

The Climate Load

How climate change impacts women in Australia and the risks and opportunities ahead.

With perspectives from the Pacific.



Women's
AGENDA

A special Women's Agenda report, with support from:



Charles Sturt
University



care®

We acknowledge and pay respect to the past, present and future Traditional Custodians and Elders of this nation and the continuation of cultural, spiritual and educational practices of Aboriginal and Torres Strait Islander peoples.

About Women's Agenda

Women's Agenda is an independent daily news publication 100 per cent owned and run by women. Our team of journalists and researchers provide a vital perspective across daily news events and current affairs, including across politics, media, business, tech, climate, health and leadership. Published by Agenda Media Pty Ltd, founded by Angela Priestley and Tarla Lambert, this team also publishes Women's Health News and runs a growing podcast network, events, roundtables and regular research reports.

Get in contact with our team at contact@womensagenda.com.au

Contents

4

Introduction

10

Women's health and the climate load

16

Women's safety and the climate load

22

Care work and climate change

28

Women leading climate campaigning and activism

34

How women respond in disasters

36

The power of women's entrepreneurship and innovation

40

Women's representation and opportunity in the green economy

45

What next?



Introduction

The conversation on climate change has shifted dramatically in Australia over the past 12 months as a result of women leading with impact.

These women have successfully muscled into spaces where they've historically been underrepresented – like politics. But they have also led as activists, as entrepreneurs and innovators, as business and community leaders, and amongst their own families and friends.

They've led recovery efforts following recent flood and bushfire events.

And they've led as survivors.

We've long shared these stories on Women's Agenda, showcasing inspiring leadership to bring optimism to a subject that otherwise engenders so much despair: the rapidly changing climate that's confronting us.

We've long shared expert-led research, noting how climate change exacerbates existing inequalities, such as gender-based violence and abuse.

Our hope now with this report is to provide a comprehensive analysis on how climate change is impacting women already in Australia, and will continue to do so in the future. That means examining the impact on women's health, domestic

and family violence, care, economic security, housing and more. But this report also aims to examine leadership responses from women in Australia: politically, across the business sector, in the community, and during disasters.

And, as we look to the future, this report delves into the continuing green transition. We examine the opportunities for women in this space, and what we need to do now to ensure adequate representation and equity across these emerging sectors and in what's set to be a very different future ahead.

We've also been lucky to interview and hear direct from women leading on climate within their own spheres of influence and expertise.

As policymakers and employers consider what can be done to support women's opportunity, economic security and safety, we see efforts being hampered by climate change. And we firmly believe the gender-based impacts of climate change must be considered.

This research shows that family and domestic violence spikes during times of crisis, and in the difficult economic and emotional times that follow. We know women take on an even greater share of unpaid care during a crisis, and that there are key consequences on women's health outcomes – both mental and physical – that occur during emergencies and changing weather patterns.

We hope to demonstrate all of this and

more in this report – bringing together existing research across many different areas, while also bringing new ideas and insights to the conversation.

And because we know that women and girls outside of Australia are also responding to the climate crisis, we have interviewed women internationally to get their insights, thanks to our partnership with CARE Australia.

But ultimately, with the climate crisis, we also see an opportunity to participate in working toward a more positive and equitable future ahead. Already, new jobs and industries are emerging, particularly across renewable energy.

This report is made possible thanks to our partners. A special thanks to CARE, who know all too well the need to see this conversation carry across to women and girls in the Pacific. Thank you also to Charles Sturt University – a long-term Women's Agenda partner that knows the need to highlight the value and contributions of women's work. And to AGL, which also wants to raise awareness of these critical issues and the role of women in the transition ahead.

We will continue to share these stories on Women's Agenda, and we're calling for more ideas to form recommendations to policymakers and employers following this report. Please get in contact at contact@womensagenda.com.au

Angela Priestley & Tarla Lambert
Co Founders
Agenda Media and Women's Agenda

What Women's Agenda readers tell us on climate change ➤

We've been publishing Women's Agenda for more than ten years, and have seen how conversations about climate and the appetite to read about them have changed considerably during this period.

So much so that following the 2019–20 bushfire season, we made 'climate' a key pillar of our reporting and daily news content; understanding that climate change was central to our integrity as a media company.

This holds more true than ever. Climate change is core to any conversations on equity, gender equality, discrimination, women's economic participation, safety and security.

On polling women on climate change in February 2023, we found alarming rates of concern about climate change among women, as 82% declared themselves "very worried" about the issue.

The results brought home the "mental load" of climate change, and the additional stress women take on in considering a different future to the one they grew up in. Sixty four per cent said their mental health had already been impacted by climate change, while almost half (48%) said their financial security had been impacted.

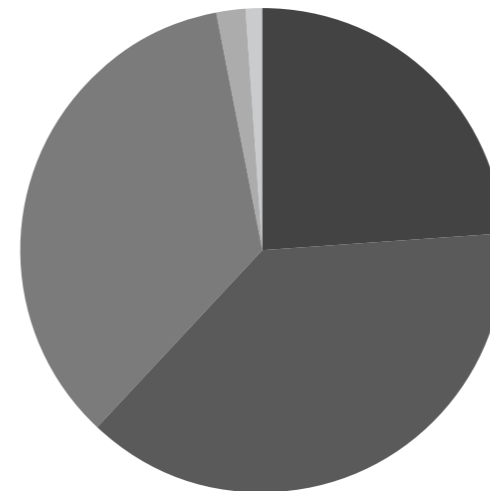
"Climate change is already creating chaos in our society (with extreme weather events and economic flow on effects) and women bear a disproportionate burden of labour when systems in the family unit or workplace are in chaos. Put simply, more chaos = more work for women."

SURVEY RESPONDENT

"More impact on homes, cost of owning a home, the constant need to make good consumer and political choices when buying and voting, constant education of generations to make better longer term decisions not short term decisions."

SURVEY RESPONDENT

THE ADDED LOAD OF REDUCING EMISSIONS AT HOME



- 24% say they are solely responsible
- 38% say they take the lead in the household on working towards this
- 35% say the role is shared equally with others
- 2% say someone else is the house is mostly responsible for this
- 1% say they do not do anything in the household to reduce emissions

OF WOMEN POLLED:

- 82%** are "very worried about climate change"
- 75%** believe they have already been personally impacted by extreme weather events in Australia caused by climate change
- 43%** say their physical health has been impacted by climate change
- 64%** say their mental health has been impacted by climate change
- 48%** say their financial security has been impacted by climate change
- 62%** say the health and wellbeing of their family has been impacted by climate change
- 27%** say their work-life balance has been impacted by climate change
- 24%** say their ability to afford a house has been impacted by climate change
- Women facing immediate cost of living issues around energy: **27%** anticipate having difficulties paying energy bills over next three months

What is The Climate Load?

You are likely familiar with “The Mental Load.”

It's a term that's been written about extensively, that goes beyond mere mental tasks associated with household labour, to incorporate things like the scheduling and organisation required with running a household, as well as the worry and stress associated with these tasks.

Professor **Leah Ruppner** describes the mental load as incorporating “cognitive labour and emotional labour” in 2022 research that particularly addressed the impact of the COVID-19 pandemic on women. Her research describes it as being invisible, as boundaryless (as it can cross from work to leisure and sleep time) and “enduring”, because it is never completed.

We see The Climate Load as incorporating many of the details noted in the above definition – as much of those loads are indeed mental –

however, we've taken a much wider look into what it involves.

We are using it here to describe the additional work and tasks women take on during times of crisis, as well as the anxiety that stems from periods of heightened uncertainty. As we consider the future ahead, we need to cast this analysis wider and recognise the additional consequences of climate change on women: on their mental and physical health, on risks to their personal financial and emotional safety, their ability to pursue opportunities, and their future financial security. **A**



Women's health and the

climate load

Multiple international studies have stressed how the health of women and girls is significantly impacted by climate change.

There is less specific research examining the overall impacts here in Australia, but plenty of evidence to show that climate change is very much a women's health issue that's confronting us right now.

From access to reproductive services to difficulties accessing services and healthcare following a disaster, the effects of smoke inhalation and extreme heat on women, these are issues that must be considered.

In Australia, as we've seen more intense and more frequent natural disasters in line with a changing climate, we are starting to see more clearly the direct consequences on women. For example,

the implications of smoke inhalation from bushfires on pregnancy.

Another example is data showing that women are more likely to die during heatwaves than men, and the risks to older women during urban heat waves.

It's why the Australian Federation of Medical Women has listed climate action as "the greatest health opportunity to prevent premature deaths, address climate and health inequity and unlock substantial health and economic benefits."

The link between climate change and health was a key catalyst behind Independent MP Dr Sophie Scamps' decision to run for the seat of Mackellar at the 2022 Federal election. Once there, the GP turned MP delivered a motion in Parliament to declare climate change

FUTURE
ACT NOW!



a health emergency, "as it will impact the core determinants of health, such as food, housing, employment and water security."

At a February 2023 Women's Agenda event, Dr Scamps said the health emergency goes further for anyone in a more vulnerable position in society, including women. She highlighted the difficulty women in disaster-affected areas, like Lismore following the 2022 floods, have in even just accessing a GP.

Obstetrician Dr Ying Gu holds serious concerns for how climate change affects women's health, especially on fertility and pregnancy health.

She notes how the Black Summer bushfires reached air pollutant levels that were 5 to 6 times what is classified as "poor air quality", and further research indicated how this exposure accounts for up to 18 per cent of the global preterm birth rates - which will only increase as climate change hastens the frequency and escalates the severity of bushfires. "Our current hospitals already struggle with the demands of the current rate of preterm delivery," she says.

Dr Gu also emphasises the link between climate change and lower fertility.

"While there are many causes and

"Climate care is health care. Our health and wellbeing depend on a healthy environment..."

interacting factors that can lead to infertility, climate change can contribute to lower fertility," she says. "Numerous studies have shown a link between pre-pregnancy exposure to air pollutants and lower fertility and lower live births in natural conceptions and after IVF."

Further, Dr Gu raises concerns for the distribution of diseases transmitted by mosquitoes, thanks to shifting weather patterns. A virus like Zika can interrupt baby brain development if contracted in pregnancy. Modeling predicts that 1.3 billion people could be at risk of Zika by 2050.

"Climate care is health care. Our health and wellbeing depend on a healthy environment," Dr Gu says.

Heatwaves and heat stress

In 2022, [Human Rights Watch urged](#) all levels of government in Australia to protect their populations against the real harms of heatwaves exacerbated by climate change. It claimed that heatwaves have caused more deaths than any other natural hazard over the past 200 years, and highlighted how extreme heat further exacerbates pre-existing health conditions and disabilities.

Heatwaves are particularly problematic for certain segments of the population, with people's capacity to cope varying dramatically according to a number of different factors. Accessibility and affordability of air conditioning at home is a major factor in coping with extreme temperatures.

According to recent research from the University of Western Sydney, indoor shopping centres and fast food restaurants have become common areas for people to seek refuge in Western Sydney during heatwaves. While this finding is problematic in itself that people need to rely on such facilities, these temporary solutions are even less viable for some women to access, including those restricted from leaving home due to caring responsibilities and/or cultural barriers. Those with disabilities also face additional barriers in leaving the home to stay cool.

Maryam Zahid, founder of Afghan Women on the Move, is especially concerned about the ability for migrant and refugee



women to access spaces during heatwave, due to their care responsibilities, cultural barriers, difficulties leaving their homes, as well as language barriers that may prevent them from even knowing that options like air-conditioned public libraries and council pool facilities are available to them. "This is a vulnerable population," she says, "and we can't forget their needs".

Access to women's health services

Access to contraception and abortion services is disrupted during climate emergencies.

During the Lismore floods in 2022, MSI Australia Managing Director Jamal Hakim says that health workers had to sandbag their facilities and move into temporary clinics to maintain contraception and medical abortion services.

Leading Australia's only national accredited provider of abortion, contraception and vasectomy services, Hakim believes that the increased frequency of climate disasters is having

a direct impact on the cost of sexual and reproductive health services.

"Governments need to recognise and invest in the health workforce and health infrastructure in areas that are being significantly impacted by climate change," Hakim says.

Poverty

Poverty is gendered, as Toni Wren, Executive Director of Anti-Poverty Week explains. It's important to acknowledge this when considering women's health and safety in the context of climate change.

Women now make up 61 per cent of those relying on the lowest income support and student payments, according to September 2022 data from the Department of Social Services. "People already struggling on very low incomes and inadequate housing are impacted the most and worst by climate disasters – their houses are in the paths of the worst of the flooding, and they spend the most time in tents and being homeless after the floods recede," Wren says.

Compounding risks for women with disabilities

People with disabilities are some of the most "adversely affected in an emergency", according to the UN Human Rights Council, and are listed amongst other groups as especially vulnerable to climate change impacts. Women within this group face compounding risks to

their health, safety and wellbeing. And yet, women with disabilities are often sidelined from these discussions.

Currently, Australia is not one of the 45 State Parties to the Paris Agreement which currently refers to people with disabilities, people with health conditions or those with chronic illnesses in their climate adaptation policies. We are falling behind where other countries make strides.

For example, as noted in a [report conducted by The McGill Centre for Human Rights](#) last year, Zimbabwe's National Climate Policy clearly identifies ways to build adaptive capacity in vulnerable groups such as those living with disabilities; to mainstream these groups in all climate change responses; and to ensure equitable access to and ownership of resources for climate change adaptation by vulnerable groups.

Zimbabwe's National Adaptation Plan importantly includes specific obligations with respect to disabled people, such as the promotion of user-friendly, climate smart technologies, and support for the development and dissemination of simplified meteorological and agrometeorological information.

The same report noted that other countries, such as Canada, have progressed in other ways such as tabling a proposal to include persons with disabilities in the transition to a green economy. Again, something so far lacking in Australian policy debate.

Indeed, in Australia, there are no

nationally consistent emergency management standards that ensure access to disability-specific and disability-responsive supports during emergencies.

Part of this is due to poor representation; an issue faced globally. Women with disabilities are often excluded from meaningful policy participation and leadership opportunities. In 2021, for example, Israeli Minister Karine Elharrar was unable to attend and participate in the COP26 Summit because the venue wasn't vetted to be wheelchair-accessible.

Ultimately, there are significant health and safety risks impacting women living with disabilities during times of climate crisis, and this is predicted only to worsen. Analysis from Disabled People's Organisations Australia (DPO Australia) and the National Women's Alliances in 2019 confirms that people with disability are at higher risk than those without disability, of death, injury, loss of property and vulnerability post-disaster.

Unsurprisingly, extreme climate events expose existing inequalities, and Australia is no exception. During major flood and fire events, women with disabilities face added challenges in being able to get to safety. Those who do end up in emergency and evacuation shelters can then come up against accessibility challenges, with many lacking ramps, railings, accessible toilets and other facilities.

Severe storms, like those experienced across NSW and Queensland in 2022, can likewise leave people with disabilities without electricity and services. For people who require electricity-powered medical and other equipment to survive, such as ventilators, this is a grave concern. DPO's report also found that some people with

disabilities may be especially vulnerable to extreme heat events due to increased sensitivity to keeping their body temperatures cool. People with multiple sclerosis for instance (a disease that is 3 times more common in women than in men) have been shown to experience greater pain and fatigue on hot days, and some people with spinal cord injuries do not have the ability to sweat as a means of cooling down.


What's ahead?

The International Panel on Climate Change's 2022 report outlined the shocking added health consequences ahead for Australians.

While these health consequences will impact everyone, the research shows how more vulnerable populations are at risk – including pregnant women, those with disabilities, those with pre-existing health conditions, those living in poverty, and many groups [where women are overrepresented](#).

The IPCC predicts that without urgent emissions reduction action, Australia will see a quadrupling of heat-related deaths in cities between 2031 and 2080, compared with figures from 1971 to 2020.

Australia must address the gendered health impacts of climate change, alongside climate action.

There have been a couple of wins on this front – thanks to a number of leading women advocating for change. They include funding in the 2022 Federal Budget for the first stages of the National Health and Climate Strategy development, thanks to the advocacy efforts of organisations like the Climate and Health Alliance and the Australian Federation of Medical Women 

Why the Climate and Health Alliance?



FIONA ARMSTRONG

Fiona Armstrong left her career in Nursing to form the Climate and Health Alliance in 2010, which has been advocating to include health in climate policy ever since.

“I could see health was being ignored as a climate impact – and solution – in climate policy in Australia and in the health sector (where the bulk of the workforce is female).

“I knew that if we failed to recognise the risks to health in climate policy, and failed to consider climate in health policy, that the Australian population, and health sector would be negatively impacted much more severely than it otherwise might.


“I also knew that health is very important to people as a public policy issue – it's always among the top issues voters consider at elections – so if we could get people to make the links between climate change and health, they would be more likely to support action through mitigation and adaptation (and that's what the evidence now tells us).

“Having worked in policy advocacy for many years before founding CAHA, I knew that building stakeholders' alliance around a common agenda can be very effective in influencing policy. It's taken a while, but we have certainly done that in Australia and internationally.

“CAHA has spearheaded this conversation in Australia and is credited with putting climate firmly on the agenda in the health sector, and to achieving policy outcomes at federal, state, and local level.

“Minister Butler and Assistant Minister Kearney are backing a National Health and Climate Strategy currently in development (first proposed by CAHA in 2017), and for the first time ever, the Commonwealth Department of Health has a unit devoted to climate change and decarbonising healthcare.

“Progress is slow, far too slow, but we do finally have action underway at the federal level, and some good examples of leadership at the subnational level too.

“Will it be enough, and will it be in time to avert the worsening impacts of climate change? No. But every fraction of a degree counts and every fraction of a degree will avert future deaths, injury and illness. In its best form, climate and health policy can protect and promote health i.e. improve health outcomes – that's what we must continue to aim for.” 

Women's safety

and the

climate load

We've seen enough disasters in Australia and around the world to recognise that the risk of violence against women and girls increases during and after these crises.

And, sadly, with more frequent and intense natural disasters ahead, we can expect that trend to continue – unless significant interventions are implemented to support communities immediately and during the long recovery periods post disaster.

More than a decade ago in 2012, "The Hidden Disaster" research was released.

This peer-reviewed research by Debra Parkinson and Claire Zara noted a number of disturbing figures during that time, including a 53 per cent increase in domestic violence reported by police following the Canterbury earthquake and a massive 98 per cent increase in physical victimisation of women following Hurricane Katrina.

The study was later built upon by Women's Health Goulburn North East to further examine this violence trend. The organisation interviewed numerous women post the 2009 Black Saturday Bushfires, to counteract some of the

existing gaps in data available. They reported that all 30 women and almost all of the 47 workers interviewed reported an increase in community or domestic violence, including many who spoke of experiencing partner-related violence for the first time.

Other report following the 2009 bushfire crisis found that women living in the worst affected bushfire communities reported experiences of violence at seven times the rate of those in moderately or minimally **affected areas**.

Why the uptick following this massive event?

The researchers involved in The Hidden Disaster report noted the immense pressure on survivors, the increase in homelessness that occurs, as well as unemployment and alcohol abuse. They also highlighted the trauma and grief that follows such events, as well as complex ideas around masculinity and how disasters can interrupt ideas of how men "live up" to expectations of masculinity.

Another point conveyed the "silencing" that occurs in the immediate disaster aftermath – which stems from the media spotlight on communities, the focus on resilience and generosity – and the pressures community and family members and friends feel to "deny or forgive men's violence".

The COVID-19 pandemic also provided clues about the uptick in violence that occurs during stressful periods. In NSW alone, a massive 60,000 women experienced abuse for the first time in the first year of the pandemic, while another 45,000 women who had previously experienced violence suffered escalating violence in the home during that period, according to research commissioned by the NSW Council of Social Services and Domestic Violence NSW.

Overall, one in six women experienced violence during this period – figures that rose to three in five for Indigenous women and two in three for women with a

disability. The research was too early to address the impact of the Lismore floods from 2022 – which later figures will reveal.

But as NCOSS Chief Executive Joanna Qulity said on **releasing this report**, it "presents the horrifying picture that too many women in NSW are robbed of the basic human right to feel safe in their own homes."

All 30 women and almost all of the 47 workers interviewed reported an increase in community or domestic violence following the 2009 Black Saturday bushfires

Following the floods in South East Queensland in early 2022, the Centre for Women & Co, based in Logan, reported an increase in incidents of violence, which followed a 12 to 15 per cent increase in calls for help that had occurred since the start of COVID in 2020. Meanwhile, Queensland Police said they were preparing for an anticipated spike in violence following the floods, Commissioner Katarina Caroll **told the ABC that "it certainly**

happened in 2011", referring to the 2011 Queensland floods crisis.

In the immediate weeks and months post the 2019–20 bushfire crisis, agencies were already reporting spikes in domestic violence, **including reports of women** with AVOs against partners or former partners being forced to share spaces with them in emergency accommodation and evacuation centers.

But it is not just fast-moving, catastrophic disasters that can contribute to this surge in violence – but also slower impacts of drought, especially on farming communities, and the run-on consequences of the financial and emotional toll that drought has on those whose incomes are directly impacted.

2012 research on the impact of drought on the **health and wellbeing of rural women** found that water shortages put increasing demands on women's time, which impacted their health and wellbeing. They also found increasing rates of depression, and higher rates of violence against women, which they linked to the drought and associated income related stress. **A**



Housing for women

Australia is already experiencing a housing affordability crisis, and we can expect climate change to further exacerbate the problem.

That problem is already evident in the older single women cohort emerging as the fastest growing cohort of people experiencing homelessness, with a 31 percent uptick in homeless women over the age of 55 reported in the 2016 Census – and a massive 51 percent uptick for those aged 65 to 74.

Meanwhile, there is a growing number of homes [in](#)

Australia that are uninsurable – creating significant financial risks for occupants, and risking further homelessness in the future. By 2030, The Climate Council estimates that one in 25 houses across Australia will be **uninsurable**. For those houses that can be insured, premiums are rising by up to 10 to 11 per cent per annum, due to inflation, as well as climate-related risks.

Rising energy costs also contribute, and confront many women right now – with one quarter of those polled in our climate survey declaring they expect to face difficulties paying energy bills over the next three months. Research by Australian Parents for Climate Action found that 95

per cent of families have made changes at home to save money – including driving less, turning off heaters and spending less money on food.

For women who are renting, there are limited options around trying to keep power bills down – and limited options again for those aiming to address sustainability in the home (as our poll also suggests). Moving to solar panels and electric vehicles is a pipedream. As single mother Liz Cahalan recently wrote for Women's Agenda, governments have failed us when it comes to being able to rely on **clean and affordable energy**, making it particularly difficult for those who are living paycheck to paycheck.

Convener of the Equality Rights Alliance, Helen Dalley-Fisher, says it is clear disasters exacerbate the “housing affordability crisis and the gender gap”. The alliance has said it would like to see a new national housing and homelessness strategy that addresses critical gaps in Australia's adaptation plans around climate change.

In the wake of the devastating floods in NSW and QLD in 2022, Dalley-Fisher said we need better housing solutions as we face more disasters in the future.

“Housing unaffordability and rental stress are well-documented problems in Australia. Homelessness services are stretched to their limits,” she said. “The pandemic put further pressure on housing markets that were already unsustainable.

“Now we're seeing floods and fires destroy homes. With an unaffordable housing market and public housing wait lists ballooning, where will those families go? Climate change is a threat multiplier with implications for women and children especially.”

Sadly, the pressure on housing that follows long disaster recovery efforts can see women with no options but to return to sharing a home with their abuser. Indeed, one year after the floods across the Northern Rivers of NSW which made 4000 homes uninhabitable and damaged many thousands more, there are reports of desperate women on priority housing lists, left with no option but to return to live **in dangerous** environments. [A](#)



DR ANIKA MOLESWORTH

“The climate crisis is not gender equal. For rural women around the world, gender inequality throws them into the path of danger.

On Rural women

Dr Anika Molesworth, a farmer, scientist and author on the climate crisis, has written extensively on key concerns for rural and regional women, and women in agriculture.

“Women have a heavy load to carry, and climate calamities add excessive weight to it. Access to health care, education, and employment opportunities are more limited compared with men, and as such, their capacity to thrive falters.

“As climate change thwarts the prospects and rights of girls, women and non-binary people, gender-responsive climate strategies are essential. Aspirations of gender equality go hand in hand with tackling the climate crisis.”

FROM ASIA AND THE PACIFIC: HOW
CLIMATE CHANGE IMPACTS VIOLENCE

Addressing violence in PNG

As a researcher and Gender Equality, Disability and Social Inclusion Lead with CARE Australia, Anggia Anggraini is incorporating a gendered lens to climate action in the Asia-Pacific – a region of the world she says is most prone to climate disasters.

Through her research, Anggia has examined women's experiences in climate-induced disasters and how their resilience is undermined or enhanced by broader gender politics including violence against women.

This research builds on 17 years of leadership and advisory roles aimed at tackling the structural barriers to gender equality in Asia and the Pacific.

Women are being hit especially hard by climate disasters as their voices are often left out of decision-making processes in the community, according to Anggia.

"Any decision that is made for a whole community without representation from half its members is never going to serve people well," she says.

"Violence against women also tends to increase in the aftermath of a disaster, or during a bad agricultural season."

To combat this increase in violence, CARE, which works in more than 100 countries around the world, provides



ANGGIA ANGGRAINI

counselling or referral services as well as addressing the root causes of gender-based violence through "workshops for men and boys that challenge harmful ideas about gender roles".

These workshops provide critical prevention work, alongside advocating to "all levels of government for better services to prevent and respond to violence against women."

CARE's work on climate resilience and gender equality is often carried out by local partners, such as Live and Learn in Fiji and the Solomon Islands, and the Talitha Project in Tonga.

"Their strong community connections and local knowledge are crucial to the success of programs that support women to lead their communities through climate shocks," says Anggia.

She adds the need for emergency support in Asia and the Pacific is growing. "Communities are experiencing increasingly intense tropical storms and increasingly frequent and severe floods and droughts as a result of climate change."



Care work and

climate change

There is much documented evidence about how women take on the bulk of the unpaid caring and domestic responsibilities.

Women spend four hours and 31 minutes a day on unpaid work activities, compared with three hours and 12 minutes for men, according to 2022 released figures from the ABS.

But mothers then spent an average of three hours and 34 minutes in child care activities, compared with two hours and 19 minutes for men.

Further, the ABS' Time Use Survey also found an alarming figure: that 55 percent of women aged 35 to 44 already feel "rushed for time".

So how does climate change make this unpaid caring load even heavier for women?

First, it must be noted that there is a lack of macro-based evidence on this issue.

However, there is plenty of anecdotal evidence and stories from women available to help explain just what goes on in the immediate aftermath of a disaster – and well into the recovery period.

Women take on volunteering and coordinate efforts, and then continue with that unpaid work well after the immediate emergency period. Often, this leads to them becoming

the mental health support for their family and community, as we've seen with the recent flooding and bushfire crises in Australia.

But women also experience the added challenge of their usual support for the care of children, closing down. While this is a challenge shared by mothers, fathers and other carers of children, lockdowns associated with the COVID-19 pandemic showed just how significant the toll becomes on women, when children are unable to attend early childhood education and schools.

Meanwhile, as our own survey results revealed, even outside of directly being impacted by the climate crisis, women are taking on additional unpaid work in managing sustainability and waste at home, and supporting kids and those they care for in preparing for what's ahead.

And for those working in the paid care economy? Some of Australia's most female-dominated sectors – like childcare, nursing and aged care – are set to experience significant ramifications as a result of climate change.

First, they are and will be immediately affected during a crisis – with early childhood educators supporting children through the disaster, and converting centres into emergency response facilities. Nurses must contend with escalating patient intakes, and aged care workers manage the most frail and vulnerable of the

communities affected.

But the crisis can go well beyond the emergency point – and long into recovery, as we found from a number of early childhood education services, and as we share over the following pages.

Meanwhile, there are the longstanding mental health consequences and trauma that those in positions of care personally experience themselves – despite appearing to "soldier on with their work".

On supporting others, it's incredible again to see how women step in to create solutions and address the challenges they see in their communities post disaster. HESTA shares the example of bush nurse manager Sue Carroll from Swifts Creek Bush Nursing Centre, who created a 24/7 integrated service to offer community health support including COVID testing, mental health support and bushfire packs, following the 2019 bushfires that swept her community. She created and managed the service in addition to running the day to day operations of the centre.

There is also Linda Price, who responded to observations about extreme behaviour in children following the Kinglake bushfires by revamping the centre's approach to learning, to help improve emotional and social outcomes for children. The kinder program saw significant improvements in children's language complexity,

collaboration, use of STEM, and mental health.

It is important to remember that preparing and responding to a disaster puts significant risk on sectors like healthcare and childcare, which are overwhelmingly dominated by women are sectors that continue to be significantly underpaid.

These sectors are also at the forefront of the recovery and rebuilding, supporting the resilience of communities as those impacted by the disaster work through the physical and emotional challenges that can continue for years.

As HESTA CEO Debby Blakey says on the members the superannuation fund represents, focused on nurses and community services workers), "our members are on the frontline of the climate

crisis."

She says it's nurses, early childhood educators and community services workers who manage the physical and mental health of Australians in the wake of natural disasters like flood and bushfires. "They often put their own health and safety at risk to do so," she says.

In responding to how climate change is uniquely impacting HESTA members across care sectors, Blakey says it is committed to using its influence as active owners of companies to take urgent action to achieve a timely, equitable and orderly transition to a low-carbon economy. **A**



DEBBY BLAKEY

How climate change impacts Early Childhood Education

The early childhood sector is vastly overrepresented by women, and workers are already underpaid and managing high workloads.

It's also a sector that communities depend on during times of crisis, enabling parents to keep working. For those parents and carers involved in the disaster recovery effort or other parts of the frontline, childcare is imperative.

But the additional loads that occur for educators as a result of climate change require much more investigation and, ultimately, more government support.

Indeed, we found that mental health support appeared to be lacking for a sector that ends up on the frontline of supporting kids and families who are recovering from disasters and in some cases traumatised by what they have experienced.

At Natural Elements Daycare in Pottsville, NSW – an area impacted by flooding in February 2022 – owner Sandy Rees-Burnett says her team is contending with burnout and trauma and shares the roll-on impact across the entire community.



A number of team members lost their houses during the floods and were in temporary houses for months. She describes ongoing distress, especially on days when it rains.

She says the mental load on team members has been particularly challenging in the year since the floods, but highlights that there has been little government support – despite initial positive signs. While the centre was told a government-provided psychologist would visit every six weeks, they had one visit (a woman Rees-Burnett says was incredible), but haven't had another since.

And she notes the trauma and impact on kids – as well as the difficulties parents face when they can't access early childhood education.

“It really does break the chain of everything because parents can't get to work, kids get thrown out of whack. Suddenly the centre that was there is no longer there, and they really feel it.”

“You know, you can always tell the kids that have distressed parents, because they too are stressed. You can see it, and it's devastating.”

“Some kids get stressed out when it rains. It's heartbreaking to see how they really get so scared.”

One year on from floods impacting Smiley Tots Daycare in Chinderah, NSW, Brooke O'Sullivan says her educators and their families are still dealing with trauma, burnout and overwhelm, as well as the continued cleanup.

O'Sullivan counts themselves “lucky” that their centre wasn't flooded inside, but it did sustain damage to its playground and other facilities that are yet to be fully restored.

They closed for a week and had educators and their families and other community members help in cleaning the centre up, hoping to get it back open as fast as possible because they knew how essential it was to provide that care during such a difficult time.

Her daycare also needed to take in a number of children from a centre that was flooded close by for what they thought would be “temporary care” over a few weeks. “Those kids just got ripped out and shoved in our centre,” she says. “We had existing parents who needed to give up the days they

had here for those other children – but then we also had families that lost everything. Families were getting helicoptered off their roofs in the middle of the night.

“I had families ringing me in tears trying to get care, and I just had to say no.”

O'Sullivan says her centre is also managing traumatised children. “When it would start raining again, we'd have children freaking out, especially those children that had to be rescued.”

“We were dealing with new children and all the emotion that goes with that. It really was full-on. Hearing the heartbreaking stories of parents – their tears, knowing that they had lost everything.”

She expressed concerns about not knowing the best way to respond to children showing signs of trauma.

While one psychologist did arrive to help, it was nine months after the floods. O'Sullivan also describes the resources that were sent through as being “pretty average”. They ended up working with one of the parents of the centre, who was a psychologist and could offer their own support.

Overall, O'Sullivan says that in 23 years in the industry, she's never seen so many educators struggling.

“It's so heartbreaking. Some of them don't even know what's wrong or weren't able to express how they were feeling, why they're feeling like it and it's hard too because it's already such a struggle to get staff anyway.”

A

FROM THE PACIFIC:

Minimising disaster risk in Vanuatu



ANIKA MOLESWORTH

Resilience Team Leader with CARE Vanuatu, Sandra Silas has seen for herself how women's livelihoods are severely affected by natural disasters. She's seen it occur amid cyclones, drought, flooding and ash fall, noting these disasters also increase women's vulnerability to violence.

Silas says that women's needs are not adequately addressed in each stage of disaster response, and that's why she is an advocate for women to be fairly represented in Community Disaster Climate Change Committees (CDCCC). Silas is also concerned that women with disabilities need their voices heard.

Silas says foundational leadership awareness training delivered by CARE has been critical to support women in communities in Vanuatu to become response leaders.

"Women that are members of Community Disaster Climate Change Committees are able to identify the needs of women in a natural disaster. Because of the training that we deliver, it empowers women to act and respond to early warning information that is given," Silas says.

"In any emergency when Vanuatu Meteorology issues a warning, we will start to receive phone calls from women committee members to inform them of the situation so that they can inform and mobilize the community with the committee chairperson and chiefs."

Silas says that many men are leaving Vanuatu to pursue work in Australia and New Zealand through labour schemes with those countries' governments. It's meant women have been left to step up and fill the gaps when it comes to leading community disaster responses.

"A clear example of a woman taking up a leadership role is a female CDCCC leader on Aneityum Island, who saw their action plan that we developed together as a way to minimise the risks of the different challenges they are facing," Silas explains.

"She worked hard and made sure that after every community meeting the Community Disaster Climate Change Committee (CDCCC) will also have a meeting. For every meeting she will take the minutes and keep a record. Now she is planning for the community to build a bridge that will connect two villages separated by a river. When the river floods, children cannot cross to attend school that's located in the village across the river.

"The last time we were at Aneityum Island they had already started working on the bridge. When we talk about women taking the lead in a community, this woman from Umej Village, Aneityum is a classic example of someone that's taken the lead in working towards mitigating natural disaster risk in their community. She has also gained the community chiefs and leaders' trust."



Women leading climate campaigning

+ activism

Women are severely underrepresented on the international stage when it comes to climate action, and had been underrepresented again in policy-making roles in Australia prior to the 2022 Federal election.

However, women are often at the helm of activism efforts locally and abroad.

It's a trend that perhaps speaks to the "frustration" women feel at the lack of action occurring at key decision making tables, a feeling shared by many independent candidates in the lead up to federal and state elections in Australia.

Diana Ryall, who made the decision to [stand for the Senate at the age of 75](#), cited that the need for

urgent climate action was key to her decision, alongside integrity, women's safety, and addressing education and healthcare.

Like Ryall running in the Senate, climate inaction in Australia spurred numerous women to run for office in 2022 across the upper and lower houses,

and again in state elections.

Federally, many were successful, and new records were achieved as women accounted for 38% of the House of Representatives, and 57% of the Senate. It was a shift that was seen as the biggest opportunity in a decade to change Australia's record on climate action.

Seven women ran successful independent campaigns, winning what were thought to be safe seats from the major parties. The term 'teal' was



coined to describe these independents, a word that at the end of 2022 was declared [Macquarie Dictionary's Word of the Year](#). "As an emblem of Australia's political landscape".

The so-called 'Teal' independents - including Dr Monique Ryan, Zoe Daniel, Dr Sophie Scamps,

Kylea Tink, Allegra Spender and Kate Chaney - had followed similar paths to victory as Zali Steggall, who first used the teal colour in her successful 2019 campaign where she ousted a former prime minister. Steggall promised to be a "climate leader" for her Sydney Northern Beaches based seat of Warringah.

Since being elected, the women on this crossbench have progressed the Labor government's climate bill, legislating a 43% reduction target by 2030. Interestingly, they also had the support of a Liberal MP, Bridget Archer - who became the sole opposition MP to cross the floor in support of the climate target in the House of Representatives.

Action on climate change requires an inter-governmental response and negotiation. But as we know, women have too often been excluded from these decision-making tables.

Women internationally have expressed their frustration at the lack of climate action, and are now looking to Australia's 2022 election response.

It's not just about running for office. Women also become activists in response to the lack of climate action. They take to the streets protesting and they join NFPs in voluntary positions to get heard and create action on climate. Women are pushing their employers to do more on climate change, and are engaging in ethical investing and sustainable superannuation funds.

But these activism trends also reveal, once again, the added load women carry with climate change.

Women so often need to enter this fight in alternate ways because they've been ignored at the traditional decision making tables for so long. They leave more lucrative paid jobs behind to take up causes with not for profits, and put in countless

hours into unpaid activities to support grassroots movements. Often, women dedicate their lives to such causes after experiencing the crisis firsthand. That was the case for Jo Dodds, who witnessed the decimation of her region following bushfires in 2018, which destroyed her home and community. The event led Dodds to realise that the most critical issue she could address was climate destruction.

She became President of Bushfire Survivors for Climate Action, campaigning for political action on the issue. Dodds knows how climate change impacts women, and shares her experience of seeing women more vulnerable to housing insecurity, more likely to lose jobs as a result of climate change, "and we're often the ones trying to keep family together during the hard times."

Dodds, who attended COP26 in Glasgow in 2021, also notes how women dominate in activism. "I go to climate conferences or zoom calls and it's predominantly women working in the climate action space. I'm sure many of us could earn a lot more money in other sectors but we're here, doing the big stuff, because it's so important."

Internationally, there are just 27 countries led by a female head of state, and gender-balanced Cabinets remain the newsworthy example, rather than the norm. It's telling that at the latest global talks on climate, COP27 in Egypt, just seven of the 111 people to speak on the main stage of the first two days [of the event were female](#). Sixty three per cent of all party delegates were men.

When women do lead countries from the top, there are enough examples to suggest a trend in taking strong national action on climate change. There is Finland's Prime Minister Sanna Marin who has set targets for Finland to be the "world's first climate neutral welfare society", and Mette Frederiksen, who is leading the highest ranked country on

the [Climate Action Index](#): Denmark. There is former New Zealand PM Jacinda Ardern who declared a “climate emergency” and established a comprehensive roadmap on decreasing emissions during her time in government. And there is Barbados Prime Minister Mia Mottley, who is a leading voice on developing nations that are vulnerable to climate change and also aims to phase out fossil fuels in her country by 2030.

It's fair to mention here also that under [Julia Gillard's leadership in 2011](#), Australia was seen as a climate leader globally, becoming one of the first countries to introduce a legislated carbon price (which was quickly repealed by Tony Abbott, when his coalition government was elected in 2013).

“...the results of the recent federal election show what's possible when women take the lead on climate action...”

Further, countries experience an 11.5% decrease in carbon emissions with just a one unit increase on the Women's Political Empowerment Index.

Women are also at the forefront of powerful coalitions fighting for climate action. Dr Janet Salisbury founded the Women's Climate Congress, a non-partisan group bringing conversations together and calling on a new approach to leadership on climate change that is collaborative, inclusive and sustainable. As Salisbury says, “the results of the recent federal election show what's possible when women take the lead on climate action. We have more women in power than ever before, which is an incredibly

positive step forward.” [She notes](#) how women have largely been absent from the negotiating table. “We need true diversity in decision making to break the deadlock and find new ways of moving forward.”

Women in Australia have uniquely demonstrated the value and opportunity in collaboration, with an excellent example emerging [from the Women's Climate Congress](#).

As Salisbury says, their Charter for Change – calling for gender-balanced, inclusive governance, with equal representation of women (including as co-chairs) in all forums of environmental decision-making, came about through the collaboration of hundreds of women. The Charter was received by eight women senators and MPs representing all parties, as well as independents, in the final sitting week of the 2022 parliamentary year.

Climate action is moving, thanks to women. But it's important to note the backlash, trolling and sexism women face in this work, as has been evident in the history of women environmentalists.

As Natalie Kyriacou [recently outlined for Women's Agenda](#), there are some key and stunning examples of women – including Murrawah Johnson, Serena Thompson and Monique Jeffs, leaders of the First Nations youth-led activist group, Youth Verdict – who are achieving remarkable success.

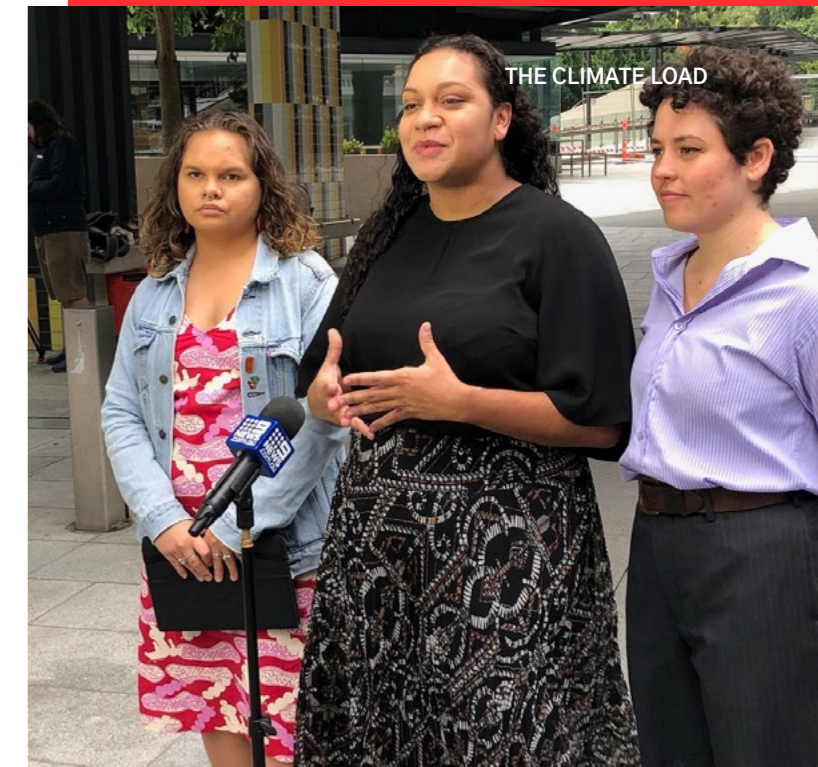
“For each of these incredible women, there are millions more that stand in the shadows of the environmental movement. We would do well to remember their names and their legacy.”

Women's leadership in business matters

Outside of politics and activism, women in business also make a significant impact on driving their organisations towards climate action.

Climate change was reported to be at the top of the agenda for Australia's most senior business women. Eighty per cent of Chief Executive Women members cited it as the most important priority for all people living in Australia in their 2022 ‘Meet the Moment’ survey and report.

Meanwhile, across the OECD, research [not only highlights](#) the link between women's participation in political decision making and more ambitious climate goals, but also how women on corporate boards prioritise environmental, social and governance issues – including climate and sustainability. Having one woman involved is not enough. The report highlights a tipping point of at least 30 per cent women in board seats as seeing companies initiating climate governance. [A](#)



Youth Verdict's First Nations Lead and Co-Director Murrawah Johnson said the group was “overjoyed” when a Queensland court ruled in November 2022 that Clive Palmer's proposed Waratah Coal Project would unjustifiably infringe upon human rights in a landmark climate change case.

“As a Wirldi woman, I am proud that this case was able to raise the bar for the respect given to First Nations knowledge and customs in the western courtroom. We are excited that we were able to use the Human Rights Act to advocate for changes to Land Court process based on cultural rights grounds.”



Power of women in the scientific and academic community

The network of women scientists and academics leading on climate and the environmental science is strong and powerful.

These scientists are often also heavily involved in activism, and in bringing an evolved human and emotional response to the subject.

Indeed, a March 2023 open letter from 100 scientists urging the government to halt new fossil fuel projects and expansions included a significant number of female signatories, including former Australian of the Year Dr

“...We are a hotspot for female scientists doing climate change research and science...”

Fiona Stanley, who declared it “reckless and irresponsible” to ignore the science of climate change, and the threat to human health and the future of fossil fuel expansion.

However, women are not being represented across key research documents, such as the UN Intergovernmental Panel on Climate Change (IPCC)’s major assessment reports. In a field dominated by men, Australian academic and author Dr Joëlle Gergis was a lead author on the IPCC’s Sixth Assessment report. She is also an example of a scientist who has brought emotion to the subject,

having since published a book sharing the case for “hope and optimism” from a climate scientist.

“You don’t have to be a climate scientist, you don’t have to even be a full-on climate activist or anything like that to make a difference in terms of being part of this critical mass that’s going to shift our cultural values around whether we’re okay with really seeing the destruction of the natural world and the stability of the climate system in our lifetime,” she recently told Women’s Agenda.

Dr Jessica Tout-Lyon, an early career researcher in Environmental Science at Charles Sturt University, says the community of women in research and academia is inspiring, supportive and has lifted her personal confidence and the next generation also.

“We’re a hotspot for female scientists doing climate change research and science,” she says. “It’s a really strong network. Undergraduate is the beginning because you’re exposed to all these inspirational women who teach you, the seed is planted from the beginning. And we’re supportive of one another. And everyone is passionate about their chosen field.”

Many such researchers have their own climate disaster experience, including Tout-Lyon, who shares having a baby during extreme weather events. “We’re just going to have to be more resilient around those disruptions, unfortunately,” she says. “Every aspect of those extreme weather events impacts people and women in particular.”



How women respond

To disasters

In Australia, and all over the world, women are stepping up to lead following disasters.

Over time, they are doing this more rapidly and regularly in line with the increased frequency and intensity of disasters.



SALLY FLANNERY

During the Lismore flood crisis in 2022, women took to social media to coordinate rescue and emergency efforts, including Sally Flannery, who had lost everything in the flood. She put a message out to her business Facebook page, sharing her experiences of not being able to contact the SES and asking if anyone else needed help, just as her phone died. **She recalled to Women's Agenda** that after being rescued and seeking shelter in a friend's house, she charged her phone to find 1000 comments on the post. "I felt like somehow it was my responsibility to help them. There was just no coordination happening."

Flannery then worked at collecting details, clearing

rescue requests, and later putting out a call on social media to bring volunteers together to clear and digitise the then paper based records. It was work that was vital to the rescue efforts across the northern rivers, and ultimately saved lives, with the group supporting more than 1000 rescues on the database, and then expanding into an animal rescue and boat liaison team.

Unfortunately, Australia - alongside the remaining G20 countries (which are responsible for 80 per cent of global carbon dioxide emissions) do not currently have a gender-responsive climate change policies. According to an October 2022 released report by the Women's Earth and Climate Action Network (WECAN), the world's largest economies fail to integrate gender into national climate policies and nationally determined contributions. Omissions that come despite the increasing understanding on how climate impacts women,

and the role women play as drivers of climate solutions, according to WECAN. They also find that when gender gets a mention it is "superficial and unactionable".

As Victoria McKenzie-McHarg, strategic director of Women's Environmental Leadership Australia (WELA) said on the release of these findings from WECAN, "The impact of climate change on women and girls in Australia has been completely missing from our national discussion and we need to take urgent steps to integrate a gender perspective into climate policy. As governments play catch up following a decade of climate inaction, they need to hold women's safety and security front of mind." **A**

FROM THE PACIFIC:

Activism in The Solomon Islands



CYNTHIA HOUNIUHI

Growing up in the Solomon Islands, Cynthia Houniui cherished the natural environment. It was a major part of her culture and identity -- she had to walk across the sea during low tide to get to her primary school which was on another small island.

Houniui now has a Bachelor of Laws from the University of the South Pacific, and is embarking on her Masters, specialising in environmental law and sustainable development. She is the President of Pacific Islands Students Fighting Climate Change, a group seeking an International Court of Justice Advisory Opinion (ICJAO) on the issue of climate change and human rights. The group says this would be a legal catalyst for greater action to protect current and future generations from the harms of climate change.

She says her passion for using the law to advocate on climate change through the ICJAO initiative, stems from being so closely connected to the natural world in the Solomon Islands.

"My passion for climate action came from growing up in the Islands. My parents are health workers and growing up they were often based in rural areas, so I grew up on a remote Island where I was always outdoors enjoying what nature has to offer," she says.

"To have something that you love and value and is part of your livelihood and identity being threatened by the

adverse effects of climate change moves you to act. Not for yourself but for your children as well."

When Houniui talks about climate change, she's concerned about the human rights of those living in the Pacific, especially women and girls who are disproportionately affected.

"We do not have the luxury to talk about climate change; for us it is a matter of our existence," she says. "For us in the Pacific when we talk about climate change, it is our human rights that are severely affected, for instance our right to food and clean water."

"Now some of our women must walk further inland, which is often not safe to get drinking water as sea level rise and saltwater intrusion causes problems."

Houniui says one of the benefits of the ICJAO initiative is that it will put human rights at the centre of climate change discussions at all levels of decision-making.

"The adverse effects of climate change are hitting us at a rate that is not proportionate to the rate we are seeing in terms of solution. It's why I truly believe the ICJAO initiative is the right tool to garner more ambitious climate action and complement the existing frameworks - shift the dial especially in terms of action."

The power of women's entrepreneurship and ideas

Innovation and entrepreneurship are essential tools for fighting climate change. Not only in determining great opportunities to take on new tech and businesses that can help, but also in inspiring the next generation on what's possible and creating more wealth among women that can be invested back into great businesses and ideas, and possibly into philanthropic ventures that support women and girls everywhere.

Unfortunately, women-led startups and businesses are getting nowhere close to the investment they need. This not only risks missing out on the best climate-related tech and solutions from one half of the population, but it also sees the entire ecosystem missing out on the benefits of women's leadership and wealth.

Just three per cent of VC funding went to **all-women founded startups** in Australia in 2022, according to the February 2023 released State of

Australian Startup Funding. And just 10 per cent of such funding went to startup teams with at least one woman in their co founding teams. A survey of founders for this same report found that one third of women don't feel supported by the startup ecosystem.

But other research reveals women may be pulling well above their weight on the climate tech space. Forty per cent of Australian Climate Tech innovators were found to have a female founder, according to the 2022 Climate Tech Industry Report, and 12% of businesses were entirely female founded. Climate Tech is considered a "triple win opportunity of climate change" according to Climate Salad, given it solves climate problems, develops research and innovation, and builds the economy and creates jobs.

There is huge opportunity ahead. Charlotte Connell, Ecosystem Director at Climate Salad and Climate Tech board advisor, says that \$1.4 billion in capital has been raised across 171 companies in climate tech - with half of that coming from overseas. This money has seen more than

CHARLOTTE CONNELL



4000 jobs already created. "We're incredibly proud of the fact that almost **40 per cent** of climate tech companies in Australia have a **female founder** compared to only 10 per cent of female founders globally. So that's great for the planet and also fantastic for the local economy and job growth."

And why are women getting involved? "Firstly, women are more adversely **affected by the impacts of climate change** which makes women uniquely positioned to innovate the solutions," Connell says. She highlights the examples of FloodMapp founder Juliette Murphy, who lived through the 2011 Brisbane floods and realised there had to be a better way to predict flood level rise. There is also generational farmer Olympia Yarger, founder of Goterra, who also saw first-hand a better way to provide drought-resistant feedstock. And she highlights Proud Kamilaroi woman and founder of **Xylo Systems, Camille Goldstone-Henry** who essentially digitised her childhood of observing nature through bushwalking, camping and surfing to better

track, manage and report on biodiversity impacts for conservation and **nature based solutions**.

"It's through adversity that we innovate and I can

think of no greater challenge than the climate crisis," says Connell. "Who better to solve the climate crisis than those who know the problem intimately? Women are. But we cannot solve this unless we are diverse."

"It's important that

"It's through adversity that we innovate and I can think of no greater challenge than the climate crisis..."

the leaders creating solutions to this crisis are from a diverse range of backgrounds. So that the solutions are equitable, diverse and inclusive! If there's only one demographic at the decision table, they're not creating solutions for everyone."

What can be done to get more female-led business and innovation known?

First, it helps to get behind the 'why' of these businesses - which is often about sustainability and a greater goal, rather than a "billion dollar idea."

As Christina Hobbs explains, on pitching to investors for her company, Verve Super: "We often hear that there's not a lot of big venture capital money for women in Australia."



CRISTINA HOBBS

CAMILLE GOLDSTONE-HENRY

However, my experience is that if you're pitching a promising potential billion dollar business that the dollar signs will override the gender bias of most VC investors," she says.

"The problem I see, and the one facing most women-led businesses in the sustainability space, is that we're not aiming to be billion dollar businesses. We're trying to achieve change through sustainable business models and our focus is often on the mission and change we are creating. So to me, the focus should shift away from VC, and instead focus on how to connect more women entrepreneurs with individual high net worth individuals who care about impact as well as profit, and often in that order of importance. A focus on how we get more investors into this space."

Hobbs adds that women are pursuing innovation, leadership and entrepreneurship to tackle climate action from all angles.

"Many, if not most, of the effective climate advocacy orgs in Australia are now run by women, we see new startups entering the market led by women every day in this space, we saw in the floods and bushfires that women were leading community led emergency response. Farmers for climate action, which is focused on the ag sector,

"Many, if not most, of the effective climate advocacy orgs in Australia are now run by women..."

is also run predominantly by women. While the media chooses to focus on billionaires Andrew Forrest and Mike Cannon Brookes, we see the organisations and startups led by women driving a lot of the grassroots and community level change that is so important." **A**



- Demonstrating the power of tapping into First Nations knowledge, the award-winning Queensland Indigenous Women's Network works to protect the Great Barrier Reef by combining 60,000 years of Indigenous knowledge with new technology to gather data on the reef that can then be used by the rangers to educate people on coral bleaching, and support coral sanctuaries and regrowth projects.

- Just 20% of Indigenous rangers in Queensland are women. But this Network has already trained more than 60 women since its launch in 2018, by sharing conservation knowledge and telling stories.

FROM THE PACIFIC:

Generating economic opportunities in Tonga



MELESILA WEILERT

A grandmother and community leader from Tonga, Melesila Weilert is at the forefront of responding to disaster crises in her village. As Chairwoman and Founder of the Ha'atafu Village Women's Group in her community, she's passionate about empowering women's development in the health and education sector and generating livelihood opportunities through agriculture and fisheries.

"Our mission is to make sure we grow with economic and environmental development," says Weilert.

The group of women engages in a number of community projects focused on sustainability and social change, and Weilert notes that while disaster crises such as tsunamis and hurricanes can often slow their progress, the community spirit remains.

"Even when we face these challenges, this doesn't mean there is no way we can look forward or continue on," says Weilert.

The first project the group did was thirteen years ago and today, there's collaboration among other women and groups all around the area. The women trade goods with other villages to build financial stability for themselves and the future generations. This trading also helps the women to pay for children's school fees.

Another project working to provide economically beneficial practices for the women includes planting crops in homes that the women can then sell, which is especially critical considering that very few women own land. Towards conservation efforts, there's an ongoing project called "recycle and reuse", where the women are

collecting plastic to be reused rather than allowing it to be burned in a way that has been negatively affecting the environment.

The group also promotes education of the Tongan language and art practices so that culture is preserved among the children.

When it comes to teaching the next generation, Weilert says "mothers are the first teachers."

"We are the mothers. We are the mothers of the world," says Weilert.

"The way I look at it is like this- being equal means women can have the chance to show men that we are here and we can do it," Weilert says, adding that a bird needs two balanced wings to fly- a metaphor for gender equality that she uses with the other women in the group.

Weilert's Ha'atafu Village Women's Group has been extremely effective and she believes this is largely due to the feeling of family among community members.

"I'm not doing this just for my [biological] family. In my mindset, my family is my village," says Weilert. "They are part of me and that's why I keep doing what I can."

We must acknowledge the added risks to gender equity, and use policy to address health and safety measures, and other initiatives to respond accordingly.



Women's representation and opportunity in the Green Economy

There are millions of opportunities ahead in the green transition. But none more so than the opportunity to significantly address skill shortages and address equity, by tapping into the potential of the full population.

1.35 million jobs in heavy industry decarbonising could be created between 2025 and 2050, according to the Australians Industries Transitions Initiative, which also suggests a pathway ahead to reducing industry emissions by 92 per cent by 2050 and help keep the goal of limiting warming to 1.5 degrees celsius alive.

As former CSIRO Chairman and Australian of the Year Simon McKeon AO said on these findings, "This is a moment of opportunity to align and focus efforts to create a globally competitive, equitable, net zero emissions industrial economy in Australia."

So what opportunities would such a scenario have for women?

Currently, we know that this is a workforce that is already dominated by men, at more than 60 per cent male. According to ABS Gender Indicators examining the full energy industry workforce, women comprise just 23.8 per cent, making it the third worst sector in terms of gender representation – after (the related industries) of mining at 17% female, and construction at 12.7%.

The AITI's report broke those jobs required for the future to include 64,000 in construction a year over the 2025 to 2050 period, given the heavy investment that would occur in key renewable energy infrastructure, as well as an additional 129,000 roles in operations and maintenance.

Currently, construction is one of the most male dominated sectors in Australia.

The AITI also highlights some of the key skills workers in these sectors would require, across solar, wind, hydrogen and storage – including engineering, design, construction, analysis and management.

They also found significant shortages in more than half (51 per cent) of the 85,000 roles that would be **required by 2030** – noting that meeting the talent shortage ahead will be "challenging". And it identifies a "key opportunity" in promoting "greater enrolment of women into key trade, engineering and management courses."

Women make up just 2.1 per cent of the electrician workforce, and 13.1 per cent of the engineering workforce, according to the 2021 Census. It shows that some of the occupations experiencing the lowest representation of women are experiencing the most critical national shortages of workers.

The Clean Energy Council's survey of the clean energy sector in 2021 found that women in Australia might be better represented in the clean energy workforce than the general energy workforce (at 39 per cent) and better than those internationally – where women make up 32 per cent of renewables globally. But people with a disability are severely underrepresented – making up just 3% of the workforce, compared with 18% of the general population.

As the **Clean Energy Council notes** in its report, energy is "an essential service" that ultimately services "all Australians and Australian communities". Its workforce should reflect its customer base, and as Diversity Council of Australia research shows, organisations that are inclusive are three times more effective, five times more likely to be innovative, and three times more likely to provide excellent customer service – than those organizations that are not.

As for the 1200+ women surveyed by the Clean Energy Councils already in renewables, more **than half (52%)** were found to have engineer and IT-related

qualifications.

The green transition marks a powerful opportunity to pursue diversity and gender equity in an industry at the forefront of the future.

Gina Zheng knows that there are challenges ahead for the renewables industry in terms of resources, so is passionate to support women as much

as possible.

She personally got involved as she wanted to dedicate her career to sustainability, and saw how she could make the most impact by working in renewables.

She believes there is untapped potential to engage young women who are already passionate about climate change and sustainability to see the options available for careers in renewable energy: one that is multi-disciplinary and requires talents beyond just STEM. There are plenty of opportunities for women with both STEM and non STEM backgrounds to get involved.

However, she notes some key concerns that continue, particularly around an entrenched perspective of gender norms and roles – that are not always that easy to see.

"Because the renewables industry is a few steps behind other industries in closing the gender gap, leadership in this industry is still highly male dominated (and also Anglo-Saxon dominated, mind you!)," she says.

"Culture comes from the top down, and until the leaders at the top are truly able to check their privilege, challenge their personal and professional boundaries and confabulations on the role of women in the workplace, real gender equality will

39% of the clean energy sector is made up of women

Engineering is experiencing a critical worker shortage, where just 13.1% of the sector is female

Women make up just 27% of the entire STEM workforce

not be achieved.”

Internationally, global leaders have signed on to a pledge for equal pay, leadership and opportunity for women in the clean energy sector by 2030 – signed by the Albanese Government in early 2023, led by Canada, and with 180 signatories worldwide.

Senator Jenny McAllister **said on the initiative** that, “we’re putting gender equity front and centre in Australia’s energy transformation.”

The pledge will see the Australian Women in Energy Roundtable established to support the work, and a soon to be launched hub for providing advice and companies on tapping into the full available talent for developing the low-carbon economy. Energy minister Chris Bowen said that **achieving Australia’s promised** 43% emissions reductions target by 2030 – and net zero by 2050 – requires “harnessing all available talent and advancing the participation of women in the clean energy transition”. He also noted an “urgent need for gender-responsive policies in Australia and around the world to support women in roles across the clean energy sector.”

Meanwhile, women are also taking on the additional load of fighting for more diversity across renewable energy and STEM.

Dr Morley Muse is one of the country’s leading environmental engineers and co-founder of iSTEM Co, which advocates for the importance of intersectional representation in STEM, and leverages the iSTEM Co platform to support more employment of women in STEM organisations, especially women of colour.

She says that so often it’s not that women lack the skills, but rather that employers lack the open mindedness to find ways to attract and retain women in STEM.



DR MORLEY MUSE

Research by Australia’s Chief Scientist shows that women with STEM qualifications experience 4.2 times the rate of unemployment than their male STEM-qualified counterparts. Dr Muse says the key issue for getting more women into STEM and also into renewable energy roles, is retention.

“We have these women with the qualifications and the skills, but for some reason we are not enabling them to contribute,” Muse says. “For us to effectively have the energy transition, we need to be able to train that younger generation to help fill those roles. But more importantly, we need to use the skills that we already have in Australia. We have to be open-minded, which means to make some desctructive and transformative changes.”

Dr Miao Li, meanwhile, is a senior lecturer at Charles Sturt University, and highlights the need to emphasise the value of women, especially in sharing big-picture passions that go beyond Australia.

“Women are very flexible and very creative. We think from a different perspective. We explore solutions across industries or academia not previously thought of. I strongly believe women are providing more than what we think we are doing.”

Conservation depends on First Nations people

Vikki Parsley is the Aboriginal Partnerships Officer for Bush Heritage, an independent not-for-profit that buys and manages land for conservation and works in partnerships with Aboriginal people and the agricultural sector.

Having grown up in a large Aboriginal family, Vikki holds a strong cultural identity for country, and throughout her career, has worked with many First Nations people to open up areas of support in conservation and heritage.

At Bush Heritage, Vikki works with staff and scientists to bring Aboriginal people onto the organisation’s reserves and include them in determining the cultural values of the landscape.

“Our people have been living in the landscape for thousands of years and have complex knowledge of the environment,” she says.

Listening to First Nations people is essential as Vikki explains that using western frameworks and science in collaboration with Indigenous knowledge systems only increases the potential for greater conservation impacts.

“In the past, [Indigenous people] were scientists in their own right,” says Vikki. “They were geologists, botanists and archaeologists and had that complex understanding of the geographical areas they worked in.”

“It makes common sense from a conservation point of view that we would engage with First Nations people to deepen the impact on conservation efforts that we are undertaking,” says Vikki.

Including Aboriginal women in these conservation efforts is particularly important as Vikki explains these women



VIKKI PARSLEY

hold specific environmental knowledge in areas like plant systems and medicines.

Within Aboriginal tribal and clan groups, Vikki says this kind of information would disseminate down through family groups and that this “started with the grandmothers, the aunties and then down the line.”

In the past, Aboriginal women and young girls who’ve largely taken on the work of unpaid caregiving roles have faced barriers to being included in ongoing conservation efforts.

However, Bush Heritage is working to ensure these women are included in conversations and supported to get on country and pass along traditional knowledge to their daughters and younger female family members.

“We’re often told that when we’re given law and knowledge that we become custodians of our country,” says Vikki.

“So by having Aboriginal women enable these practices to take place, it gives us the opportunity to get on country and have women take particular ownership in that role and cultural responsibility.”

“[These are] important knowledge transitions between the different generations,” says Vikki.

The urgent opportunity among school students



MIKAELA JADE

Mikaela Jade is the founder of Australia's first Indigenous Edu-tech company Indigital, on a mission to close the digital divide between Indigenous and non-Indigenous peoples,

A proud Cabrogal Woman from the Dharug-speaking Nations of Sydney in 2014, she's also an advocate for teaching STEM in schools.

She has concerns about access to STEM education across remote Australia particularly, where STEM classes are having to be taught by people from non-STEM backgrounds because there are no other options – with examples of this occurring within communities that are located where massive climate change projects are underway or planned for the future.

“Education is central to the green change and also an essential part of the economy,” she says.

Jade says the industry should do more to highlight the opportunities for kids – but also to educate adults about possibilities for the future, so they too can work to encourage kids.

“There is so much narrative of kids not knowing what they should be doing in their lives,” she says. “But actually it's adults who need to support to explain what's available to those kids – especially the opportunities that are there in their own backyard.”

Jade also notes the huge opportunities to get more women and girls into STEM, which will be vital for supporting the fast-growing renewable energy sector. But she's concerned that despite the investments and the narrative, barriers continue for inspiring girls and later keeping women in such roles.

“I quit computing in year nine because I was the only girls in my class. My daughter also quit in year nine because she was the only girls in the class,” she says.

Jade also sees a critical role for Indigenous women to be better involved in the space sector, examining various aspects of climate change including natural disaster management, and applying a cultural lens.

“The key to involving our women and girls in anything is being able to involve our culture. STEM is a western construct. It doesn't land culturally. Doing translation around what STEM actually means is really important.”

“Something frustrating for First Nations people is that we only allow one pathway – a western validation system – and there is no opportunity for our elders, who are the most incredible scientists I've ever met.”

What Next?

Disaster preparedness and response must include a gender-lens that prepares communities for the added impacts on women's health, safety and well-being

We must learn more about the added impacts of climate change on the care economy, starting with identifying the risks associated with disruptions to these frontline services. We must adequately resource care-related facilities, like childcare centres and schools, to support educators and workers to deal with the added mental load of managing trauma in children and families.

We must ensure that every employer incorporates climate-mitigating strategies into their occupational health and safety plans, including accounting for extreme heat and extreme weather days, and the consequent impact on staff.

We must consider the growing opportunities in renewable energy and the desperate need to get more women involved: taking a wholistic approach that not only gets women involved, but supports them to stay involved.

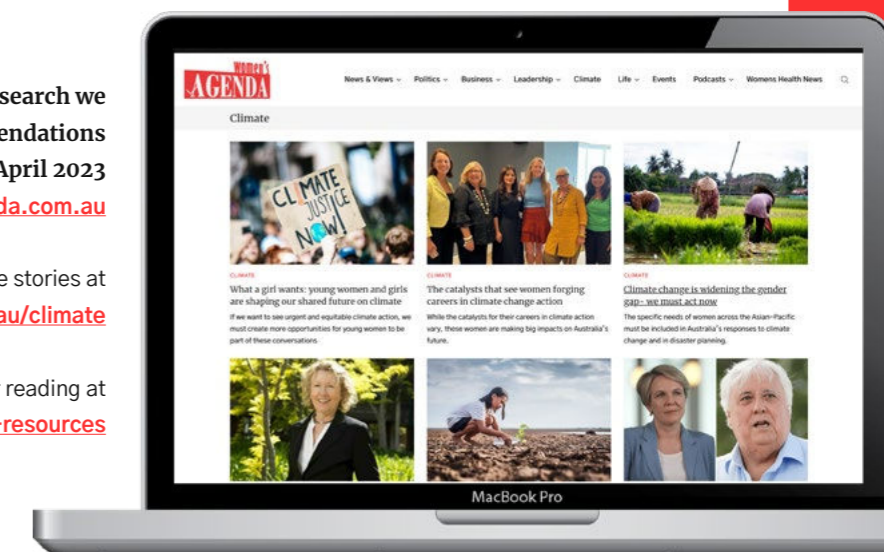
We must support and always advocate for girls' education internationally, and do more to support women and girls across the Pacific.

We must ease the tension and weight of the climate load on everyone.

Have your say on what climate research we should explore, and the final recommendations for this report, to be released in April 2023
contact@womensagenda.com.au

Read our latest climate stories at
womensagenda.com.au/climate

See the list of resources and further reading at
womensagenda.com.au/climate-load-resources





© Women's Agenda 2023.
All right reserved.

Designed by [Cecilia Blakeley Creative](#)