

# More coal mining? Is this wise?

## Wollongong Climate Action Network

WCAN is a group of concerned Illawarra residents. It has 186 members. It is not part of any political party and has no financial or legal connection with any business or trade union.

# Illawarra to get extreme rain as climate changes

ANDREW PEARSON

THE Illawarra can expect warmer temperatures and more intense rain events, but the climate change jury is still out on what could happen with average rainfall in coming years.

The CSIRO and Bureau of Meteorology's latest projections, which outline how the climate may change to the end of the 21st century, were revealed on Tuesday.

Lead author of the technical report, and honorary CSIRO research fellow Penny Whetton said the region could expect temperatures warming about half to one degree by 2030.

Dr Whetton said longer-term temperatures were dependent on future greenhouse gas emissions.

"If you follow a fairly low emissions path, the warming will be about 1.3 to 2.5 degrees [by the end of the century], but if you follow a high emission path it's around 3 degrees to 4.5 degrees," Dr Whetton said.

"Along with that you're getting an increase in the number of hot days and fewer cold days.

"Quite a lot more days over 35, for example, than currently experienced."

In terms of rainfall, Dr Whetton said heavy rain would probably be more intense due to the warmer atmosphere.

"Intense heavy rainfall events are something the Illawarra region does get from time to time and there's the potential for them to be more extreme."

The projections might have been released on what was a gloomy Illawarra day, however, the region's long-term average rainfall picture isn't so clear.

"The strongest evidence we have for future changes is for a decline in winter rainfall, but our models actually give inconsistent lines of evidence for changes in the warmer half of the year," Dr Whetton said.

"It's clearer in other parts of Australia, but the east coast seems to be one of the trickier parts for us to get all of our evidence lining up and giving us a strong message," she said.

The projections indicated with "very high confidence" mean sea level would continue to rise – between 10 and 20 centimetres by 2030.

The figure could jump as high as 88 centimetres by 2090 if future greenhouse gas emissions were high, Dr Whetton said.

"We've seen sea level rise in the past, but certainly under those high emissions that represents quite an acceleration in sea level rise over the decades to come," she said.

As a result, storm surges are predicted to be higher and there is an increased likelihood of flooding and erosion.

## WHAT LIES AHEAD

### Illawarra climate change projections

- **Average temperatures** will continue to increase in all seasons (very high confidence).
- **More hot days and warm spells** are projected (very high confidence) and there will be **fewer frosts** (high confidence).
- **Decreases in winter rainfall** are projected with medium confidence.
- **Increased intensity of extreme rainfall** events (high confidence).
- **Mean sea level will continue to rise** and height of extreme sea-level events will also increase (very high confidence).
- **A harsher fire-weather climate** in the future (high confidence).
- **Time spent in drought** is projected, with medium confidence, to increase over the course of the century.
- **Little change in relative humidity** in the near future, but medium confidence of a decrease later in the century.



Weather forecast: It was a soggy Tuesday in the Illawarra and it's likely the umbrella will be a must-have accessory for the rest of the week. The showers settled in early morning, however, some Wollongong shoppers were caught out by heavier falls during the day. Climate change predictions from the CSIRO and Bureau of Meteorology suggest an increased intensity of extreme rainfall events in coming years, but the region's long-term average rainfall outlook isn't clear. Picture: CHRISTOPHER CHAN

# Impacts so far?

- Looking at the heat:
- 2009 Victorian heatwave and Black Saturday bushfires
  - 47deg 100kph winds
  - 173 killed by fires, 374 killed by the heatwave
- 2010 Russian heatwave – 56,000 deaths
- 2003 European heatwave – 70,000 people died
  - The record summer temperatures involved (highest temperatures since records began in 1540) are likely to be the norm in Europe by 2050

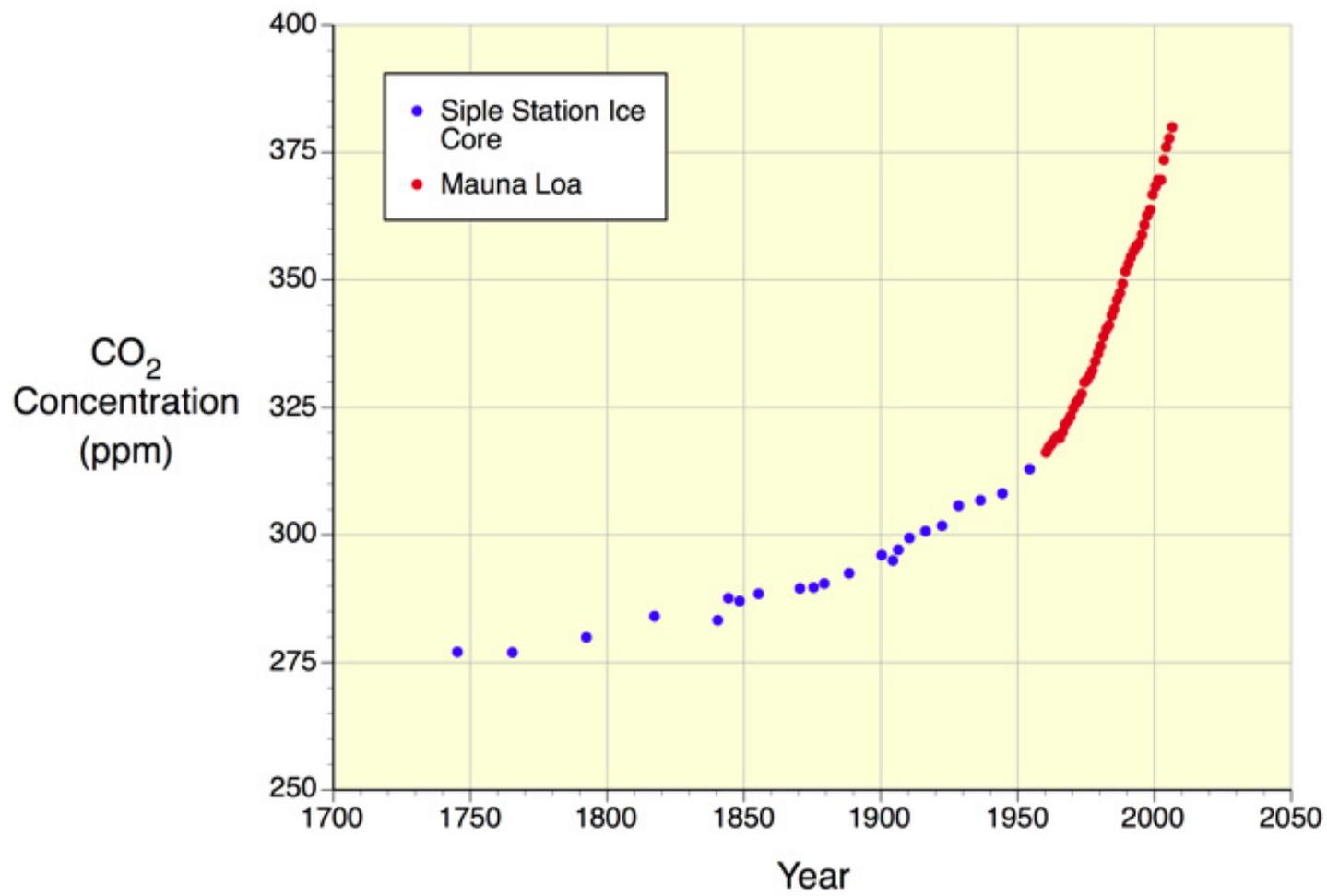
# Impacts so far?

- 2010 Queensland had wettest January on record.
  - Sea surface temp highest on record
  - Widespread record floods
  - 78% of the state was declared a disaster zone
  - Uninsured costs \$5,600,000,000
  - Australian taxpayers had to pay 1.5% extra income tax

# Impacts so far?

- Water feeding to Perth Dams
  - 1911 to 1974 average 338 gLi pa
  - 1998 to 2005 average 70 gLi pa
  - In 2006 the dams received only 2 gLi
- Massive investments in desalination plants
  - Perth, Adelaide, Sydney ...

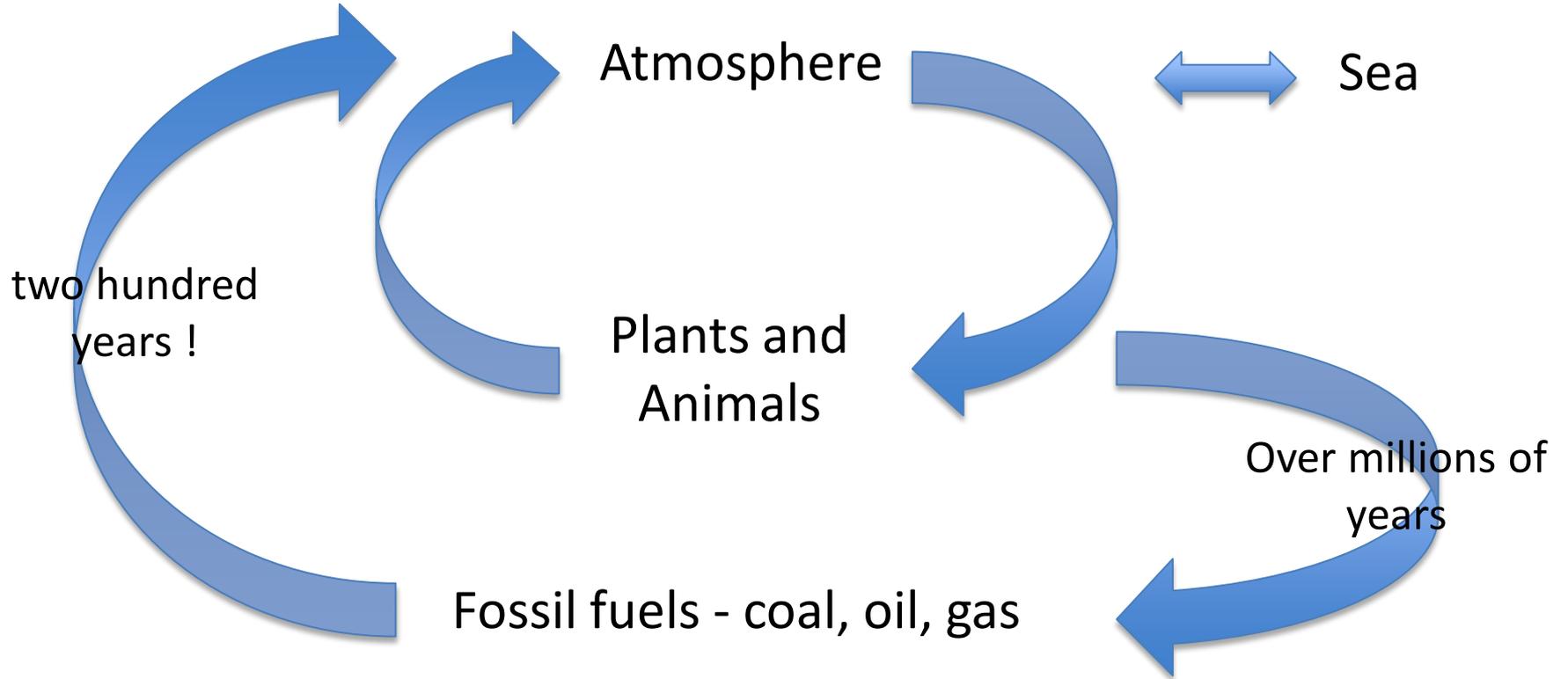
# Atmospheric Concentration of Carbon Dioxide (1744-2005)



# Basic Carbon Cycle

Carbon in air affects climate

Carbon in sea affects acidity



# The atmosphere doesn't have room for more CO<sub>2</sub>

Carbon pools in the major reservoirs on earth

Pool



+32 per year!

ogens

15,000,000

# IPCC report 2014

## **Intergovernmental Panel on Climate Change**

The top climate scientists from every nation on earth are in agreement

“Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems.”

# IPCC Report 2014

- Climate change impacts **will continue for centuries**, even if we stop burning fossil fuels immediately
- “Many aspects of climate change and associated impacts will continue for centuries, even if anthropogenic emissions of greenhouse gases are stopped.
- “The risks of abrupt or irreversible changes increase as the magnitude of the warming increases.”

# IPCC report 2014

- This climate change is **effectively irreversible** in the lifetime of our society
- “Warming will continue beyond 2100 under all RCP scenarios except RCP2.6 (1). Surface temperatures will remain approximately constant at elevated levels for many centuries after a complete cessation of net anthropogenic CO<sub>2</sub> emissions. A large fraction of anthropogenic climate change resulting from CO<sub>2</sub> emissions is **irreversible** on a multi-century to millennial time scale, except in the case of a large net removal of CO<sub>2</sub> from the atmosphere over a sustained period. {2.4, Figure 2.8} “
- “(1) RCP 2.6 assumes that global annual GHG emissions (measured in CO<sub>2</sub>-equivalents) peak between 2010-2020, with emissions declining substantially thereafter. “

# IPCC report 2014

- Limiting climate change will require **substantial and sustained reductions** in greenhouse gas emissions
- “Continued emission of greenhouse gases will cause further warming and long-lasting changes in all components of the climate system, increasing the likelihood of severe, pervasive and irreversible impacts for people and ecosystems. Limiting climate change would require substantial and sustained reductions in greenhouse gas emissions which, together with adaptation, can limit climate change risks.”

# CO<sub>2</sub> is 40% higher already

- Warming – not just a summer holiday
  - More heat = more energy = more extreme weather events
- Sea level will continue to rise for centuries
  - Island nations, Bangladesh, coastal cities around the world, and the Illawarra coastline will all flood..... And this is effectively an irreversible change
- Water supplies to major populations will be disrupted
  - More droughts > less food > conflicts

# Should our government allow the expansion of coal mining!

- Every kg of coal we burn makes climate change worse
- Renewable energy is now on par with the upfront price of coal energy. Why not invest in that instead ?
- Alternatives exist for the production of steel without fossil fuels
- The price we pay for coal energy today is just a down-payment – our grandchildren will pay the bigger price
- Restricting access to coal will raise its price and improve the economic viability of alternative technologies
- The long term public health risks of further coal mining and use far outweigh any commercial benefits

# Obligations

- The PAC is obliged by the Minister to consider the proposed project under the State Environmental Planning Policy Amendment *as amended on 2 September 2015*
- Clause 14 (1) c) of the amended Mining SEPP requires that “Greenhouse emissions are minimised to the greatest extent practicable”
- Clause 14 (2) “the PAC must consider emissions (including downstream emissions) and must do so having regard to any applicable State or national policies, programs or guidelines concerning greenhouse gas emissions.

## NATIONAL POLICY IS TO PARTICIPATE IN INTERNATIONAL EFFORT TO REDUCE GREENHOUSE EMISSIONS

- At the COP21 meeting in Paris (happening as we speak), Australia intends to sign up to an agreement about climate change.
- The first goal is “In order to strengthen the global response to the threat of climate change , parties agree to take *urgent* action and enhance cooperation and support so as to hold the increase in global average temperature well below 2deg C above preindustrial levels by ensuring **deep reductions in global greenhouse gas emissions**”.



# Commitments

**Australia's target** - Australia will reduce emissions to 26-28 per cent on 2005 levels by 2030.

This target represents a 50-52 per cent reduction in emissions per capita and a 64-65 per cent reduction in the emissions intensity of the economy between 2005 and 2030.

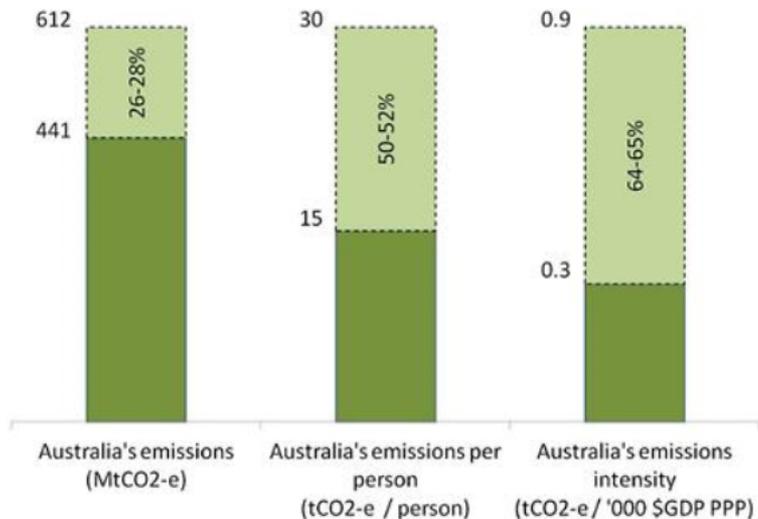


Figure 1. Australia's emissions reduction targets and achievements, 2005-2030.

Source: Department of the Environment analysis

- The Federal government has committed Australia to a 26-28% reduction in carbon emissions by 2030.

# EXPOSURE TO SANCTIONS

- In the light of the international consensus on the need to cut greenhouse emissions , persistence with projects like the Russell Vale expansion will bring Australia into disrepute and could expose us to retaliatory trade sanctions and tariffs.

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## How Australia is flirting with trade sanctions

Aug 11, 2015  
ROB BURGESS Economics commentator

ANALYSIS: If the Government's new reduction target is too low, trade partners have well-established means to push it higher.



This could be Tony Abbott's last chance to get carbon right.

By revealing its proposed post-2020 carbon emissions target to The Australian newspaper overnight, the Abbott government is testing the waters for a continuation of minimalist approach to climate action.

The newspaper today published details of Monday night's cabinet deliberations and said: "In one scenario gaining support last night, ministers considered a 26 per cent reduction on today's carbon emissions by 2030, clearing the way for the goal to be taken to a meeting of Coalition MPs as soon as today to be decided as official policy."

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# THIS PROJECT IS SIGNIFICANT

- The emissions from the coal mined by this project will be over 4.5M tonnes p.a in its peak year. This is approximately 10% of Australia's ENTIRE annual emissions reduction target of 47Mtpa by 2030.
- “scope 3” emissions estimate for use of saleable coal for power generation quoted in table 12 of the GNRE Preferred Project Report appears to misrepresent the emissions impact.
  - We calculate 1.6M tonnes pa CO<sub>2</sub>-e, not 120,367 as per the report.

# PAC Decisions are Significant

- It is incorrect to argue that if this project was not approved then the coal would be “sourced from elsewhere”.
- NSW is a significant coal supplier on the world stage and NSW decisions on coal supply affect the world coal price, which in turn drives world energy efficiency.
- The totality of emissions under PAC control via its mining approvals is of the same order of magnitude as Australia’s entire greenhouse reduction target. The PAC therefore has a significant responsibility.

# TAXPAYER MONEY WASTED

- It is a waste of taxpayer money to be
  - paying organisations and expending considerable public effort to reduce greenhouse emissions
- while on the other hand
  - allowing large increases in carbon emissions which cancel the benefits.

# No new coal mining investments

The long term public health risks and future costs of repatriation far outweigh any commercial or national benefits from expansion of the coal mining industry.