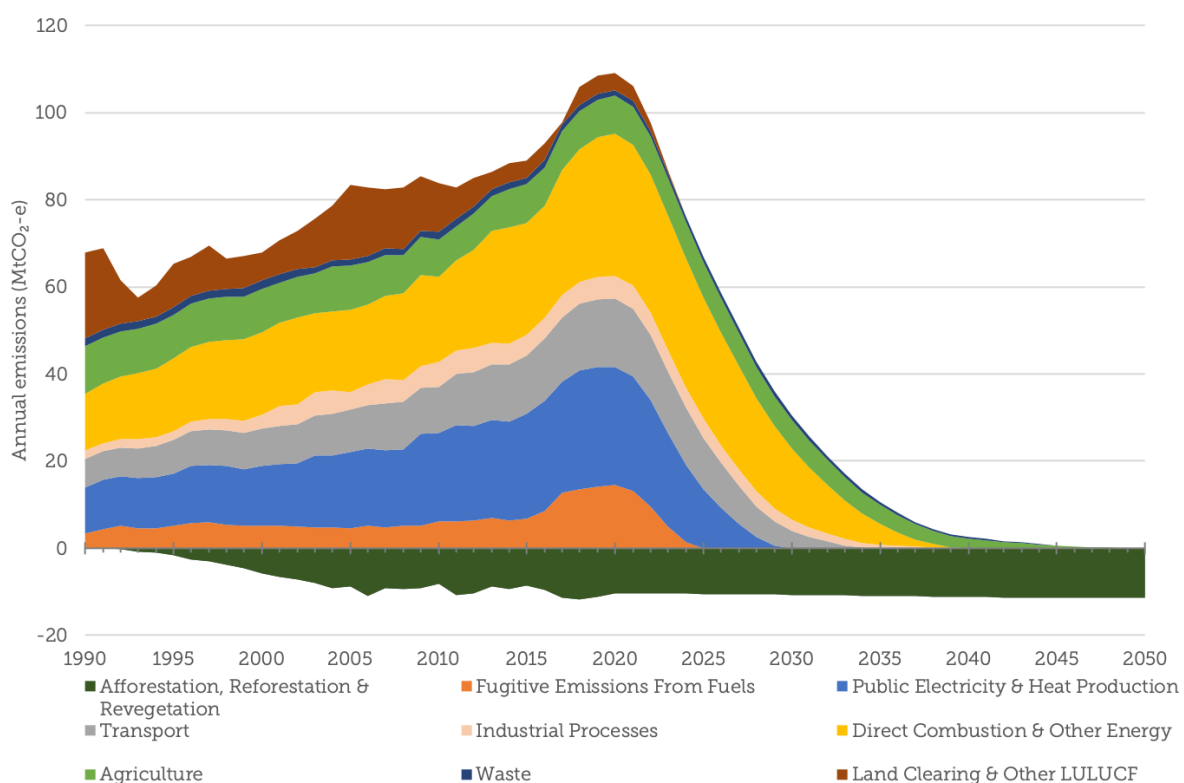
<sup>27</sup> <https://wedocs.unep.org/bitstream/handle/20.500.11822/30012/EGRgap.pdf>

The 2019 edition of the Emissions Gap Report<sup>28</sup> said “We are on the brink of missing the opportunity to limit global warming to 1.5°C. If we rely only on the current climate commitments of the Paris Agreement, temperatures can be expected to rise to 3.2°C this century. Temperatures have already increased 1.1°C, leaving families, homes and communities devastated.”

We urge the WA government to base its climate change targets and policies on WA’s share of the remaining carbon budget, and recalculate these targets periodically. We recognise that WA does not have the power to determine Australia’s nationally determined contributions, but ask that WA do what many non-state and subnational actors have done, and set and achieve its own ambitious targets.

The graph<sup>29</sup> below shows what an emissions reduction pathway for WA might look like as a contribution to global efforts for a 67% chance of limiting warming to 1.8°C: similar to a pathway for a one in three chance of limiting global heating to 1.5°C. We recognise that it is a daunting task for the WA government, and that is why AgZero2030 is keen to help and hope other sectors get on board, too.

Sectoral emissions pathway in line with Western Australia's share of the global emissions budget for a 67% chance of limiting warming to 1.8°C above pre-industrial temperatures\*



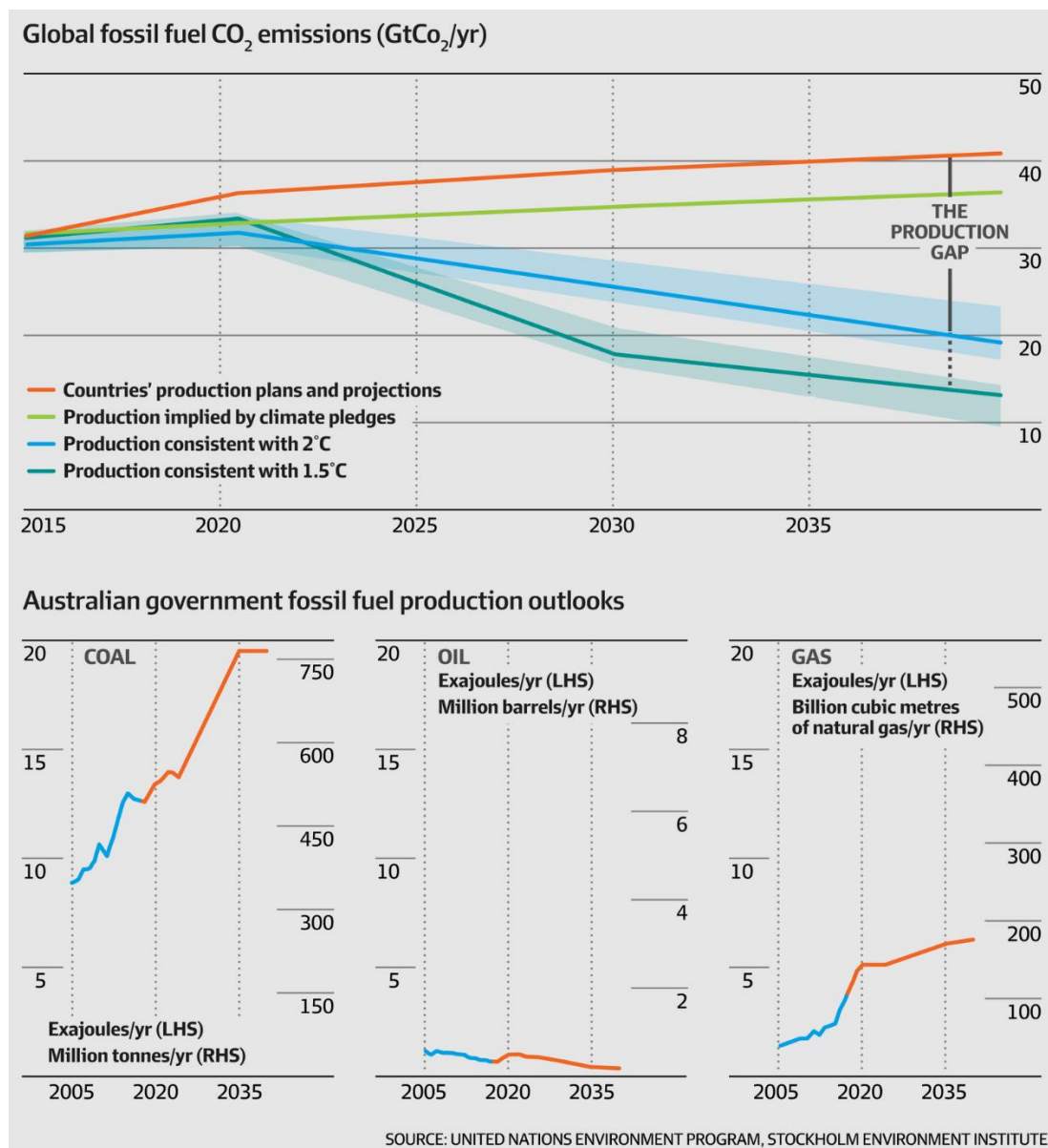
\* Australian emissions budget calculated using contraction & convergence (Garnaut). Western Australia's share of this calculated using relative status quo maintained. This results in Western Australia receiving 0.15% of the global budget.

<sup>28</sup> <https://www.unenvironment.org/resources/emissions-gap-report-2019>

<sup>29</sup> From the Climate Council of Australia’s submission to the Western Australia’s Climate Change Issues Paper consultation (November 2019)

## Clean energy transition

Energy from fossil fuels has been and still is important. However, for a chance to limit warming to 1.5C it is critical that we increase energy efficiency and transition to clean energy to power our civilisation. The Australian Financial Review has reported on “...the contradiction between Australia's pledged emissions reductions at national level with state and federal government support for coal and gas mining...”<sup>30</sup> WA is in the fortunate position to benefit from a clean energy transition, with our wind, solar and human resources and proximity to markets that seek renewable energy products, whether transmitted via cable or exported as hydrogen. We support WA setting an ambitious clean energy target of 200% or more. We ask that the agricultural sector is consulted on an ongoing basis regarding the significant risks and challenges of this transition for our sector, so that suitable and relevant opportunities can be identified and embraced.



<sup>30</sup> <https://www.afr.com/policy/energy-and-climate/world-on-track-to-mine-far-more-fossil-fuel-than-paris-pledges-permit-20191119-p53c31>

## Tie in with national policy work

At the Agriculture Ministers' Forum (AGMIN) on 25 October 2019, the Ministers endorsed a coordinated national approach and proposed work program to support the agriculture sector adapt to climate change and manage emissions. AGMIN tasked the Agriculture Senior Officials' Committee (AGSOC) to oversee delivery of the proposed work program, in line with proposed governance and implementation arrangements. The initial reports commissioned as an input to the project are:

### Stream 1: Understanding Climate Change and Current Approaches (11 March 2019)

- Key point: "In the absence of concerted global action to curb emissions, climate change is likely to have significant implications for agriculture."

### Stream 2: Opportunities and Risks (June 2019)

- Key areas include:
  - Coordination, collaboration and governance of climate change responses
  - Driving productivity and profitability of agricultural production through R&I
  - Climate policy certainty
  - Value-adding along the supply chain
  - Financial instruments and tax incentives to address climate change
  - Social cohesion of rural communities and individuals
  - Land use planning, competition and management
  - Climate change impact on water policy
  - Leadership and coordination in the provision of climate data
  - Biosecurity
  - Infrastructure planning and investment

### Stream 3: Identification of Options for Actions and a Work Program that Could Inform the Development of a National Strategy for Adaptation to Climate Change and Emissions Management in Agriculture (yet to be released).

The work program is currently limited in scope (focusing on adaptation and ag emissions only), and to our knowledge the resourcing and implementation of a full national strategy isn't yet assured.

We ask the WA government to continue to understand the issues raised in these reports, and ensure that Western Australian climate change risks and opportunities are communicated effectively to people in our own sector in WA and nationally through AGMIN.

Importantly, we ask the WA government to lead on solutions that will help the world limit global warming to 1.5°C. This means capping WA's emissions, planning for steep emissions reductions and carbon drawdown, but not relying too heavily on carbon drawdown to achieve net-zero, as carbon sinks are vulnerable to reversal.

We ask that the WA government consult with the ag sector and rural WA on an ongoing basis to ensure that our concerns around implementation of 1.5°C compliant goals are addressed, and where possible the benefits of climate action flow to, and are therefore supported by, our sector and regional WA.

## Summary

Climate change of only 1°C has already had a significant impact on WA's natural environment and therefore agriculture, rural and regional communities. There are limits to adaptation. Projections for 1.5°C warming are bad, 2°C is even worse, and the world is on track for 3°C or more.

Western Australia has the resources and ability to lead in climate solutions that could benefit rural communities, assist other countries in meeting their climate targets, and provide inspiration and hope.

We ask that WA:

- periodically calculates its share of the global carbon budget for limiting global heating to 1.5°C
- plans and implements emissions reductions accordingly WITHOUT overly relying on natural carbon sinks (that can be hard to establish, maintain and insure, and are vulnerable to loss, e.g. through fire or drought) to achieve WA's net-zero target
- ensures climate solutions enable multiple co-benefits for rural and regional Western Australia where climate impacts are being disproportionately felt.

Good climate policy will help us continue to farm, contribute to the WA economy and look after our country and communities for the benefit of current and future generations.

Thank you.