



**Fuel Security**

**Energy Security**

**National Security**

**Do we understand the risks and our vulnerabilities?**

**What assumptions do we make ?**

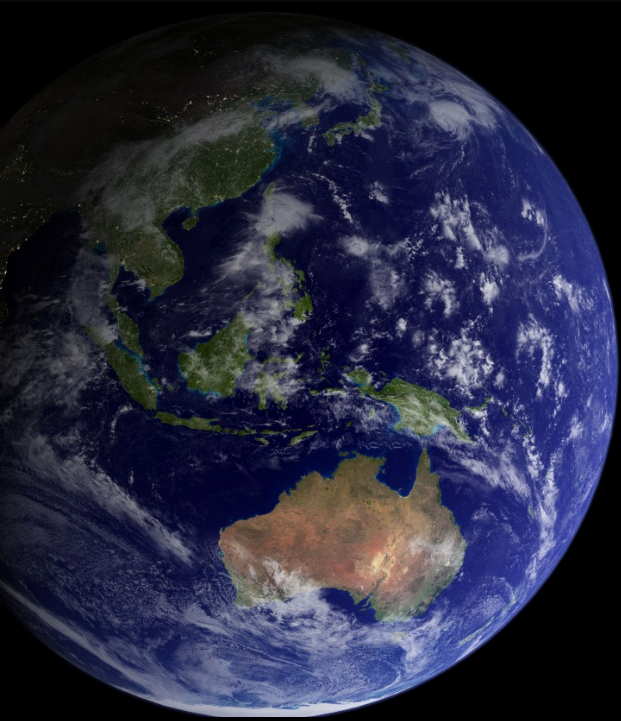
**Air Vice-Marshal John Blackburn AO (Retd)**

**Chair of the Institute for Integrated Economic Research – Australia**

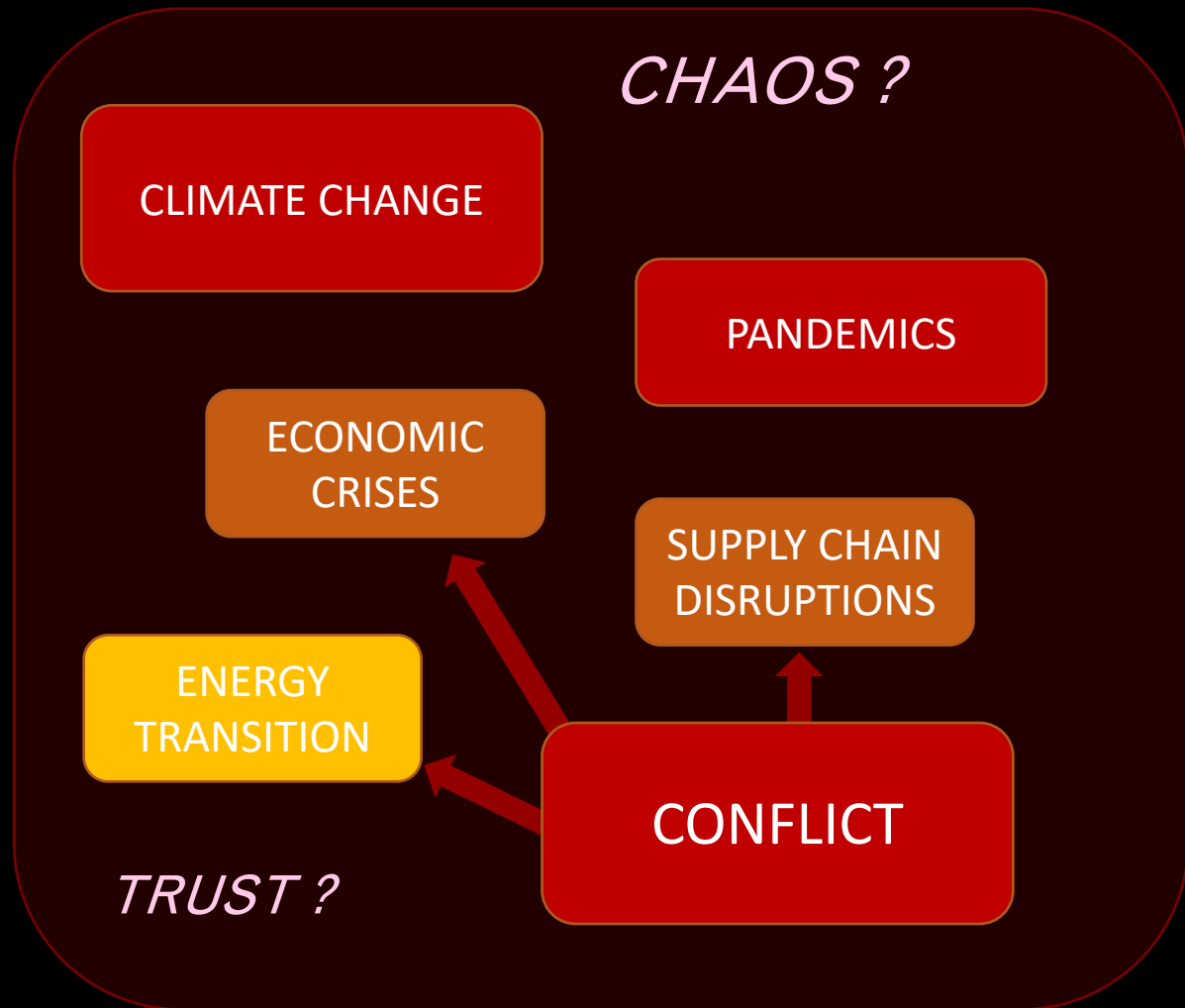
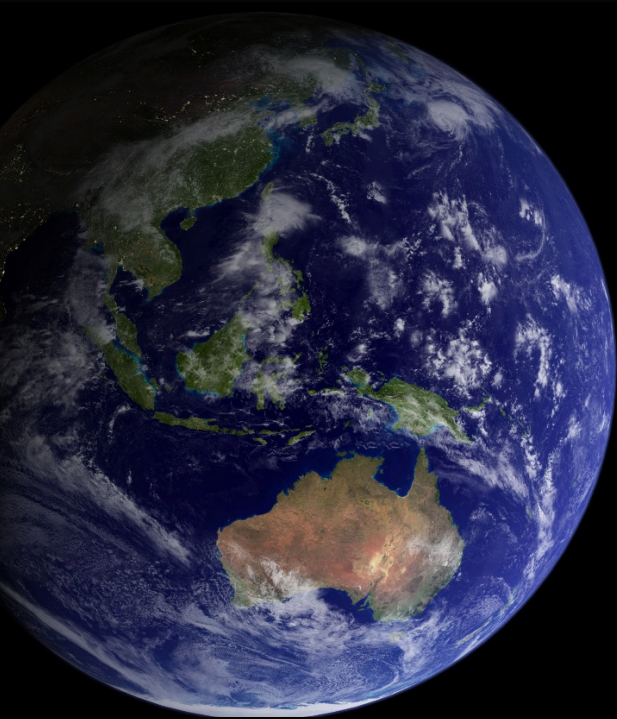
**Co-Founder Australian Security Leaders Climate Group**


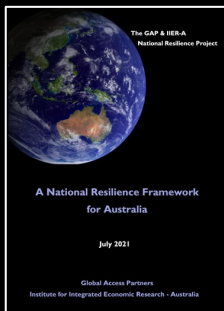
**Director JBCS Pty Ltd**





- A State of Chaos and Mistrust
- National Security and Resilience
- Fuel security & Energy Transition
- What should we do next ?
  - *Why am I still optimistic ?*



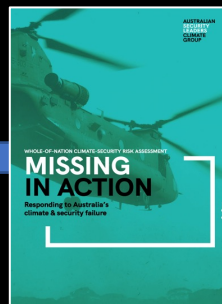
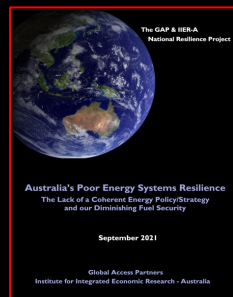
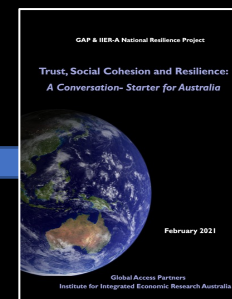
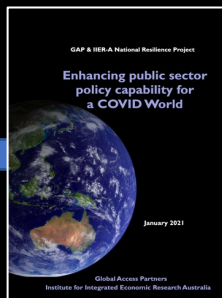


**The GAP & IIER-A  
National Resilience Project**

**Australia – A Complacent Nation**  
*Our reactions are too little, too late, and too short-sighted*

**October 2021**

**Global Access Partners  
Institute for Integrated Economic Research - Australia**





## WHAT ARE THE CHARACTERISTICS OF A RESILIENT SOCIETY ?

*There is no verb for resilience ...*

SHARED AWARENESS



TEAMED



PREPARED / MOBILISED

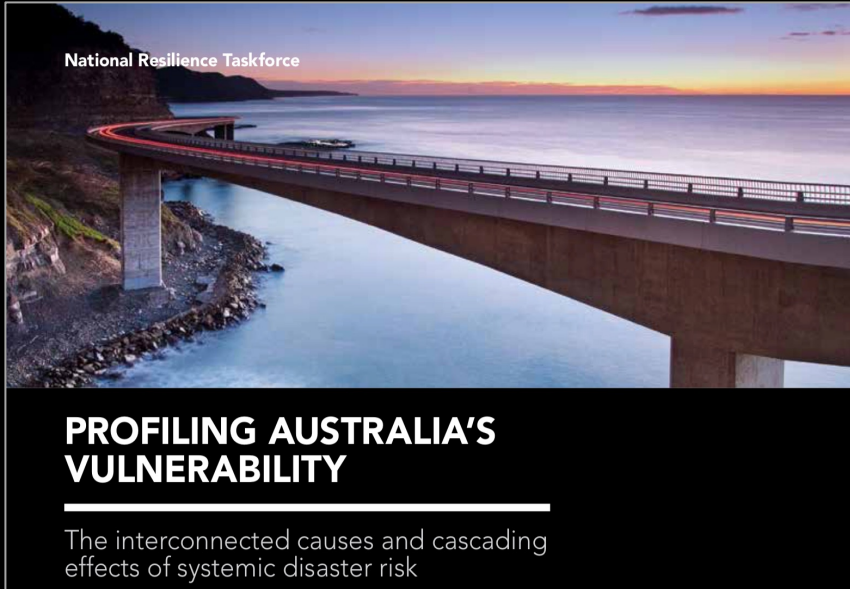
RISK ASSESSMENT



STRATEGY / PLAN



TAKE ACTION

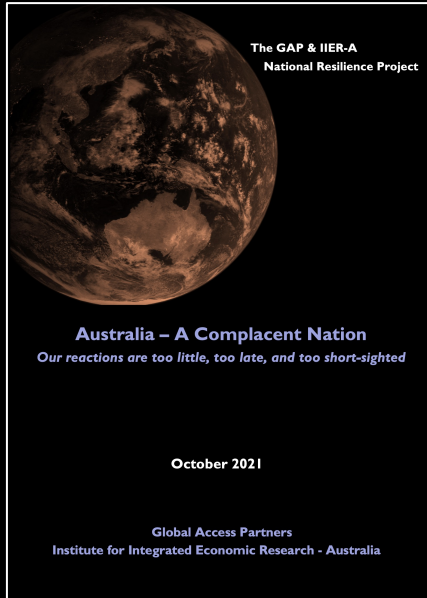


*Australian Government, Department of Home Affairs. 2018.*

## WHAT MAKES US VULNERABLE?

- High levels of dependency and growing system interconnectedness.
- Just-in-time supply, low levels of storage, hub and spoke distributions.
- Single sources or lines of supply and few alternative sources.
- Dependence on imports to meet demand (e.g. food, fuel).
- High expectations of continuous ongoing supply.
- Low tolerance for loss and disruption.

# Australia – A Complacent Nation



There is no National Security or Resilience Strategy

No current National Energy Security Assessment

No integrated Health Risk Assessment

No Agriculture Risk Assessment

There is no National Risk Assessment

*ASSUMPTIONS ?*

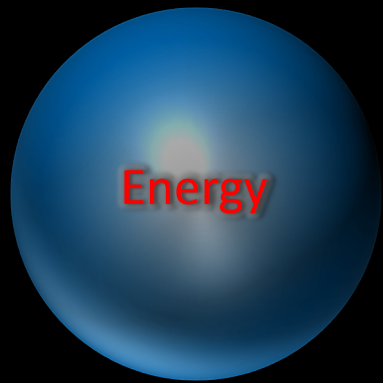
*MISINFORMATION ?*



Energy

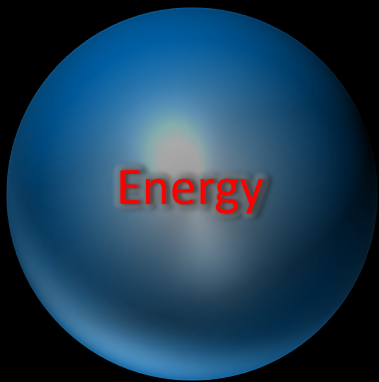
Climate

Economy



Our way of life depends on cheaper oil / fuel coming from overseas

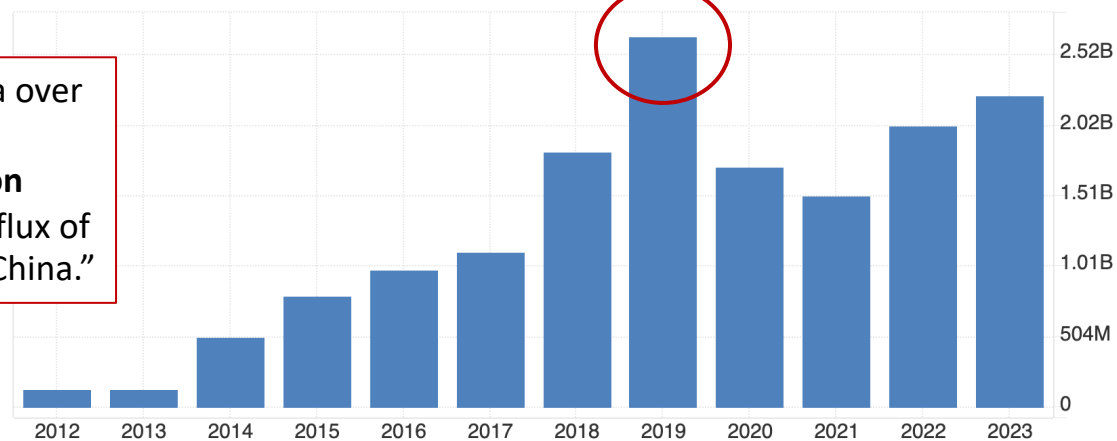
At the cost of our security and resilience ...



14% of all  
refined  
fuel imports.

25% of all imported refined Jet fuel

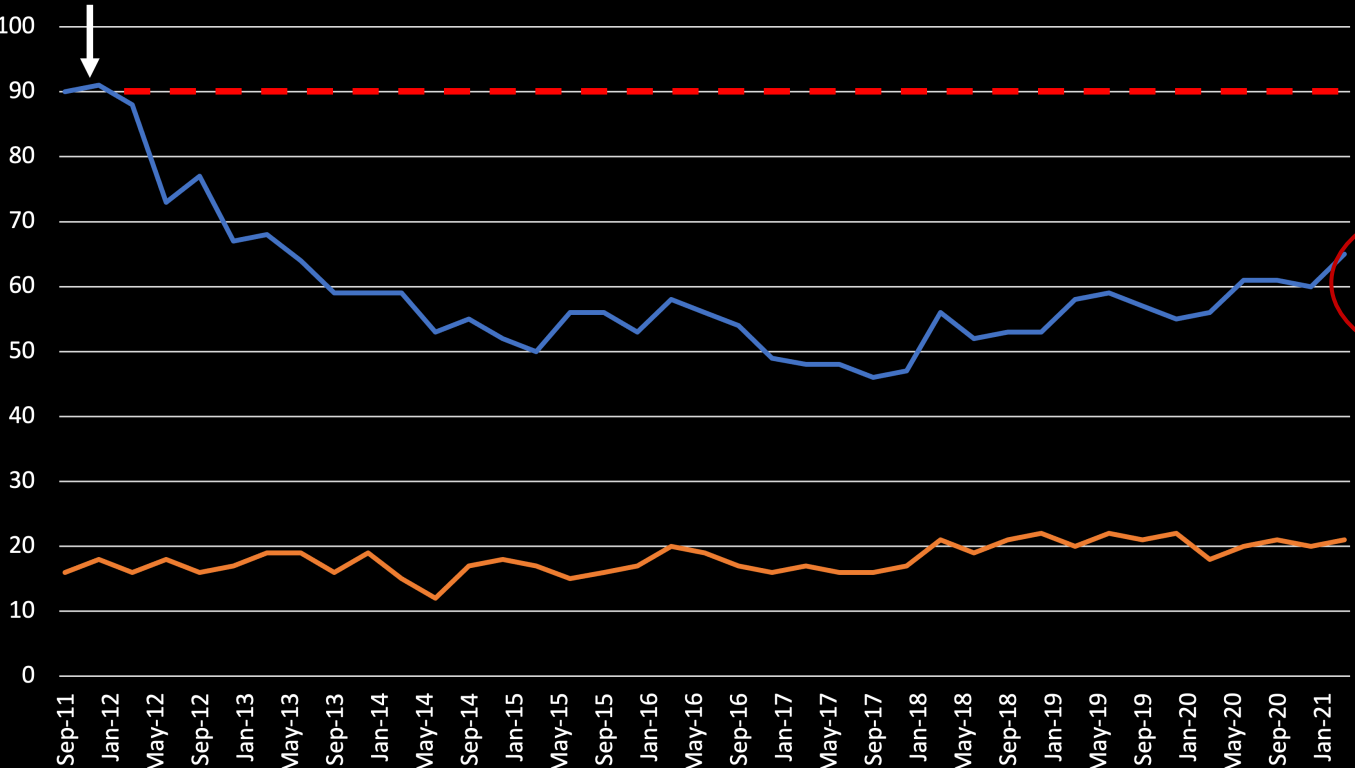
Australia Imports from China of Mineral fuels, oils, distillation products



“There’s growing alarm in Canberra over what’s expected to be Australia’s inevitable **increased dependence on foreign petroleum** amid a major influx of cheaper refined oil products from China.”

# Australian Fuel Statistics

2011 NESA

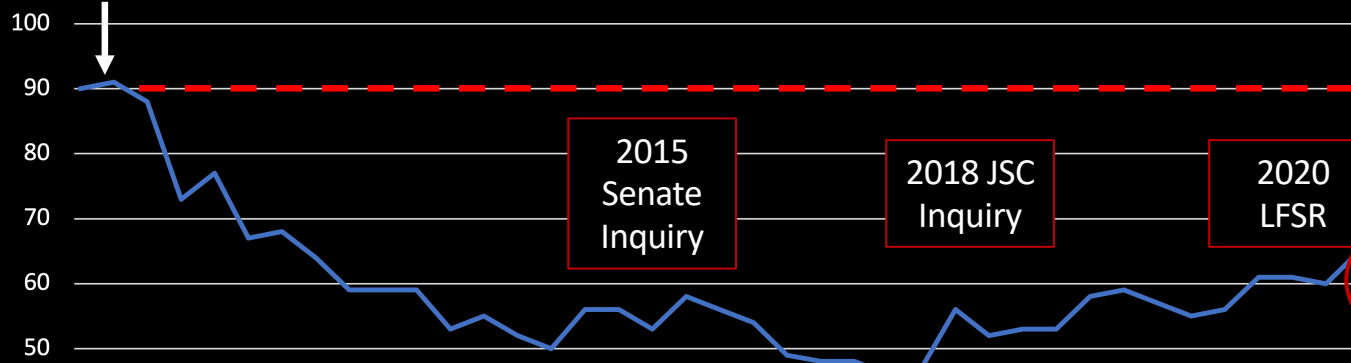


2011

2021

# Australian Fuel Statistics

2011 NESA

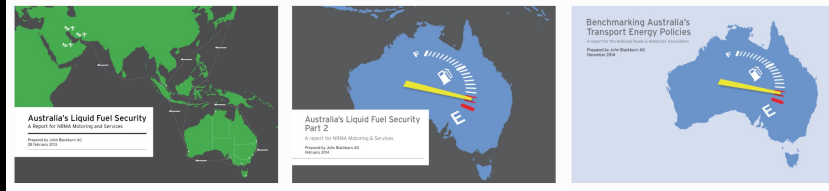


IEA 90 Day Requirement

Net Imports "Accounting Data"

MISLEADING

Useable Diesel



2011

Net Imp Diesel

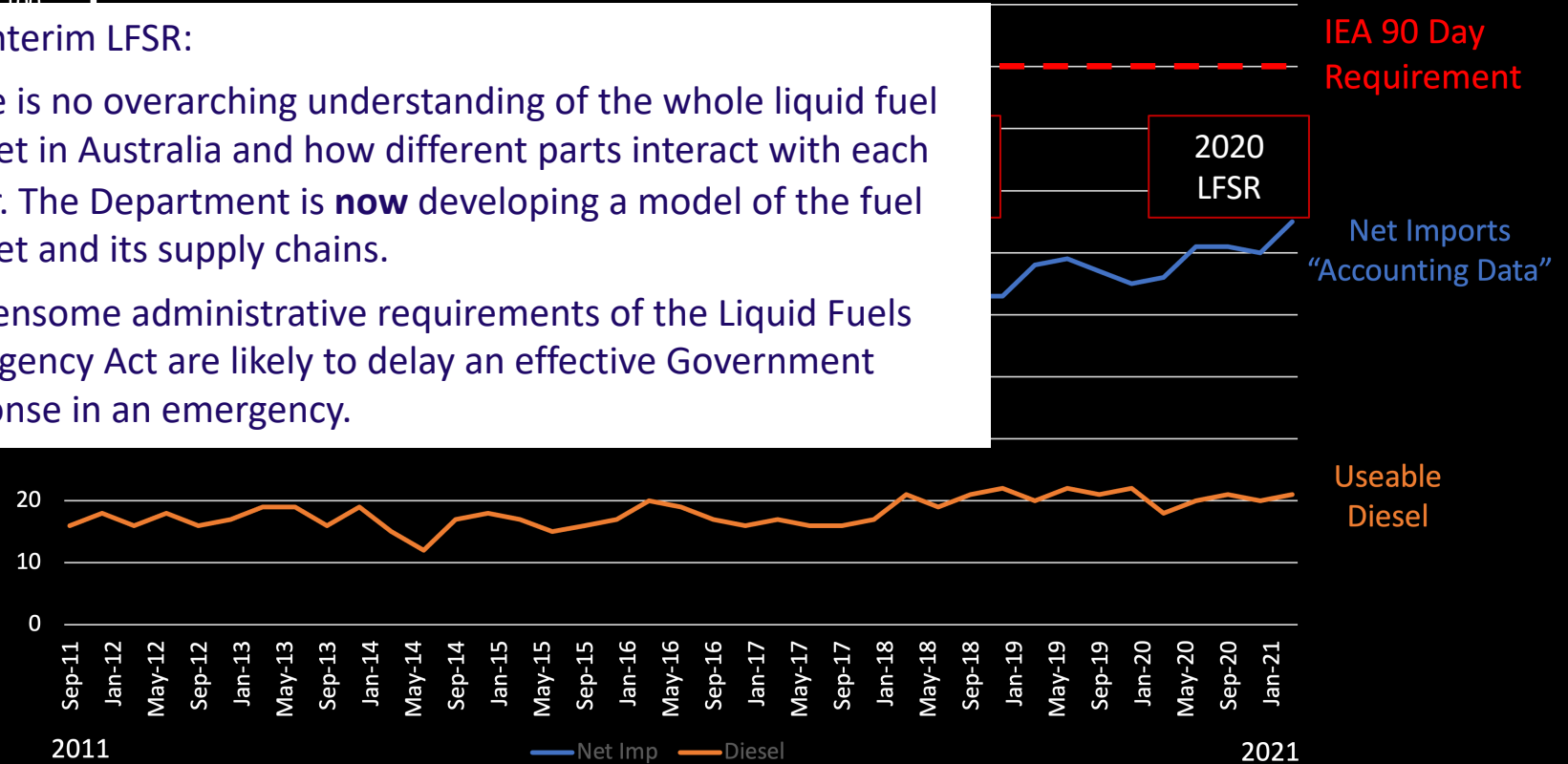
2021

2011 NESA

## Australian Fuel Statistics

### 2019 – Interim LFSR:

- There is no overarching understanding of the whole liquid fuel market in Australia and how different parts interact with each other. The Department is **now** developing a model of the fuel market and its supply chains.
- Burdensome administrative requirements of the Liquid Fuels Emergency Act are likely to delay an effective Government response in an emergency.

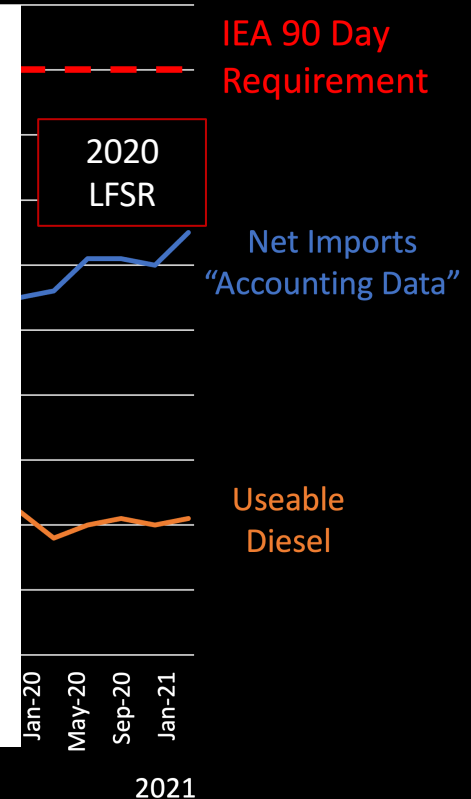


2011 NESA

## Australian Fuel Statistics

Energy Minister Taylor announcement to “strengthen the nations fuel security and prevent crippling shortages.” :

- invest \$200 million in a competitive grants program to build an additional 780ML of onshore diesel storage; **this program is well behind the original schedule as of 2024.**
- create a minimum stockholding obligation for key transport fuels. **As at July 2024, the legislated minimum stockholdings by industry have not been met.**
- support the refining sector via a refinery production payment. **50% took it.**
- review of the LFE Act in April 2019 to address the issues with the LFE Act identified in the interim Liquid Fuel Security Review report. **The review of the LFE Act did not proceed beyond scoping and planning because it was overtaken by events, including the Australian summer bushfire season of 2019–20 and the COVID-19 pandemic.**



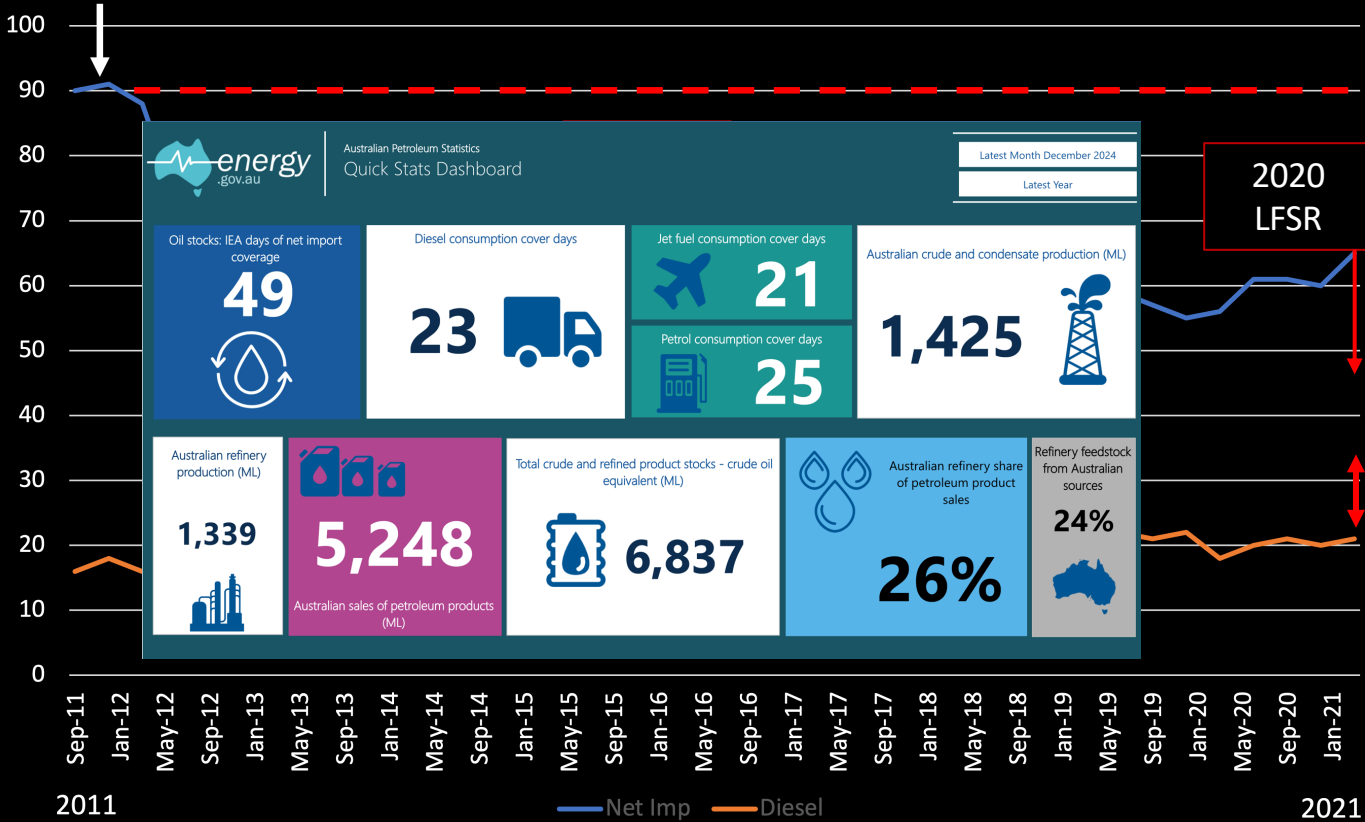
2011

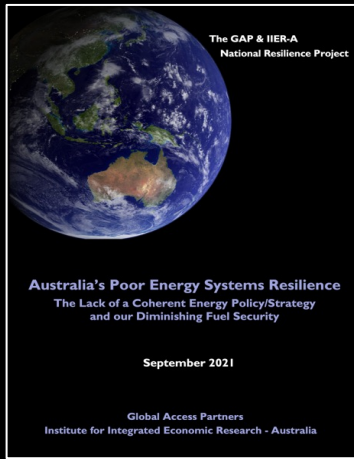
— Net Imp — Diesel

2021

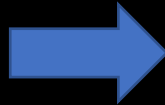
# Australian Fuel Statistics

2011 NESA





Domestic Alternate  
Fuel Sources



## GOALS :

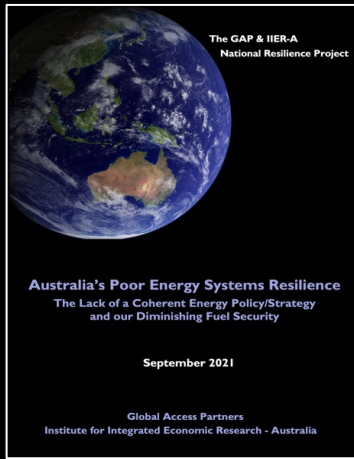
- Reduce National Security Risk
- Reduce Transport / Industry Emissions
- Improve National Resilience

## National Security Risk



## Domestic Production:

- Growing transport energy need over the next two decades.
- No appetite in Government to invest in refining infrastructure.
- Smaller scale, distributed, production (e.g. biofuels, gas to liquids, small scale latest generation oil refineries, and waste oil reprocessing)
- *However ... this is not enough*



Domestic Alternate  
Fuel Sources



## GOALS :

- Reduce National Security Risk
- Reduce Transport / Industry Emissions
- Improve National Resilience

## National Security Risk



### Demand Reduction ... combination of :

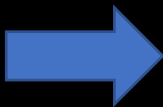
- higher fuel efficiency standards, hybrid power trains.
- transfer of logistics loads from road transport to more energy efficient modes (i.e. increased use of train and coastal shipping systems.)
- large-scale adoption of renewable transport energy options such as **electric**, green hydrogen and green ammonia propulsion systems.



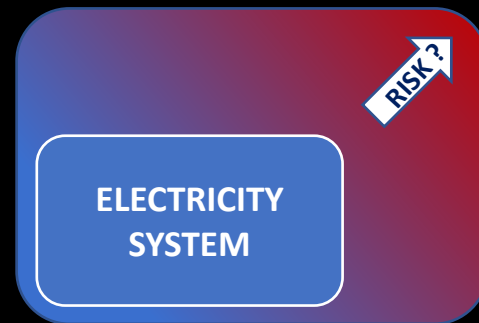
## GOALS :

- Reduce National Security Risk
- Reduce Transport / Industry Emissions
- Improve National Resilience

Domestic Alternate  
Fuel Sources



## National Security Risk



NO PLAN ?

INDUSTRY ELECTRIFICATION?

**WITHOUT AN ENERGY RISK ASSESSMENT THERE CANNOT BE A  
COHERENT ENERGY STRATEGY OR PLAN FOR THIS ...**

## ELECTRICITY SYSTEM

RISK?

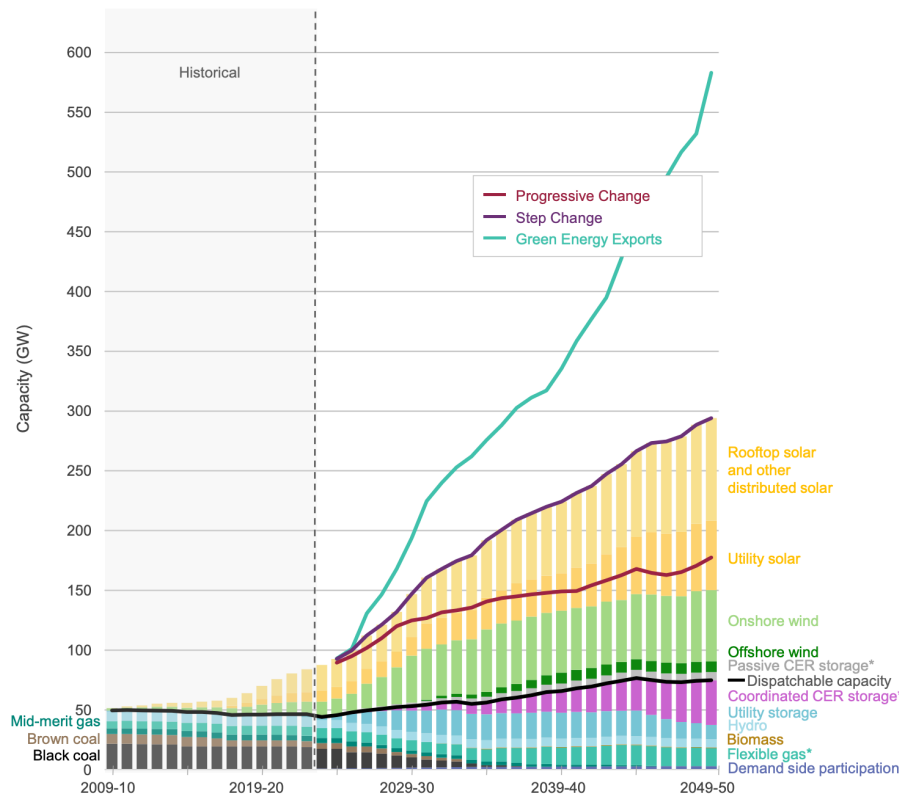
Is this designed?

Will we have the  
skilled workforce ?

Manufacturing  
capacity ?

What are the  
supply chain risks?

Figure 15 Capacity, NEM (GW, 2009-10 to 2049-50)



Notes: "Flexible gas" includes gas-powered generation and potential hydrogen capacity.

"CER storage" means consumer energy resources such as batteries and electric vehicles.

Projections for "Rooftop solar and other distributed solar" and "CER storage" are forecast based on unit costs, consumer trends and assumptions about payments received to participate in the electricity market.



**Will a renewable energy system make us more resilient  
given the energy will be produced in Australia ?**

***What are the related supply chain risks ?***



Energy

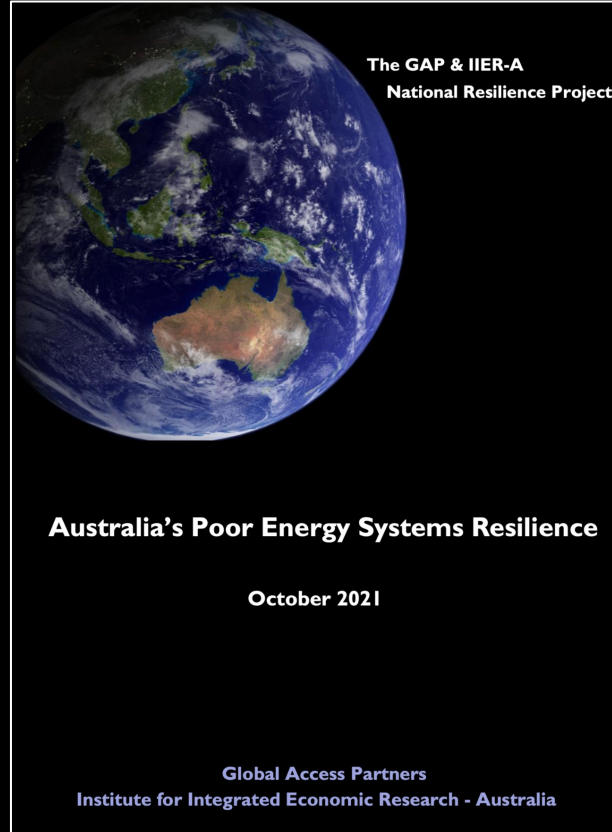
80% of global solar panel components come from China

70% of global wind turbine components come from China

## Supply Chain Risks

China controls 80% of the world's lithium battery raw material refining, 77% of the world's cell capacity and 60% of the world's component manufacturing.

Energy

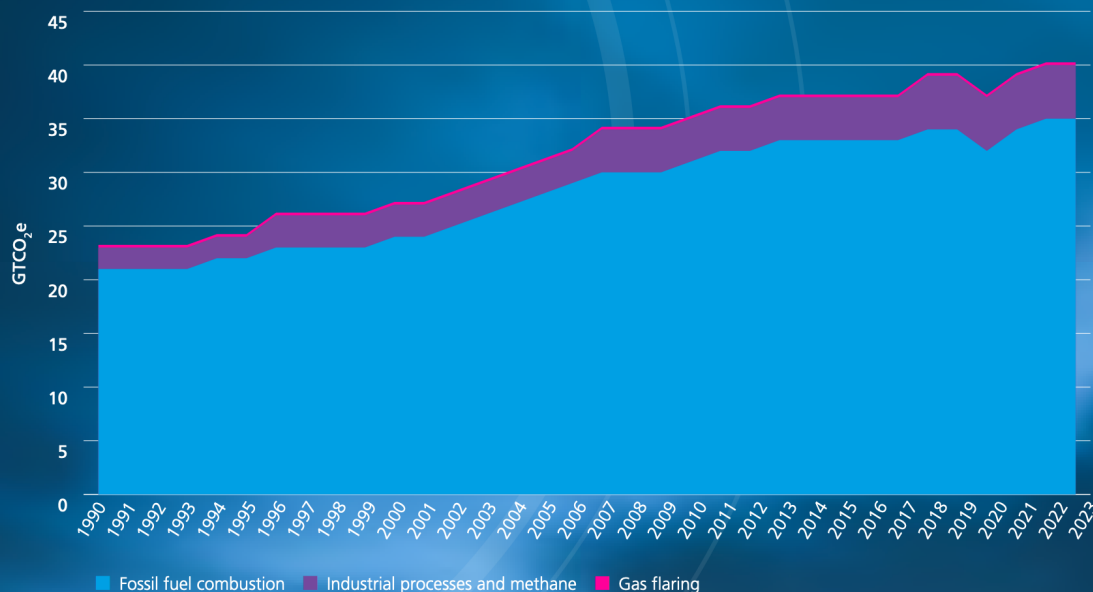


The topic of energy has become so politicised in Australia, both between the major parties and within the previous LNP Coalition Government, that our national interest and security has been subsumed by both party and personal interests.

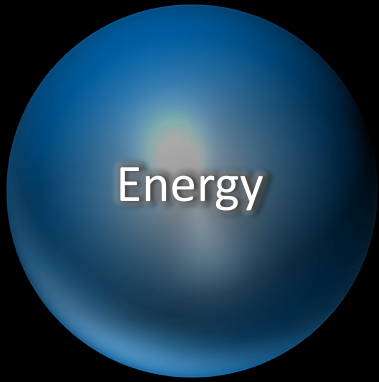
Energy

Reality Check ?

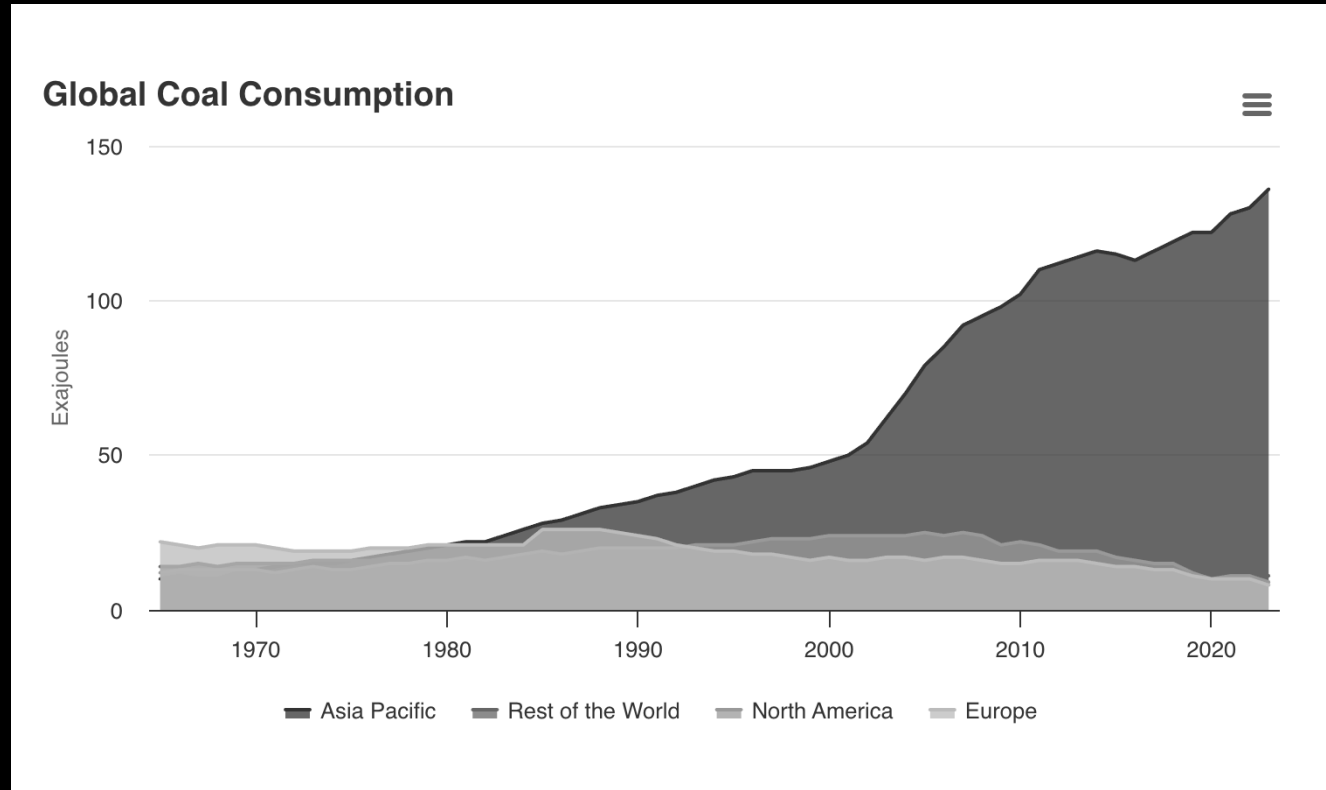
**2023 global energy-related greenhouse gas emissions exceeded 40 gigatonnes for the first time ever**



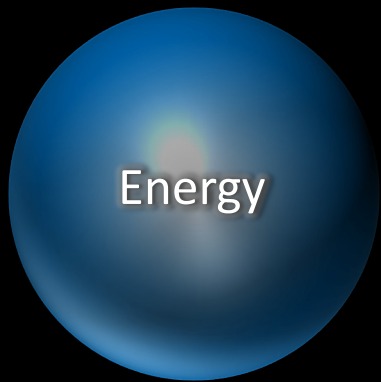
<https://www.energyinst.org/statistical-review>



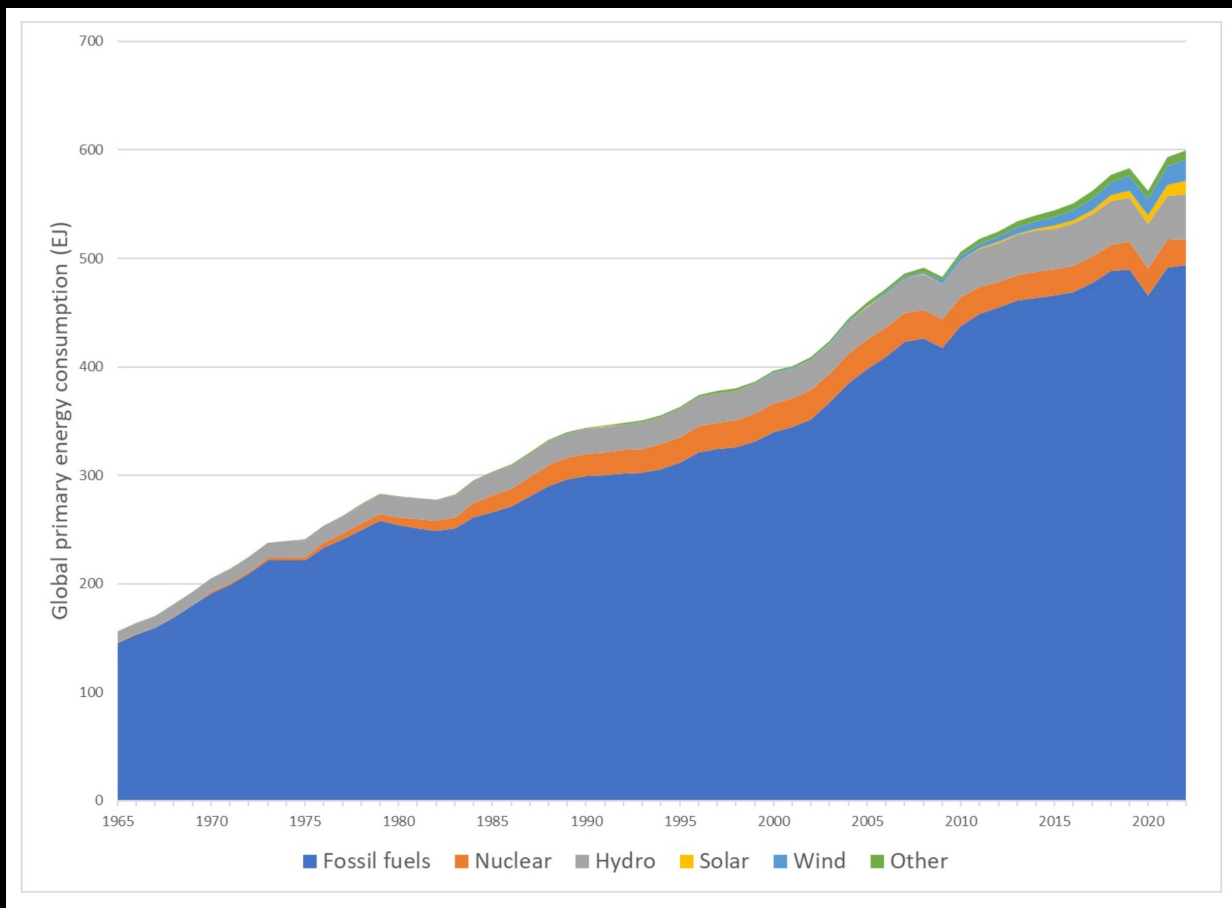
Reality Check ?



<https://www.energyinst.org/statistical-review>



Reality Check ?



<https://www.energyinst.org/statistical-review>

Right now, the climate-security risks are not being fully assessed or understood in Australia. There is a poor understanding of the reality of near-future systemic security risks posed by climate change, which constitutes a major strategic gap.

Our nation is ill-prepared for climate impacts on our security in one of the highest risk regions in the world, the Indo-Pacific.



[www.aslcg.org](http://www.aslcg.org)

# A Climate Risk Assessment has been initiated...



Australian Government  
Department of Climate Change, Energy,  
the Environment and Water

## National Climate Risk Assessment

First pass assessment report

dceew  
gov.au



# A Climate Risk Assessment has been initiated...



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Department of Climate Change, Energy,  
the Environment and Water

## National Climate Risk Assessment

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# A Climate Risk Assessment has been initiated...











































Australian Government  
Department of Climate Change, Energy,  
the Environment and Water





## National Climate Risk Assessment

First pass assessment report

dcceew  
gov.au

**Table 3** Hazard concern-level for the defence and national security system

										
Current (2020)										
2050										
2090										

Insufficient data / lower concern    Some concern    Medium concern    High concern

# A Climate Risk Assessment has been initiated...



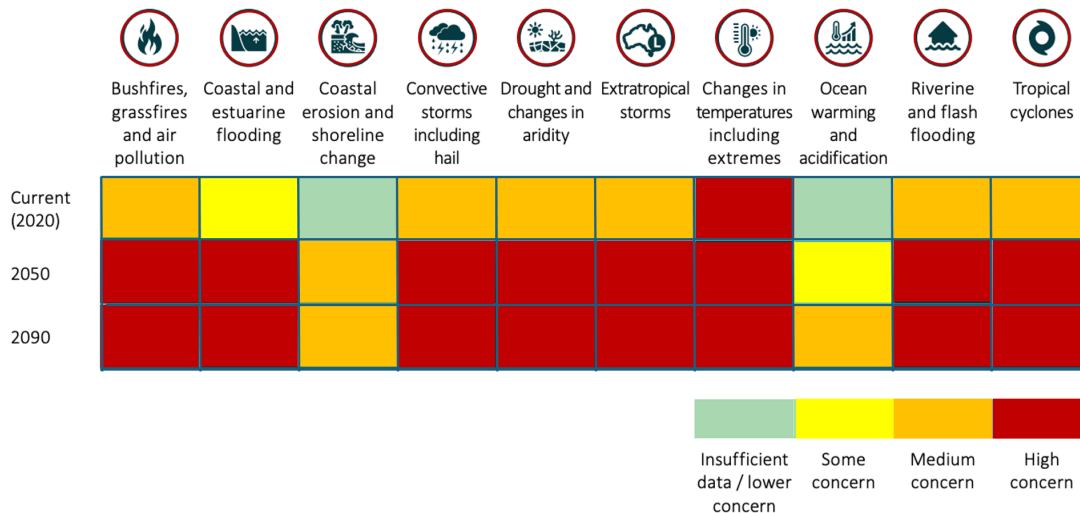
Australian Government  
Department of Climate Change, Energy,  
the Environment and Water

## National Climate Risk Assessment

First pass assessment report

dcccew  
gov.au

**Table 3** Hazard concern-level. For defence and national security system



“The National Adaptation Plan will respond to the findings of the Risk Assessment.”



Energy

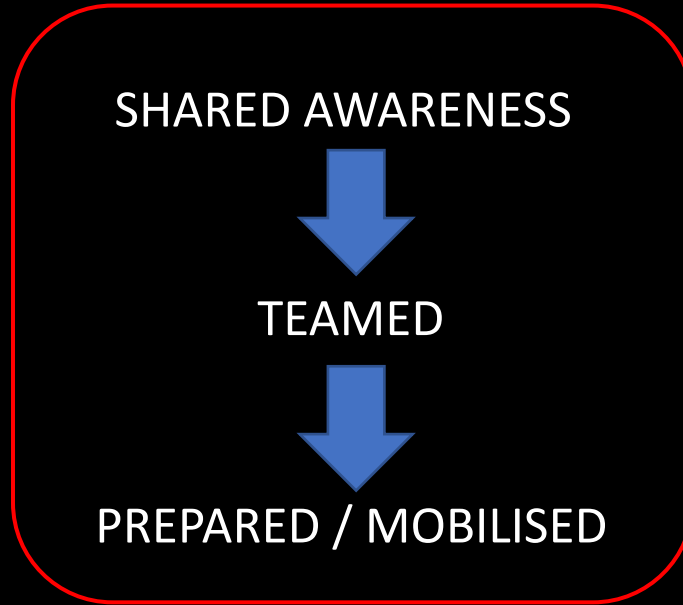
Climate

Economy ?

# Conclusions

- We don't need an AI program to tell us that we have been strategically stupid.
- Whilst this is a grim assessment there is some cause for cautious optimism.
- The actions we need to take are not beyond our ability to design and implement.
- We have considerable expertise and resources in this country.
- System Level Leadership is what we have been missing ....

# Conclusions



Your Role ?

Defence

Australia, a Complacent Nation ... Adrift in the South Pacific?



Credit: AI

Google: "Australia a complacent nation"

<https://sldinfo.com/2024/06/australia-a-complacent-nation-adrift-in-the-south-pacific/>

SHARED AWARENESS



TEAMED



PREPARED / MOBILISED



John Blackburn

[jb@jbcs.com.au](mailto:jb@jbcs.com.au)

[www.jbcs.co](http://www.jbcs.co)