

The Elephant in the Room

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The effects of global warming are no longer just a scientific prediction. They are a fact of everyday life.

In the past year alone, Australia has suffered through shocker climate-related events: wild fires in Tasmania, unprecedented heat waves across the continent, 100-year floods in Queensland, and violent storms wreaking damage and taking out power across the southeast.

If you are younger than 40 – and about 2/3 of the world's population is – every single year of your life global temperatures have been “above average” by last century's standards. No wonder students are striking!

Tonight I *could* talk about climate pledges made to the UN, whether they are being kept and who is buying carbon credits from whom. But I'm not going to. The climate does not respond to UN negotiations. It takes no note whatsoever.

What the climate *does* respond to is the amount of greenhouse gases in the atmosphere. The most important of these is carbon dioxide.

We've known for decades that the release of carbon dioxide from human fossil fuel use is the main cause of the global warming that is changing our Earth's climate.

Yet carbon dioxide in the atmosphere continues to increase year after year. In fact, the *rate* at which it is increasing *is itself increasing*.

We are accelerating toward disaster. This *is* an emergency.

The budget that we're not hearing about – even in this so-called climate election – is the carbon budget set by the laws of physics and chemistry to hold global warming to the safer side of 2 degrees.

That budget is not measured dollars, but in tonnes of carbon, and it is a budget for all greenhouse gases emitted by humans since the Industrial Revolution.

Here are the assumptions I am going to make tonight. You can judge whether they sound reasonable to you.

- First, I don't want warming to go above 2 degrees, period.
- Second, I'd like us to take action that leads to at least a 2/3 chance of meeting that goal.
- Third, I'm not going to assume that some new technology, deployed on massive, unprecedented scales might save us in the next decade or so by sucking more carbon down out of the atmosphere than we are putting up.

With those assumptions, in order to hold warming to 2 degrees, the budget we must not exceed is 1000 billion tonnes of carbon – give or take.

But the amount we have left to “spend” is less, for three reasons.

First, humans have already emitted 585 billion tonnes of carbon over the course of history up until the end of last year. That must be subtracted off to see what's left.

Second, other greenhouse gases, like methane and nitrous oxide also cause warming, so we have to account for their effects. That's another 210 billion tonnes of carbon we can't spend.

Finally, the budget must be reduced by 110 billion tonnes more, because warming increases the release of land carbon to the atmosphere through wildfires and melting of permafrost, effects the IPCC reports have not taken into account.

After doing the sums, humanity has only 95 billion of the original 1000 billion tonnes left to spend on carbon dioxide emissions.

To put that in perspective, globally we emit 10 billion tonnes of carbon *every year*.

That means that in less than 10 years, without dramatic action, humanity will have spent all of its remaining 2-degree budget.

At that point, the chances of holding warming to 2 degrees will drop below 2/3, and we might as well flip a coin to estimate whether the climate will exceed boundaries maintained for over a million years.

Now let's put that in an Australian context.

Different opinions have been expressed about how much Australia can or should be allowed to emit, based on history, on our industrial base, international trade, or on ethics.

Nature is blind to these distinctions.

So I'm going to describe a very simple concept, just to give us some perspective.

Let's divide up that remaining 95 billion tonne budget evenly across the world's population.

With 0.33% of the world's population, that would give Australia a remaining so-called "fair share" budget of 310 million (million, not billion) tonnes of carbon going forward to "spend" on the release of carbon dioxide from intensive industries and fossil fuels.

Sound like a goodly amount?

Well, using recent numbers from the National Greenhouse Gas Inventory, Australia would use up that "fair share" carbon budget in just three years.¹

Three years. Now *there's* something that fits into an election cycle.

After that, we'd be dipping into someone else's pockets by spending their "fair share" of the global carbon budget, a budget that they are counting on to manage their own transition to net zero emissions.

I've chosen not to talk about electric cars, or land use, or managing waste, even though all of these issues are important.

Instead I've used my time to describe why, from a scientific point of view, the single most critical climate issue in this election is the elephant in the room.

¹ The numbers here are tonnes of carbon in a carbon budget. Not carbon dioxide, which weighs more than the carbon it contains, or carbon dioxide equivalent, which counts greenhouse gases that have already been subtracted off. Australia emits 380 million tonnes of carbon dioxide per year, which contains about 105 million tonnes of carbon.

You know the elephant I mean. The elephant that is trying desperately to remain invisible and not leave footprints on policy papers.

That rogue elephant of new or expanded fossil fuel extraction and infrastructure operations in Australia.

Since all pathways that yield a reasonable chance of holding warming to 2-degrees involve *cutting* emissions from fossil fuels dramatically in the next ten years, it is nonsensical to instead *expand* fossil fuel facilities.

I'll just conclude by saying that we *are* in the midst of a climate emergency, one that is disproportionately affecting the young, the poor, and the vulnerable.

In emergencies, good leaders take considered, immediate and dramatic action on the biggest source of threat. They acknowledge, and act, on the elephant in the room. Those are the leaders Australia needs.

Thank you.