

Submission to the Inquiry into the Response of Western Australian Schools to Climate Change

Edith Cowan University Strategic Research Centre for People, Place and Planet; Nov 2021

The authors of this submission would like to acknowledge that it was penned on Noongar *Boodjar* in particular the *karlup* of the *Wardandi* and *Whadjuk* peoples. We honour and acknowledge the wisdom shared by First Nations people in the collation of this submission and highlight the importance of First Nations knowledges both here in Australia, and abroad, as key to us overcoming the global challenge of climate change. The authors pay our deepest respects to the *Wardandi* and *Whadjuk* Elders of the Noongar Nation, along with First Nation Elders and peoples across Western Australia and beyond, who have continually cared for this *Boodjar*, her land, water and skies, since millenia - *kura, yeye, boorda* - yesterday, today and tomorrow.

INTRODUCTION

This submission from Edith Cowan University Strategic Research Centre for People, Place and Planet (CPPP) was developed by two students and six academics engaged in teaching and research in the fields of education, environmental management, climate change and climate justice. The vision of the CPPP is to address and respond to global environmental change through theoretical, conceptual, and methodological innovation, and to build capacity to deliver transformational outcomes. The CPPP is informed by principles of Indigenous knowledge and involvement, ecosystem approaches, human ecology, and social justice, and our research builds evidence for changes to environmental practice and policy.

The submission includes an analysis of critical climate issues in the Western Australian (WA) education context, in particular the emergence and influence of *petro-pedagogy* in WA schools. It highlights alternatives for how the WA Department of Education (and State Government more broadly) can bravely respond to the climate crisis facing current and future generations. The submission introduces pedagogies of interconnectedness, building on the wisdom and knowledges of First Nations people, as an antidote to petro-pedagogy. ECU contributors to this submission include Bachelor of Social Work students Donna Jones and Georgia Beardman; and members of the CPPP - Dr Naomi Joy Godden; Prof Mindy Blaise; Prof Angus Morrison-Saunders; Dr Libby Jackson-Barrett; Dr Mehran Nejati; and Dr Mostafa Naser.

BACKGROUND AND CONTEXT

The United Nations Intergovernmental Panel on Climate Change (IPCC) demonstrate that local communities, WA, Australia and our world are in a Climate Emergency, with severe and significant impacts predicted for all people and the environment (IPCC, 2021). In the 2015 Paris Climate Agreement, every country including Australia committed to limiting global warming to well below 2°C, preferably to 1.5 °C, above pre-industrial levels by 2100 (United Nations, 2015). However, the United Nations Environment Programme (UNEP) (2020) calculates that current international targets to reduce carbon emissions are seriously inadequate, and Earth is on track for 2.9-3.4°C of warming by 2100. The impacts of climate change are most felt by those who are least responsible for the

crisis, and climate change exacerbates existing injustices and inequalities (Weeramanthri et al., 2020).

For many First Nations people, climate change and environmental degradation began with colonisation, which contributes to intergenerational trauma (see for example Gammage and Pascoe 2021); yet policy solutions rarely focus on this. Climate change is a significant issue for Aboriginal people due to their kinship relationship and cultural obligations with Country and pre-existing disadvantages in health, education, employment, poverty, and incarceration (Aboriginal Health Council of WA, 2019):

“... we’re talking about the loss and disconnection of our spiritual identity, our cultural beliefs and our values, which are essential requirements for our own lifeforce” (Ronda Clarke, cited in Weeramanthri et al., 2020, p. 7)

Furthermore, extensive evidence from the WA Government’s recent climate health public inquiry expressed significant concerns about the health impacts of climate change on children and young people, who have “high levels of concern and anxiety about climate change and what their future will look like” (Weeramanthri et al., 2020, p. 51). Many children and young people who are not directly affected by climate events express worry, fear, “ecoanxiety”, “solastalgia”, anger, frustration, depression, sadness, grief, anxiety, and feelings of powerlessness about the gradual and vicarious impacts of climate change on their lives in the future (Burke et al., 2018; Chiu & Ling, 2019).

A group of WA young climate activists recently co-authored a peer-reviewed article with ECU researchers examining the intersection of mental health, climate change, young people and climate activism in WA (Godden et al., in press). They highlighted the challenges of youth climate activism in a state that depends heavily on the fossil fuels industry, both economically and socially via sponsorship of cultural events such as the Chevron City2Surf. Young people expressed frustration that climate change education in schools, places disproportionate responsibility on the individual, omitting any education on collective actions that encourage critical analysis of the roles and responsibilities of governments and powerful organisations:

“When we learn about climate change in school, we’re taught about what we can do at an individual level. This is disheartening because it teaches us that it is our responsibility to resolve climate change, putting more on our shoulders. We also know this isn’t enough and it won’t fix things. Schools don’t teach us about different forms of climate action, such as collective action. The way climate change is taught also creates a hierarchy of action. The individual focus means that if young people don’t want to commit themselves to all these actions, they don’t want to be involved in climate activism.” (Godden et al., in press, p. 12)

WA young people are increasingly engaged in climate activism. Examples include School Strike 4 Climate, and *Sharma v Minister for the Environment* (2021 FCA 560). Political leaders are swift to criticise these school strikes and the Department of Education is renowned for issuing warnings to teachers and students who choose to participate; but they are missing the point. As the generation that will inherit the worst implications of climate inaction, children and young people are demanding systemic change. They are keenly aware that fossil fuel extraction is central to the WA economy and thus stifles ambitious climate policy. Indeed, in 2019-20, the resource sector contributed approximately \$52 billion directly into the WA economy and provided more than 65,170 full-time jobs across the state (Chamber of Minerals and Energy WA [CME], 2021c). This contrasts with the demands of young climate activists:

1. No new coal, oil and gas projects;
2. 100% renewable energy generations and exports by 2030; and
3. Fund a just transition and job creation for all fossil-fuel workers and their communities (School Strike 4 Climate Australia, 2021).

Furthermore, young people are becomingly increasingly aware that fossil fuel companies in WA have vast political and economic influence, and this influence is wide-reaching and evident all around the state: from the sponsorship of large community initiatives such as Woodside Nippers to the naming rights of key exhibitions at *Boola Bardip* (WA Museum). WA schools are not immune to this influence. With the growth in prevalence of classroom resources designed and sometimes delivered by fossil fuel companies, as well as fossil-fuel sponsored events, there is cause for significant concern that petro-pedagogy is obstructing WA schools from taking meaningful action to mitigate climate change.

BARRIERS THAT SCHOOLS ENCOUNTER IN UNDERTAKING CLIMATE ACTION

Petro-pedagogy in Western Australian schools

The term petro-pedagogy refers to “teaching practices and resources [that] work to centre, legitimize, and entrench a set of beliefs ... that align with the interests of oil industry actors” (Eaton & Day, 2020, para. 3). Curriculum material may be transparently pro-petroleum, or promote ‘neoliberal environmentalism’ that restricts “the imagination of possible climate solutions to individual acts of conservation that fail to challenge the structural growth of fossil fuel production” and thereby works to “insulate fossil fuel industries from criticism and dissuade young people from questioning or understanding the role of corporate power in the climate crisis” (Eaton & Day, 2020, para 1).

In WA, the extractive industries sector has promoted so called ‘environmental education’ material for decades, both in the form of teacher training opportunities and the provision of work-sheets and other didactic and simplistic activities for teachers to deploy in their classrooms. Such materials are pro-extractives, falling far short of the kinds of approaches advocated by environmental organisations. More specifically, petro-pedagogy is evident and ubiquitous across all WA school year levels currently, including professional development (AusEarthEd, 2021; Chamber of Minerals and Energy, 2021; Woodside Australian Science Project [WASP], n.d.). Teaching resources produced and/or sponsored by fossil fuel companies are readily available for use by teachers across all year groups. These resources are particularly available to teachers who want lessons for STEM subjects. They support teachers to design lesson plans for STEM that encourage an uncritical embrace of underlying STEM narratives that sustain unsustainable futures.

Below, we highlight a few examples of petro-pedagogy in current WA school curriculum. Reflecting the dominant socio-political culture in WA, these materials promote a neoliberal model of STEM teaching practices, and position fossil fuel companies as a positive contributor to WA culture and society. In this neoliberal model, the purpose of education and schooling is to produce human capital to uphold the corporate/capitalist society that we exist within (Tannock, 2020).

1. Woodside Year 3 incursion

Recently in a primary school in Perth, Woodside delivered an incursion to year three students to teach them how to ‘make a reservoir’ out of bread slices, vegemite and sprinkles. An information letter to parents (see image 2) states how the educational activity will provide students an opportunity to “become their own exploration company, trying to find the best spots to drill into the sandwich for oil (vegemite)”.

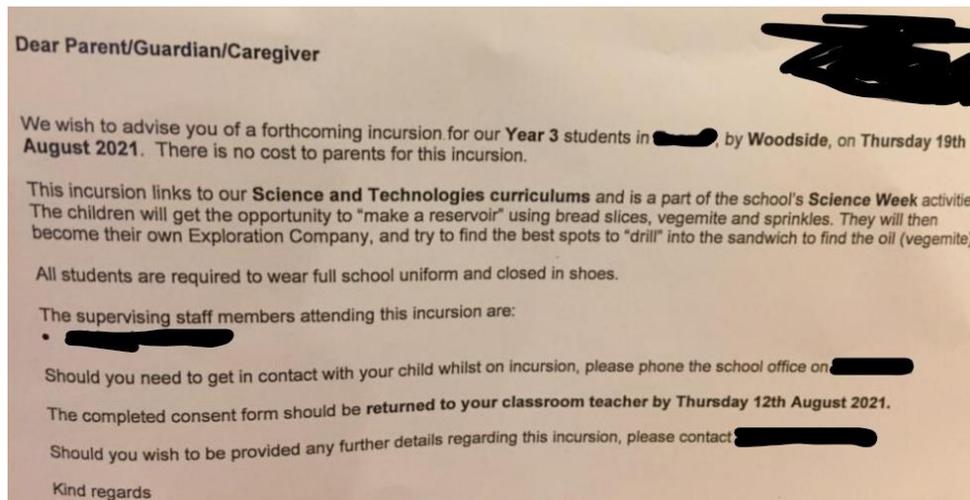


Image 2. Letter to parents of Jolimont Primary School, Year 3 students. (Source: Supplied by parent).

2. AusEarthEd

Australian Earth Science Education (AusEarthEd) is the branded name for Earth Science WA, a not-for-profit organisation funded by the fossil fuel industry, that produces and delivers an extensive collection of earth science modules which are used across both public and private schools in WA (<https://ausearthed.com.au/wa/>). These modules include teaching plans, videos, experiments, posters, etc, for all school years from kindy to year twelve. The organisation has published textbooks which cater to the Australian and Western Australian Curriculum for Earth and Environmental Science (year 11 and 12). AusEarthEd has provided education support for nearly 5,800 teachers, provided incursions to 45,000 students, and supported field funding for 122 schools (AusEarthEd, 2021). Platinum sponsors of this organisation include Chamber of Minerals & Energy of WA (CMEWA), Chevron Australia and Woodside Energy Ltd. AusEarthEd board members include representatives from Western Australia's major fossil fuel & mining companies, CMEWA, Department of Mines, Industry Regulation and Safety, WA School of Mines: Minerals, Energy and Chemical Engineering, and Science Teachers' Association of Western Australia (assisted to develop the Australian Curriculum).

The following are example modules linked to climate change by AusEarthEd including with its collaborative partner the Woodside Australia Science Project (WASP):

- A blog post providing information on climate action emphasises actions such as 'Meatless Mondays', washing clothes less often, and walking more (Filan, 2020). See <https://ausearthed.blogspot.com/2020/09/climate-change-action.html> The blog positions the individual as central to tackling climate change, ignoring the necessary systemic changes and opportunities for collective action by students. These tokenistic suggestions fall very short of the necessary actions to strongly reduce greenhouse gas emissions.
- The module on sustainability emphasises planting trees around an open cut mine (AusEarthEd, n.d.) See <https://ausearthed.com.au/wp-content/uploads/2020/10/Sustainability-Tree-Planting-Student-Worksheet.pdf>
- Teachers notes in a Year 10 climate change module encourages students to question whether research linking rising temperatures to carbon dioxide is valid (WASP, n.d.)

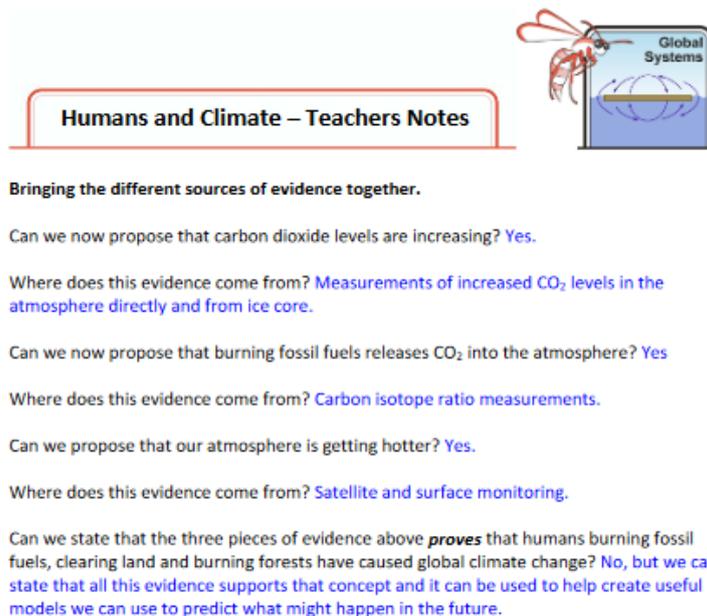


Image 3: AusEarthEd teachers notes, Humans and Climate. (Source: AusEarthEd).

- AusEarthEd’s Incursion with K-2s offers lessons in ‘sandpit mining’ and ‘rocks as resources’ (see image 4).

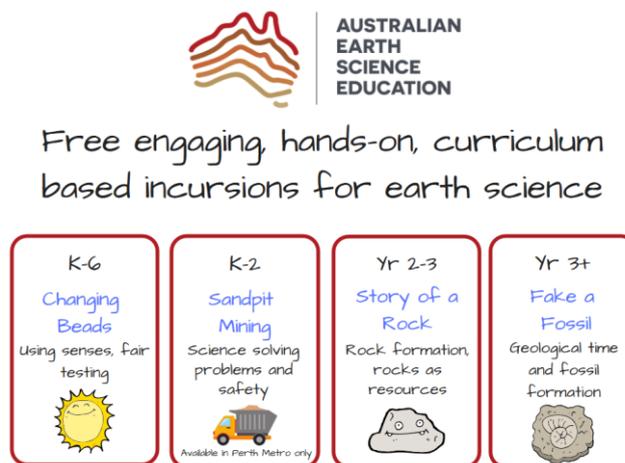


Image 4. Extract from AusEarthEd flyer (Source: [AusEarthEd](https://www.ausearthed.com.au/))

The AusEarthEd materials focus on individual rather than collective and systemic climate action. They do not centre the knowledges of First Nations people, support students to critique government policy or critically analyse the influence of large fossil fuel companies on climate change, climate policy, and society more broadly. Furthermore, the material does not address the contributions that large fossil fuel companies make to the climate crisis.

3. Earth Sciences WA

Earth Sciences WA (ESWA) currently provides incursions and lesson plans/kits to STEM teachers in WA and has engaged more than 10,000 WA students in their programs (ESWA 2019). Their website proudly states that their role is to “improve the quality of the talent pipeline for industry” showing

clearly how their involvement in schools is for the purpose of recruitment to an industry with uncertain future prospects.

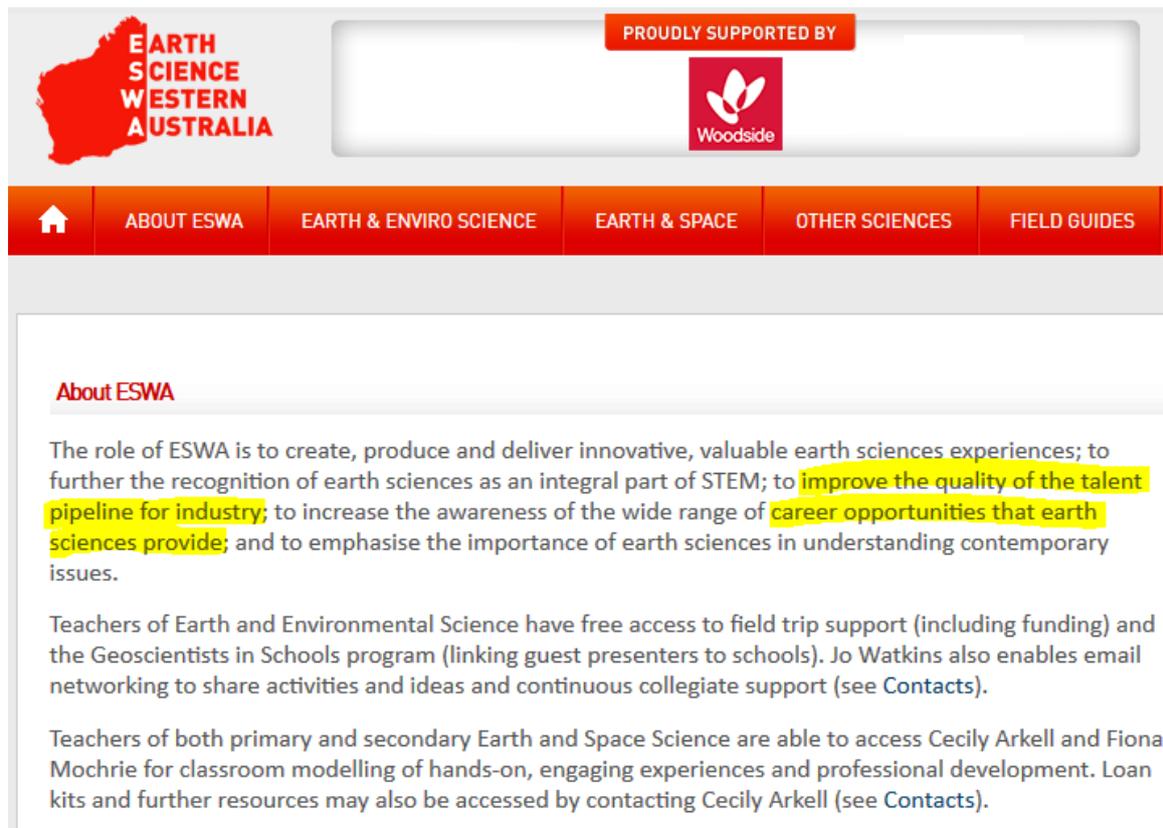


Image 5. About ESWA

Petro-pedagogy as a barrier to climate action

The examples shared in this submission highlight show how petro-pedagogy can be obstructive to climate action by blocking a *just and equitable* energy transition (Eaton & Day, 2020; Tannock, 2020). Public education is a key target for the WA oil and gas industry to secure and maintain control of resources, materials and general teaching practices that obstruct transitions to low-carbon economies. Pedagogical practices that minimise or downplay the role of fossil fuel companies in the climate crisis and distract students with fun experiments designed to get them excited about a career in the fossil fuel industry, work to restrict the imagination of possible climate solutions (Eaton & Day, 2018). While it is true that teachers no longer shy away from teaching about climate change in WA, they are encouraged and supported to adopt key industry narratives that entrench an understanding of individual consumption as the primary cause of environmental and climate problems (AusEarthEd, 2021; WASP, n.d.). This positions individual actions as the only feasible solution, at the expense of students learning how to critically analyse the role of structures and powerful fossil fuel corporations in the climate crisis. It also overlooks the benefits of a collective approach to action and omits the important role that First Nations knowledges can play in helping the world address this seemingly insurmountable challenge.

WHAT MORE CAN BE DONE TO SUPPORT SCHOOLS TO RESPOND TO CLIMATE CHANGE?

Invest in First Nations philosophies, practices and leadership

First Nations people in Western Australia have adapted to highly variable ecological changes and have lived sustainably on their Country for tens of thousands, if not hundreds of thousands of years (Robertson & Barrow, 2020). Non-Aboriginal Australians have much to learn from Aboriginal cultures

about sustainable land use practices, mitigating the worst of the climate change impacts and adapting to living through climate change (Nursey-Bray et al., 2019; Race et al., 2016). We note that Aboriginal and Torres Strait Islander cultures are included in the national curriculum as a cross-curriculum priority, as is sustainability; both of which are optional. Integrating cultural knowledges and climate action can be beneficial to both teachers and students. Some schools, including Baldyvis Primary School (see below), already have cultural and environmental programs in partnership with local Aboriginal organisations. We argue that integrated initiatives embedded into the curriculum across the state would demonstrate to children and young people that political leaders are listening to what they say is important.

Work in this space could build on successful initiatives such as Caring for Country Ranger programs and school-based programs, such as the Baldyvis Children's Forest (see below). In addition, curriculum must infuse Aboriginal knowledge structures that lie outside of Western academic and intellectual paradigms into the discourses to co-design research agendas, research methodologies and research translation. Critically, this work must also occur within Elder- and community-led frameworks that protect the cultural and intellectual property of Aboriginal peoples (Godden et al., in press).

A WA example of First Nations-informed curricula for ecological care and justice is **The Baldyvis Children's Forest – Baldyvis Primary School** (Department of Education, 2010). This project began in 2000 after children from Baldyvis Primary School became concerned about the extensive clearing of bushland and wildlife habitats caused by urban spread and development. Today, it is a 19.79 hectare reserve, managed by children, community members, and local councils, with links to the Kulbardi Aboriginal Centre. In an effort to teach students about traditional cultural practices and their links to sustaining the natural environment, workshops are held in the Baldyvis Children's Forest for many schools local to the area.



Image 6. Child's drawing (Source: www.kidsteachingkids.com.au)

Re-imagine education for future survival

The recent twin disasters of catastrophic bushfires and the COVID-19 outbreak have forced public debate about our guardianship of the planet, as well as a long overdue discussion about the relationship between Western science and Indigenous knowledge systems. Simultaneous to this, Australia saw its biggest transformation in education in decades, with schools across the country radically transforming the way they delivered education (Forrest, 2021). This shift was made possible through the mobilisation of normally latent material conditions, namely significant investment of public funds and time into the education system for the specific purpose of supporting schools and teachers through the COVID-19 shutdowns in Term 2, 2020 (Education and Health Standing Committee, 2020). Seeing what is possible has created space for further conversation about how schools can avoid the temptation to 'return to normal'. With an unprecedented opportunity now to collaborate with First Nations Elders, as well as thought leaders in education from around the world,

WA could be at the forefront of a reimagined style of education, underpinned by interconnectedness and centred around addressing the greatest challenge of our time: climate change.

We suggest that climate change education in schools should address the social issues that intersect with the scientific and environmental issues of climate change. It must also move away from the false dichotomy that our planet's sustainability is somehow separate from our own and instead move towards acknowledging that human and planetary sustainability are one and the same (Common Worlds Research Collective, 2020; Stevenson et al., 2017). International research demonstrates that in the future of climate change education, core competencies need to be adjusted and expanded to include ecological intelligence, interconnectedness and systems thinking if schools are to play their part in solving climate change (Lehtonen et al., 2018; Glasser & Hirsh, 2016; Wolff 2011). Supporting students to understand that humans are inseparable from the ecosystems that we are actively destroying is not only responsible, but vital to developing these core competencies (Common Worlds Research Collective, 2020). In an upcoming paper commissioned for the UNESCO Futures of Education report (forthcoming November, 2021), scholars from ECU and other parts of the world proposed seven visionary declarations for education in 2050, three of which include:

- By 2050, we have recognized that we live and learn in a world. Our pedagogies no longer position the world 'out-there' as the object we are learning about. Learning to become with the world is a situated practice and a more-than-human pedagogical collaboration.
- By 2050, the goal of education for future survival has led us to prioritise an ethics of collective recuperation on this damaged Earth.
- By 2050, we have fully acknowledged that humans are embedded within ecosystems and that we are ecological, not just social, beings. We have dissolved the boundaries between the 'natural' and 'social' sciences, and all curricula and pedagogies are now firmly grounded in an ecological consciousness.

Furthermore, there is a need to redefine the purpose of education - it currently places emphasis on the values of individual success, national competition and economic development to the detriment of solidarity, understanding our interdependencies, and caring for each other and the planet.

Leverage the existing WA K-12 Values and the Alice Springs (Mparntwe) Education Declaration to improve climate action and climate change education

The Alice Springs (Mparntwe) Education Declaration (Ministerial Council on Education, Employment, Training and Youth Affairs [MCEETYA], 2020) was released in 2020. The Declaration states that students in Australia, through their education, should be supported to:

- embrace opportunities, make informed decisions about their own lives and accept responsibility for their own actions (p 6)
- show initiative, use their creative abilities and are enterprising (p 6)
- have a sense of optimism about their lives and the future (p 6)
- understand their responsibilities as global citizens and know how to affect positive change (p 6)
- are able to make sense of their world and think about how things have become the way they are (p 7)
- have empathy for the circumstances of others and work for the common good, in particular sustaining and improving natural and social environments (p 8)

Similarly, the WA Values of Schooling articulate those values that all WA students should leave school with, including: Respect and concern for others and their rights; Pursuit of knowledge; Social and civic responsibility; and, Environmental responsibility.

WA schools have an opportunity to leverage off these state and national strategic directives by improving climate action, including supporting youth led climate action, in accordance with the above cited goals of the Declaration (MCEETYA, 2020) and the WA K-12 Values.

BRAVE LEADERSHIP – FACILITATING AN INTERCONNECTED FUTURE FOR WA SCHOOLS

Education is an important avenue for action if WA hopes to achieve meaningful climate change mitigation and adaptation. WA young people are aware of the need for climate action, and are becoming increasingly disenfranchised with traditional politics, while picking up the mantle of activism themselves. They understand the influence and power of fossil fuel companies. Such companies are writing to the Australian Curriculum, Assessment and Reporting Authority (ACARA) claiming that a lack of emphasis on STEM is leading to their employee shortages (CME, 2021d); meanwhile, their target employees explain that an organisation’s sustainability policies and values as important as pay rates (Foundations for Tomorrow, 2021).

The mining sector is entrenched in WA’s economy, and during the COVID-19 pandemic the sector has been viewed as an economic saviour in WA and federally. However, allowing fossil fuel companies to influence what is taught to WA school children is morally and ethically wrong. Petro-pedagogy in WA schools and curriculum directly contradicts the WA Government’s stated aims to achieve net zero emissions by 2050. It insidiously attempts to strengthen the social licence of the fossil fuel industry in WA through the education of children. However, petro-pedagogy is failing to convince many children and young people to embrace a neoliberalist, capitalist, colonialist agenda. Young people have articulated what they want: acknowledgment that politicians are listening; and meaningful climate action, not just promises (Australian Institute for Disaster Resilience [AIDR], 2020; Foundations for Tomorrow, 2021). Young people are also cognisant of the importance of Aboriginal and Torres Strait Islander knowledges regarding the protection of Country, and they are eager to learn what WA’s Original Custodians are willing to share as we collectively navigate the climate crisis (Foundations for Tomorrow, 2021; AIDR, 2020). As it works towards decarbonisation, the WA Government has an opportunity to shift from petro-pedagogy to a pedagogy of interconnectedness, solidarity, and ecojustice.

RECOMMENDATIONS

Drawing from the evidence and discussion in this submission, we propose the following recommendations:

1. That the WA Government partner with First Nations leaders and educators to co-design curriculum that acknowledges the scope of the climate crisis by centring the core competencies of ecological intelligence, interconnectedness and systems thinking.
2. That the WA Government acknowledges the scope and influence of fossil fuel companies in WA schools.
3. That the Department of Education decouple itself from fossil fuel funding, sponsorship and education material design and involvement.
4. That the WA Government and Department of Education cease condemning collective action taken by school students regarding the climate crisis and instead leverage the passion and drive of students to expand its curriculum to include collective action as an important component of addressing climate change and its negative impacts on health and wellbeing.
5. That the Department of Education commit to a target of Net Zero Emissions by 2030 across all schools and administration facilities.

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