

# **Why Climate Policy is more like Monetary Policy than Trade Policy**

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# Overview

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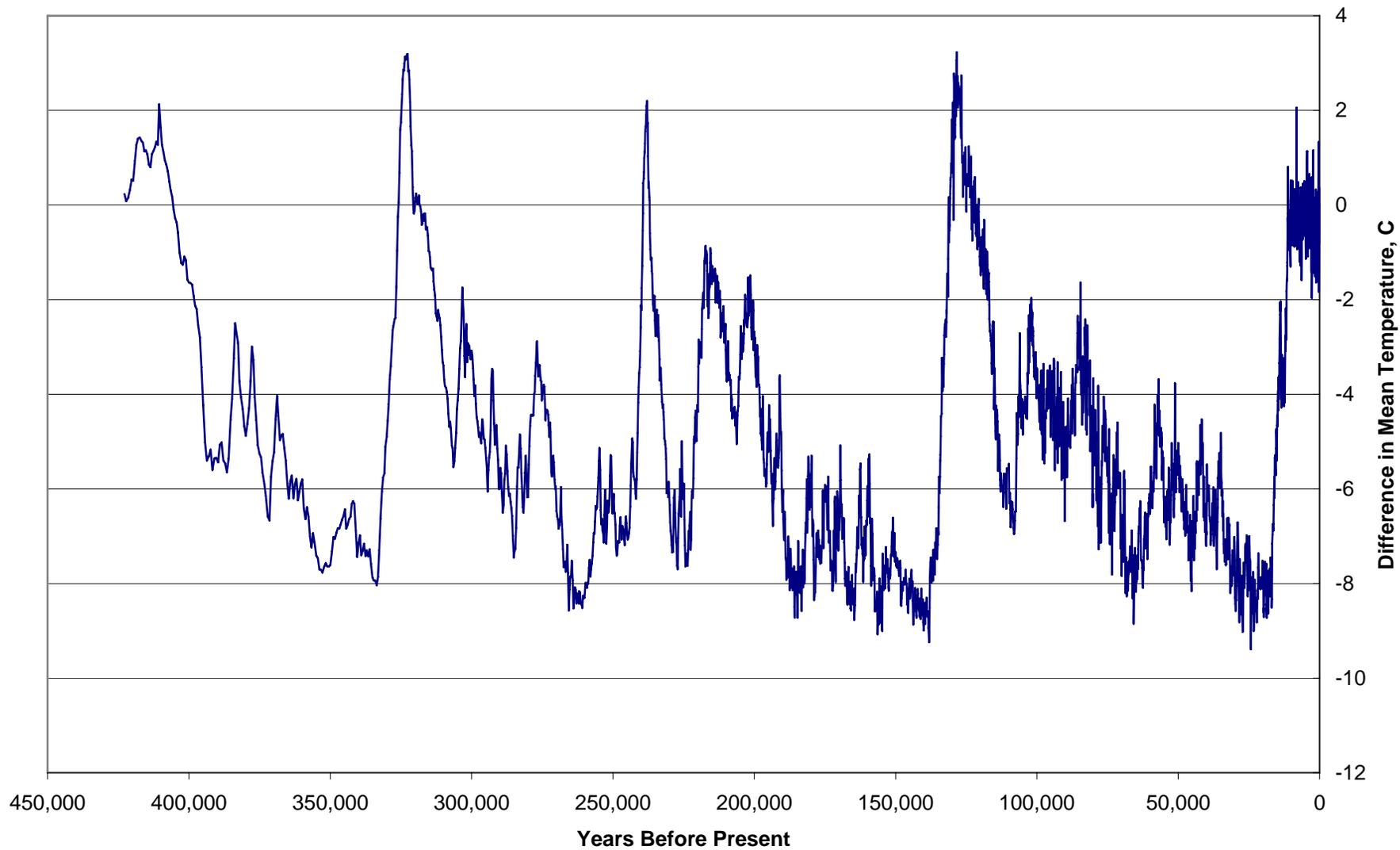
- **The Climate Policy Issue**
    - ⇒ What we know
    - ⇒ What makes climate change policy so difficult?
  - **Key Features Needed in any Approach**
  - **How to put a price on carbon**
  - **Need to keep the global framework in mind**
  - **Climate policy should be run like monetary policy**
  - **The McKibbin-Wilcoxon Blueprint for national (and global) action**
  - **Conclusion**
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# What do we know?

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- **Climate is a complex system that is always changing**
  - **Average global temperatures have risen 0.6 degrees in the past century**
  - **Natural variability and human induced change coexist**
  - **We are pumping enormous amounts of greenhouse gases into the atmosphere**
  - **Increasing evidence that there is a warming problem**
  - **Policy uncertainty is causing economic losses**
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**Figure 2: Global Temperature Record, Vostok Ice Core Data**



# What makes climate policy difficult?

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## 1. Committed warming

→ Need both mitigation and adaptation

## 2. Geography

→ Broad range of sources of emissions, caused by decisions made by a diverse range of households and firms

→ Many jurisdictions - coordination problem  
(international, national, state, local)

## 3. Time scales

→ Exceptionally long-lived problem and policy

## 4. Uncertainties

→ Numerous, large and intractable

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# The Policy Problem

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- **How to deal with the enormous uncertainties surrounding climate change?**
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# Some key points

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- **What matters for the climate is the concentration of greenhouse gases in the atmosphere from all countries and all sources**
  - **Concentrations are the accumulation of annual greenhouse gas emissions**
  - **Science does not tell us the exact emissions path that the world or Australia should follow.**
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# What to do Given Uncertainty?

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- **Create a policy framework and an institution that enables action over time but**
    - ⇒ Reduce emissions as quickly as possible trading off the speed of emissions reduction with minimizing the economic costs
    - ⇒ Be flexible depending on what actions are taken internationally
    - ⇒ Enables a quick response when new information emerges
  - **Create a way for individuals and corporations to manage climate risk**
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# Some broad Principles

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- **Need all of the economy involved not just a particular sector**
  - **Need to change the sources of demand and supply of greenhouse gas emissions**
  - **Need to encourage the development, deployment and diffusion of low emitting technologies**
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# **Some broad Principles: Equity**

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- **A climate policy will probably lead to winners and losers**
  - **Need to deal with the distributional issues within countries and between countries and across time**
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# Some broad Principles: Politics

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- **Need to build constituencies across society that support the policy in their own financial self interest**
    - ⇒ Fossil fuel producers facing reduced demand for their products
    - ⇒ Consumers facing higher energy prices
    - ⇒ Future policymakers with an incentive to change the policy in favor of a narrow constituency
  - **The framework needs to be credible and last a very long time**
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# Some broad Principles

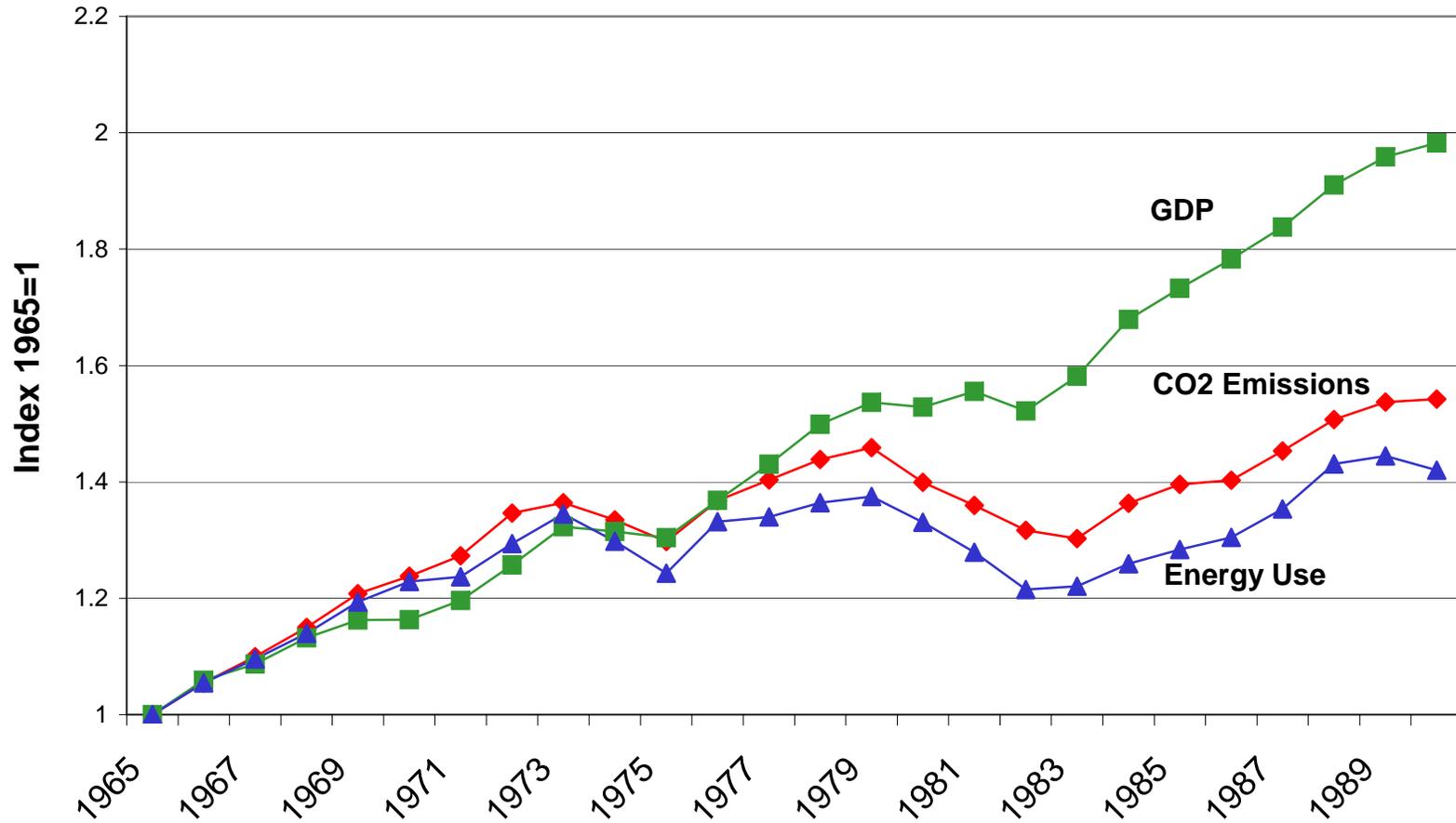
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- **Some people believe climate policy is like trade policy**
    - ⇒ We know tariffs should fall and eventually the gains from trade for the majority will outweigh the losses of the narrow vested interests
    - ⇒ Crush the vested interests and push through until the barriers are gone
  - **But climate policy is not about heading as quickly as possible to a certain outcome**
  - **It is about dealing with enormous uncertainty – much like trying to hit an inflation target over time**
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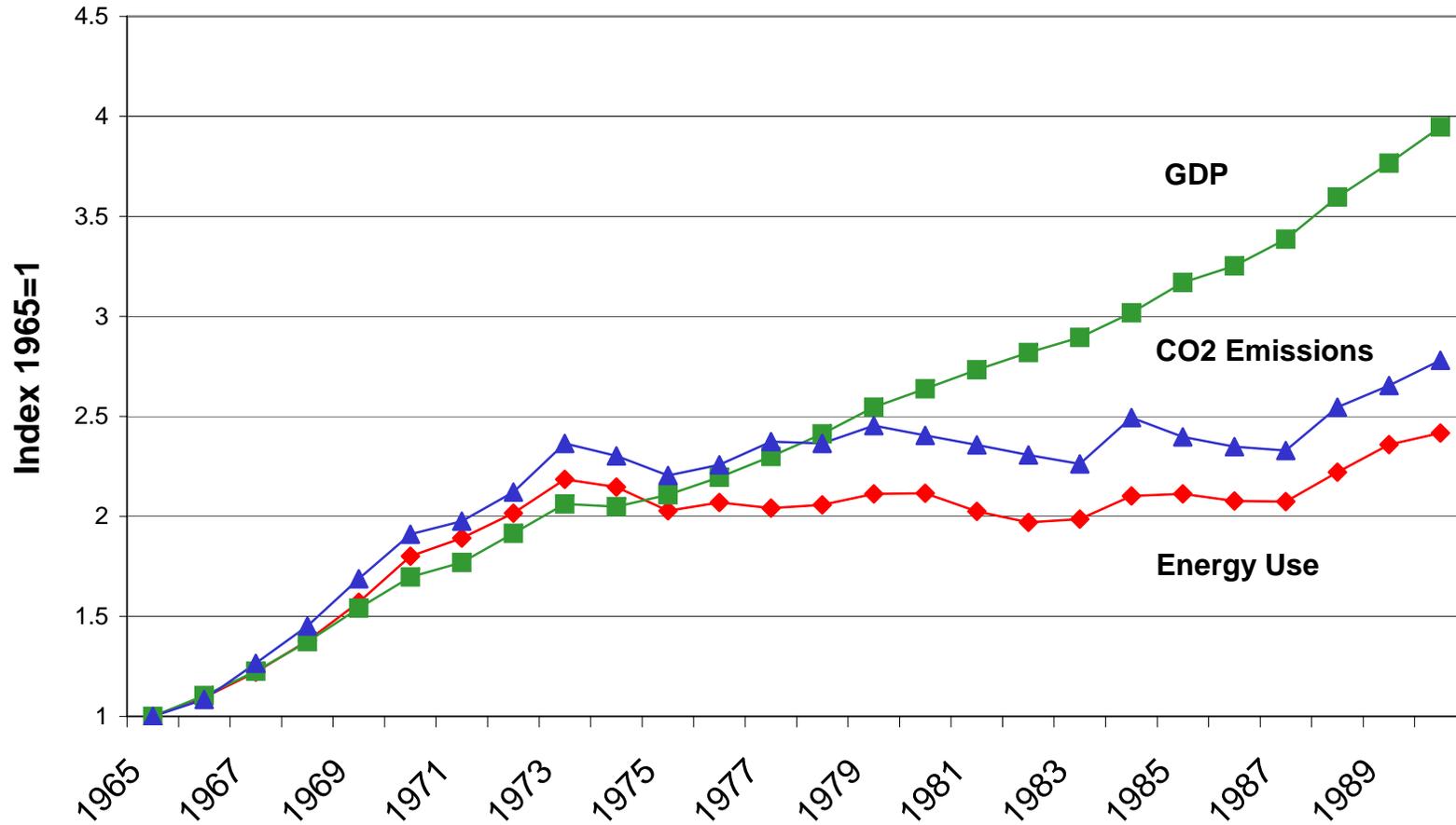
# The Role of Prices

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**Figure 3: GDP, Energy Use, CO2 Emissions  
USA**



**Figure 4: GDP, Energy Use, CO2 Emissions  
Japan**



# The Role of a Price on carbon

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- **Price signals should be both short term and long term**
  - **Price signals should be credible**
    - ⇒ Otherwise investment will not be forthcoming
  - **Price signals are crucial for encouraging**
    - ⇒ Demand side management
    - ⇒ The emergence of alternative technologies
    - ⇒ The adoption and diffusion of alternative technologies
  - **Short run prices should line up costs with expected benefits while being tied down in the long run to a concentrations target**
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# Core of the policy debate

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- Can pick a target for emissions nationally or globally and generate an uncertain price (Quantity approach - Kyoto Approach)
  - Can pick a price for emissions (equal to expected benefits) and this will lead to an uncertain reduction in emissions (Tax approach)
  - Can create a Hybrid System which combines long run targets without precise timetables and a safety valve through price caps over time (McKibbin Wilcoxon Blueprint, PM's Emissions Trading Task Group)
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**The Global framework is important**

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## **An International Regime needs to be Flexible**

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- **Need to be able to start in individual countries with known costs**
  - **Need to be able to add countries over time**
  - **Need to be able to adjust the system as information is revealed**
  - **Need to allow for particular national circumstances (forestry, black carbon etc)**
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**We have learnt a lot from the Evolution of  
the global Monetary System**

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# **Lesson 1: There is not a Single World Currency – there will not be a global emission permit**

- **Money like emission permits are promises of governments**
- **Governments have different degrees of credibility and different incentives**
- **Attempts to create a global permit market will probably end in the same way the Bretton Woods monetary system in 1971 with severe disruption**

## Lesson 2: Monetary policy

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- For many years central banks targeted the stock of money and let short term interest rates fluctuate
  - Tying down expectations of the goal of policy and implementing policy through the interest rate works very effectively
  - The same idea can be applied to climate policy – a short run price goal and a long run quantity goal
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# Climate Policy is like monetary policy

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- **Need clear long term targets (not necessarily timetables) with an independent agency charged with reaching those targets at lowest cost to the economy**
  - **Need clear long term prices to drive investment**
  - **Need fixed short term prices to minimize costs**
    - ⇒ There is no gain to society from short term permit price volatility
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# Climate policy versus monetary policy

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- **Monetary Policy**

- ⇒ Target is inflation over the cycle
- ⇒ Short term target is the cash rate
- ⇒ Key driver of economic activity is expected future interest rates (long term bond rates)
- ⇒ Cooperate with other countries through international institutions such as BIS/IMF

- **Climate Policy**

- ⇒ Target is concentrations of greenhouse gases
  - ⇒ Short term target is the carbon price
  - ⇒ Key driver of emissions is expected future carbon prices (price of long term carbon asset)
  - ⇒ Cooperate with other countries through the UNFCCC processes
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# McKibbin Wilcoxon Blueprint

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- **A hybrid of emissions trading and carbon taxes**
  - **A way to implement climate policy as monetary policy**
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# The McKibbin Wilcoxon Blueprint

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- **Impose a long term carbon goal for economies**
  - **Use a market to generate a long term price for carbon to guide energy related investment decisions**
  - **Line up short term economic costs with expected environmental benefits with market intervention**
  - **These new markets also provide a way for corporation and households to manage climate risk**
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# Components of the Policy

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- **National permits**

- ⇒ A company needs a year dated permit to emit carbon
- ⇒ Good only in country of issue

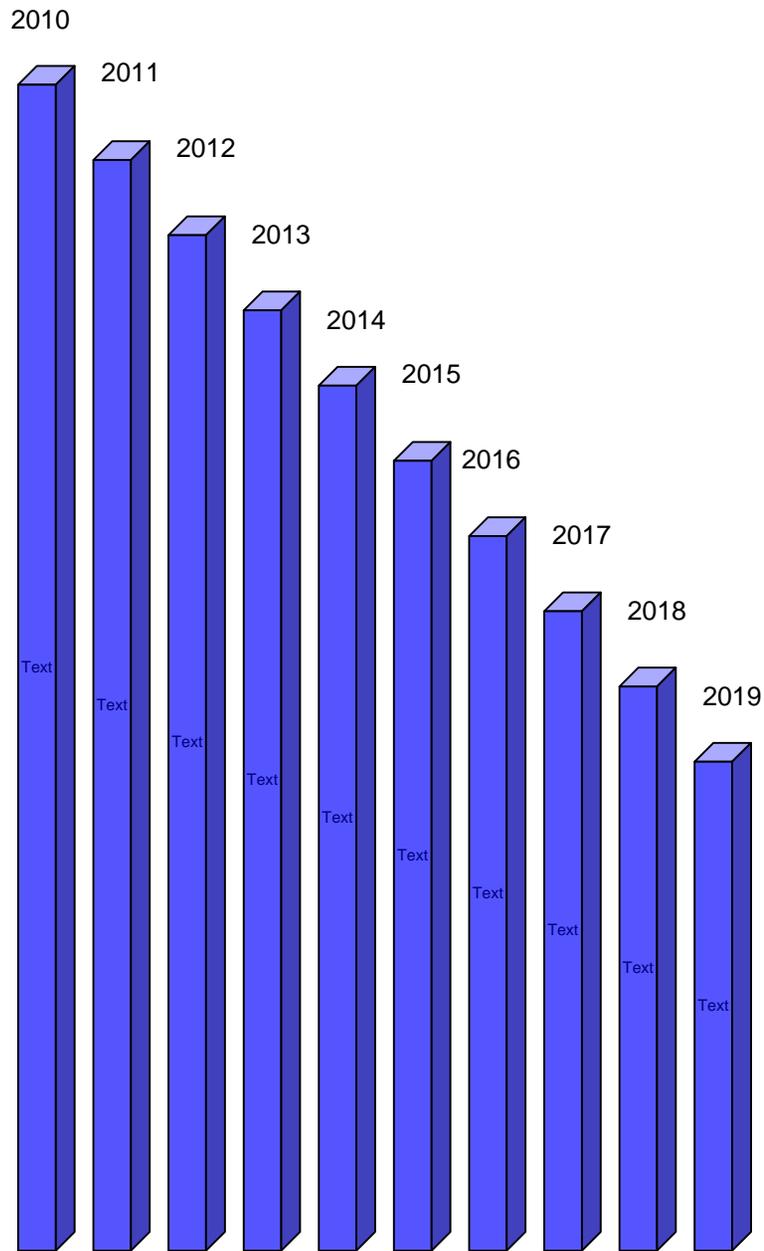
- **Long-term permits**

- ⇒ A bundle of declining annual permits with date stamps
- ⇒ Only issued once to reflect the desired target for emissions over time
- ⇒ Traded in a market with a flexible price

- **Annual permits**

- ⇒ Allow 1 ton of emissions in **year of issue**
- ⇒ Elastic supply from national government
- ⇒ Price fixed for five years

# 10 year permit



# annual permit



# Allocation

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- **Those who need permits are not necessarily the same as those who own the permits**
  - **Allocate all long term permits freely to fossil fuel intensive industry and households**
  - **Additional annual permits are sold at a fixed price**
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# Overall

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- **Creates incentives for investment**
    - ⇒ Raises the price of emissions into the future
  - **Incentives are credible**
    - ⇒ Built-in constituency of long term permit holders
    - ⇒ Robust to accessions and withdrawals internationally
    - ⇒ Operates within existing institutions
  - **Provides a foundation on which to build**
    - ⇒ Completely consistent with technology policies
    - ⇒ Provides incentives for adoption and diffusion
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# Main Concept

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- ⇒ The long term permits are the medium term goals for emissions without a timetable of when they are reached
  - ⇒ The short term permits are the economic costs to the economy
  - ⇒ Move through a low cost path from the short run to the longer run in decadal steps with profit incentives to reduce emissions wherever cost effective
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# What about competitiveness?

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- **The cost of carbon is not the largest cost even in aluminium production – the cost of capital is more important**
  - **Under the Blueprint, the cost of carbon that affects direct competitiveness is controlled by the government and is kept low until other countries impose carbon prices in which case the competitiveness issue disappears over time**
  - **The increased ability to manage asset risk will be more positive for a company's balance sheet than the negative effect of a slightly higher short term carbon price**
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# What about carbon leakage?

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- **Why would a fossil fuel intensive industry move away from an economy in which the risk to their capital is hedged, into an economy with greater political risk and no carbon policy when you know that over the next decade or so carbon policy will be inevitable.**
  - **A small rise in the carbon price can be more than offset by the gains of risk reduction on protecting capital**
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# Early Action is critical

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- **Australia should act now in creating markets with long term price signals that:**
    - ⇒ That enable energy generators and energy intensive industries to protect their capital value against change in the climate and changes in climate policy
    - ⇒ Give clear profit signals to alternative generating technologies and other technologies such as carbon capture and storage
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# Early Action is critical

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- **R&D is only a partial but a necessary part of the solution**
    - ⇒ but without a market price there is little incentive for technologies to be implemented and diffused through the economy
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# Climate Policy as Monetary Policy

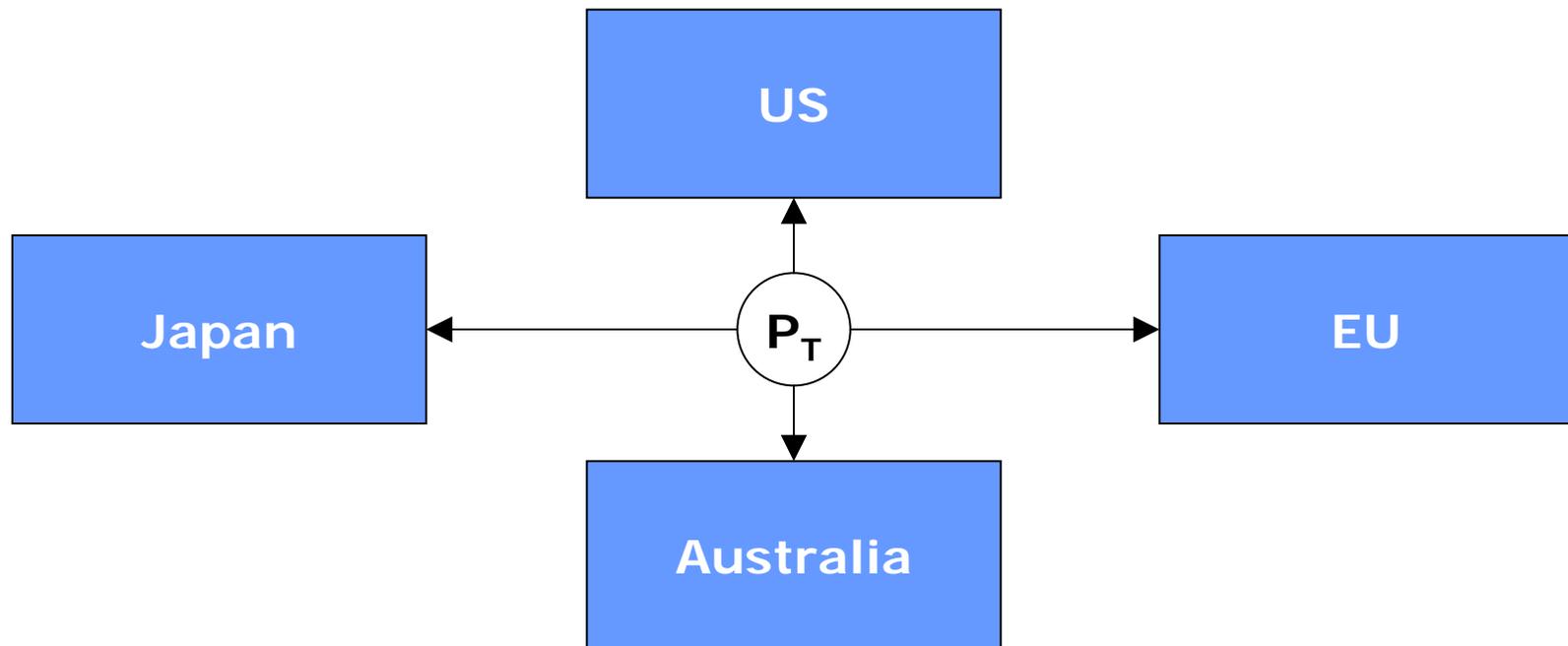
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- ⇒ Long term government bond market prices interest rates over long horizons given a stock of government debt (like long term permits)
  - ⇒ Central banks set the short term interest rate - the supply of financial liquidity is generated by the market (like annual permits).
  - ⇒ The long term interest rate (which is flexible) is the expected value of future of short term interest rates (which are fixed in any period)
  - ⇒ An independent Central Bank of Carbon within each country manages the policy
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# Coordination of National Permit Markets

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- Independent but coordinated via  $P_T$



# Conclusions

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- **Substantial climate uncertainty implies responding now in terms of institutional design**
  - **Need long term price signals to encourage development, adoption and diffusion of carbon saving technologies and to manage energy demand**
  - **Need short term price signals capped at expected benefits to minimize economic cost**
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# Conclusion

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- **The solution to reducing emissions will require a portfolio of different policy strategies not reliance on a single strategy**
  - **The technological solution will likely involve a range of different technologies all suitable for different circumstances**
  - **A foundation of clear price signals will help minimize the economic costs of addressing a critical problem.**
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# Background Papers

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[www.sensiblepolicy.com](http://www.sensiblepolicy.com)

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