

The Secretary
Senate Select Committee on Climate Policy
PO Box 6100
Parliament House
CANBERRA
ACT 2600

Dear Secretary and Committee:

The Rudd Governments targets are grossly ineffective, and immoral. I wish to explain why I am clear this is so, and suggest and request actions consistent with the need.

I am a scientist who worked for years at the Joint Institute for Laboratory Astrophysics adjacent to the National Center for Atmospheric Research in Boulder Colo. Therefore in the 70's I became sensitized to the seriousness of even a 1 deg of global warming.

We now face a climate emergency.

You can gain clear insight into this as follows: The arctic sea ice is melting 50 years earlier than equilibrium projections because of nonlinear feedback effects. Some scientists expect ice free arctic by 2012 or soon thereafter. Whether it is ice free in 2012, or 2025 due to variable effects does not change the outcome or the emergency. Ice reflects near 90% of light while open ocean absorbs over 90%. This albedo amplification will warm the arctic regions even faster. Greenland and Siberia, rather than effectively being at the center of a frozen continent, now have and will increasingly have coastal influence from a warming ocean. Greenland is melting far faster than expected due to water tunneling through the ice and lubricating the glaciers. Greenland contains enough ice to raise the oceans by 7 m. Tundra is thawing and methane is bubbling out. There is nearly 2 2000 b tons of C in the tundra versus 750 b tons now in the atmosphere and 385 b tons released by humans since the industrial revolution. We don't want 2 trillion more tons of C in the atmosphere in the form of methane, a green house gas 20 times more potent than CO2! If you take an ice block or a tundra ice-cream out of the fridge and it starts to melt, it will keep melting unless you put it back in the fridge. This should be enough to frighten you into emergency action. Climate scientists use not only intuition, but careful quantitative analysis, taking all known factors into account. They are becoming increasingly alarmed, and so should you.

There are more tipping points in the arctic. Fresh melt water will slow down and stop the Gulfstream conveyer. There is too much greenhouse forcing for this to cool Europe for long, but it will change the composition of the deep ocean. Most of the past mass extinctions have been associated with increased greenhouse gases, global warming, shifts in the ocean currents that have made the oceans arid, and resulted in massive blooms of bacteria releasing H₂S toxic to marine and land life. The difference is we are contributing the greenhouse gases instead of some natural process; we are doing it fast; we are here now and weren't before; and it doesn't need to happen now.

An emergency with catastrophic consequences requires emergency action. That is a change from business as usual to 100% priority to deal with the emergency with the only caveat being to keep safe and keep our response systems functioning. Failure is not an option.

Australia agreed amongst 165 nations to act to prevent dangerous climate change. Australia has been a shameful leader amongst other nations in failing to keep that commitment - dangerous climate change is occurring. Policy makers decided that 2 deg of warming would be dangerous in the special sense of having significant probability of crossing tipping points leading to uncontrollable consequences. The climate models of a decade ago indicated this would require limiting CO2 to 450ppm. However the science and the facts on the ground have moved on. We no longer need to set ourselves arbitrary targets of relative convenience and then call it too challenging. We have crossed tipping points already. Melting of the arctic, with associated albedo, methane and ocean current amplifications is already happening. Climate change effects lag 30 years behind the greenhouse gas surge for the same reason it takes a pot of water to warm after the stove is turned on. The climate change we experience now is due to gases release prior to the 80's. The effects of all the CO2 released since 1980, equaling all that released prior in the industrial revolution, is coming to us just as surely in the next years. The earth is a very big pot of water, rocks, ice and living things and it will take millennia for the present deposit of extra heat to work its way through the system, even if we didn't cross a tipping point.

We need to put the ice block back in the fridge! To make the earth safe we need to refreeze the arctic. This requires taking atmospheric concentrations of CO2 back to the level which set the arctic towards melting; levels that existed well before melting became clear in the 70's; levels of 350ppm maximum, perhaps less than 300ppm. We are currently at 385ppm so to make the earth safe we have to not only stop emitting CO2, but get it out of the atmosphere. All climate scientists can really say at this point is we may be able to get back to safe ground if we do so fast enough, meaning on an emergency basis. It is increasingly clear we have only two choices. Make the earth safe or take a ride towards extinction of most species, most humans, and our civilization. The Rudd Government has chose the second outcome. They are happy to make a \$ and sacrifice the earth, rather than a new, more exciting and meaningful process of making a \$ and saving the earth.

This is immoral for the obvious reason that it victimizes billions of people who are not causing it, our own children and grand children, as well as future generations. If our home were on fire with our children in it we would drop everything to deal with the emergency. We have put our home on fire with our children in it, and we can evaluate our level of immorality by noting the disconnection in our response. Australia has released more greenhouse gases to the global commons than its fair share. Morally Australia should retrieve those greenhouse gasses. We can afford to do it.

What is an appropriate response that could refreeze the arctic?

Target zero emissions by 2050. We may not make it but the target may get us close enough help make the planet safe.

Target 50% by 2020. We can do it. Easily 50% of our energy use goes to inefficiency or to wants rather than needs, and if we don't make the target we will be better off for the effort.

Build no more coal power plants (unless CCS is installed and proven).

Phase out coal mining as fast as miners can be retrained.

Aggressively cut methane and other shorter term but powerful greenhouse gases. This will have a powerful immediate effect towards slowing warming

because of the short atmospheric residence time
Stop all deforestation and inimical land use practice

Our mission is to become a C capture economy rather than a C burning economy, and everyone can be employed, indeed is needed, and every \$ can be spent on this, indeed is needed. Every \$ spent in our present system produces close to 1 kg CO₂e of greenhouse gases. The only way to avoid this is to spend the \$ on the infrastructure needed for the new mission, needed for us to have a future.

Here are seven near term strategies that can sequester 10 billion tons of C per year

1. Reverse land use change 1.5 bt
2. Maintain current forests 3 bt
3. Reforestation of 5% of globe 2 bt
4. Improve agricultural practices 1 bt
5. Remediation of degraded lands 1bt
6. Management of grasslands and rangelands 0.5-1 bt
7. Use biomass for long term products and fuel 1bt

Assuming a conservative rate of 5 bt/yr for 50 years allows sequestering 250 bt, equal to all emissions to date.

Additionally many carbon capture technologies can be developed such as green cement, algae and bacterial conversion of CO₂ into fuel, building materials, biochar etc.

The driving force for all this, the most important piece of legislation, is a C tax. It is immoral to steal from the future or from other peoples. We need to legislate that we will pay as we go. A consumption tax could replace an income tax, and that could start with a C tax. Alternatively we could have a C Tax and 100% dividend with the following advantages over tax and trade (known as cap and trade):

- €Direct, simple, reliable, collected at source
- €Entire tax refunded, \$ can't be misspent by Government
- €Progressive: Poor win by saving. Big consumers pay

Problems with Tax and Trade:

- €Transfers our tax money to traders and polluters
- €Unpredictable price volatility
- €Blackmail by utilities that threaten ³blackout coming² to gain emission permits
- €Costs and complexities, lobbyists, delays
- €Won't get us back to 350ppm

With a C tax in place, every person and every business will be naturally moving away from the economy that got us into trouble and towards a zero emission, C capture economy, because money (and therefore C emissions) is involved in almost every action and decision we take. Our mighty entrepreneurial and creative abilities will be automatically harnessed in the proper direction.

Advantages to Australia of doing this:

- Massive stimulation of our economy.
- Full employment learning the skills of the future
- Recognition as a global leader, even if we fail to meet our aggressive commitments.
- Become a wealthy nation because we will have the skills, products, and knowhow needed by the rest of the world.

Save money because we will be independent of expensive and depleting oil, and also because we will have reduced the huge expense of adapting to climate change

The world will be influenced by Australia's leadership, and the more rapid global greenhouse gas abatement resulting will be particularly beneficial to Australia which is the developed nation that will be most effected this century.

We will have a more realistic, exciting, meaningful, considerate, caring and sustainable society.

I could say much more, and can provide references if needed.

Sincerely,

Paul Taylor, PhD