

## Comments About the Bill

Ember welcomes the opportunity to provide a submission on the Climate Change Bill 2022 and the Climate Change (Consequential Amendments) Bill 2022. We are encouraged by the level of ambition of the Australian government, as well as the acceptance of the urgency of climate change both domestically and internationally. .

### **Scope (delineation) of these submissions:**

Ember makes these submissions from the perspective of our research on coal mine methane (“CMM”) in Australian coal mines. We have attached our recent report titled, Tackling Australia’s Coal Mine Methane Problem. Many of these comments are likely to apply to other types of anthropogenic methane emissions, such as those coming from oil and gas facilities, landfills and agricultural processes. Nevertheless, these fall outside our area of expertise.

### **Comments to the Bill:**

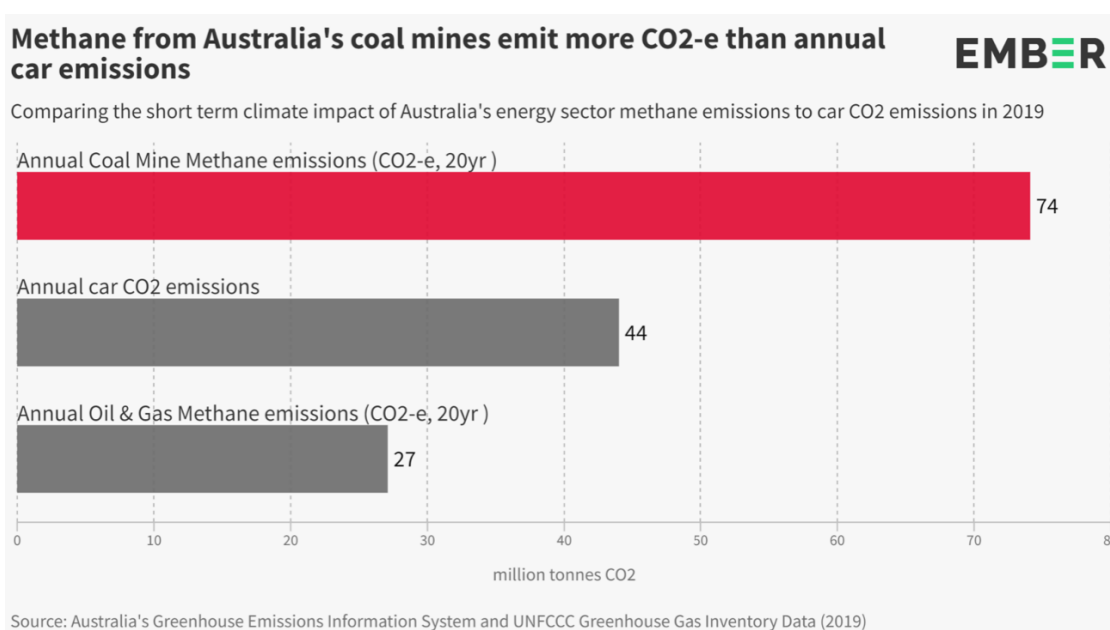
The Climate Change Bill 2022 and the Climate Change (Consequential Amendments) Bill 2022 provides an ambitious legal framework for Australia to reduce its emissions, making them compatible with the goal of keeping global temperature rise of under 2 degrees Celsius this century. These build on Australia’s recently updated Nationally Determined Contribution (NDC) which declared Australia’s ambition to achieve net zero emissions by 2050, and by 2030 reduce its emissions by 43% when compared to 2005.

However Australia’s targets and ambition will need to increase significantly to put the country firmly on track to support the 1.5 degrees goal in the Paris Agreement, including stronger interim targets and action to address methane emissions.

Methane is the second biggest contributor to human caused climate change after Carbon Dioxide (CO<sub>2</sub>). [According to the IPCC](#), methane emissions have already led a 0.5 degree rise in average global temperatures since 1900. It is also a fast-acting greenhouse gas, which is 82.5 times more powerful than carbon dioxide over 20 years, making the task of reducing methane levels a critical task in the short term. Ember believes that without managing its methane emissions, it would be very difficult or impossible for Australia to achieve the ambitions of the Climate Change Bill.

### **Coal Mine Methane (CMM):**

CMM dominates Australia’s methane emissions from the energy sector. Our analysis indicates that Australia’s coal mines released 68% of Australia’s methane emissions from the energy industry overall in 2019, releasing nearly three times more emissions than those from Oil and Gas facilities combined. Over a 20 year horizon, the climate impacts of these emissions would be substantially higher than all of the automobile emissions in Australia that year.



As mentioned in the Report (Appendix A), these figures are likely underestimated, and Australian coal mine methane emissions could be double what is officially reported, according to the International Energy Agency. Some mines have shown to leak more than 10 times the amount reported to regulators.

The Climate Change Bill is likely too high level to deal directly with coal mine methane. Our key policymaker summaries regarding coal mine methane can be found in Appendix B.

Below are our points that we think should be included in the Climate Change Bill:

**Commitment to join the Global Methane Pledge:**

The Global [Methane Pledge](#) aims to inspire global action to reduce methane emissions by at least 30 percent by 2030. It was launched at COP26 last year, and has now been signed by 121 countries, including the European Union, South Korea, Japan and the USA.

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Currently, Australia is the world's 6th largest coal mine methane emitter, and on track to become the 3rd worst if existing mine proposals go ahead. This makes Australia the most important developed country yet to join the Global Methane pledge.

The International Energy Agency's Net Zero by 2050 optimal decarbonisation pathway includes a reduction in coal mine methane emissions of 75% by 2030.

### **Risk of Australia not meeting its emissions targets due to coal mine methane**

Our analysis suggests that Australia's 43% emission reduction targets would become implausible without acting on its coal mine methane emissions. When currently underestimated methane emissions are properly accounted for, it means that Australia faces a greater emissions reduction task than currently contemplated. Any future coal mine development would only add to this extra emissions reduction task. If developed, currently approved mines alone could double Queensland's and NSW's Scope 1 & 2 emissions alone.

### **Improve Australia's methane inventory:**

Action on climate change is impossible without the right data. The most recent estimate from the International Energy Agency, is that coal mine methane emissions are [twice as high](#) as what is being officially recorded. The challenges of monitoring, reporting and verifying emissions according to the IPCC's best practice recommendations are not unique to Australia, but a failure to improve in this regard could have significant implications for Australia's current and future greenhouse gas emissions levels.

Regardless of whether Australia signs the Methane Pledge, we believe that it can and must commit to the highest standards of methane measurement, reporting and verification. This includes proper direct measurement for open cut coal mines in place of using default emissions factors.

### **Consider using methane's 20 year emissions factor as part of Australia's climate strategy**

When UNFCCC reporting systems were designed in the 1990s, climate change was seen as an important, but long-term issue and therefore methane was compared to CO<sub>2</sub> on the basis of their impact over a 100 year period.

Methane's short-term climate change impact is far larger than CO<sub>2</sub>, but it also has a shorter atmospheric lifetime. The [IPCC estimates](#) (Table 7.15) that over 100 years, methane's global warming potential (gwp) is 29.8 times greater than of CO<sub>2</sub>, but over 20 years, this figure rises to 82.5.

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Historically, NDCs submitted to the UNFCCC are calculated on the basis of the 100 year emissions factor and we don't suggest changing this, as this methodology is now well entrenched. Nevertheless, it makes sense to use the higher figure as part of developing Australia's domestic climate strategy.