

# Innovative Climate Policy – Ten principles for policy-making in the energy transition

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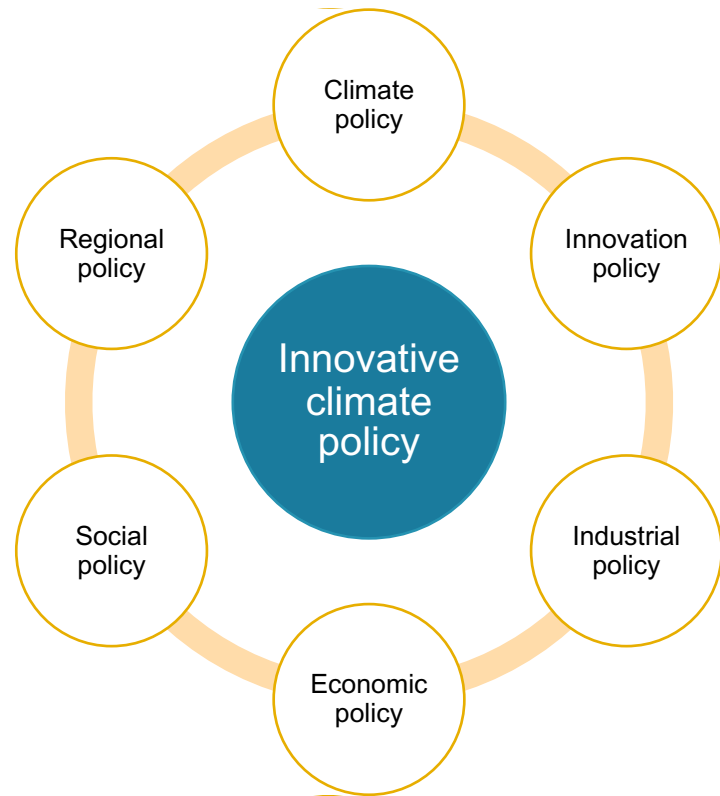
Friday 5<sup>th</sup> May 2023

# Overview

1. What is innovative climate policy?
2. A paradigm shift?
3. Why is that?
4. Ten principles for policy making in the energy transition
5. Conclusion



# What is innovative climate policy?



Regulatory instruments										
Codes / standards / mandates			Obligation schemes / quotas							
Building codes and standards	Product standards	Vehicle-fuel economy and emission standards	Renewable Energy obligations (RPS)*							
Economic and Financial instruments										
Direct investment		Fiscal / Financial incentives					Market-based instruments			
Government Procurement	R&D funding	Feed-in tariffs / premiums	Auctions	Taxes and tax exemptions	Grants, subsidies and other tax allowances	Loans and soft loans	User chargers	GHG emissions allowance trading schemes	Green certificates	White certificates
Soft instruments										
Performance labels		Information campaigns			Voluntary approaches					
Comparison Labels	Endorsement labels	(by energy agencies, energy suppliers, etc...)			Negotiated agreements (Public-private sectors)		Public voluntary schemes	Unilateral commitments (private sector) / Environmental Management Systems (EMSs)		

Source: Peñasco et al 2021, *Nature Climate Change*.

Innovative climate policy means using 'new' policy instruments and 'combine' them in an innovative way with the ultimate goal of mitigating the impacts of climate change and build a more sustainable future for all

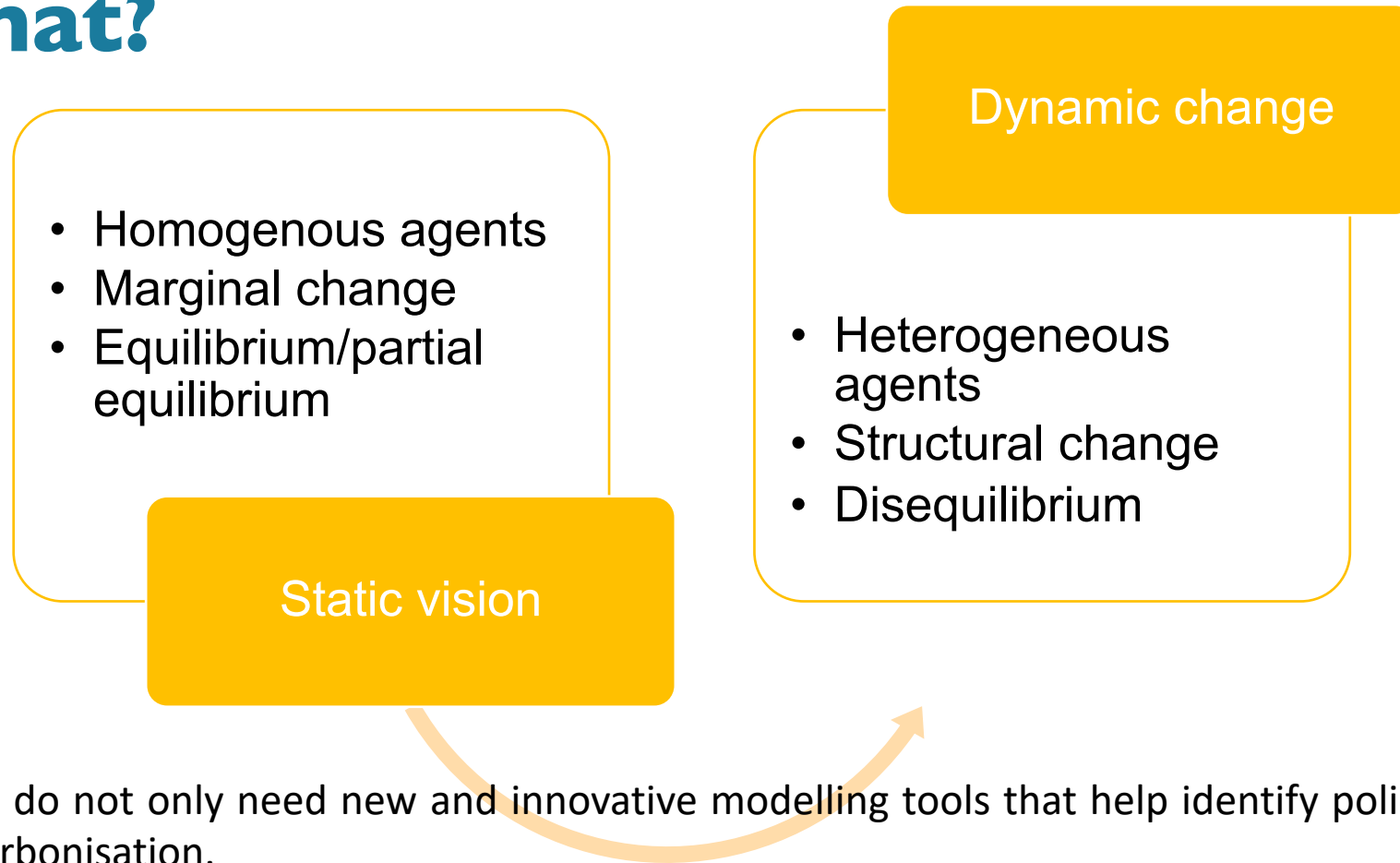




## A paradigm shift?

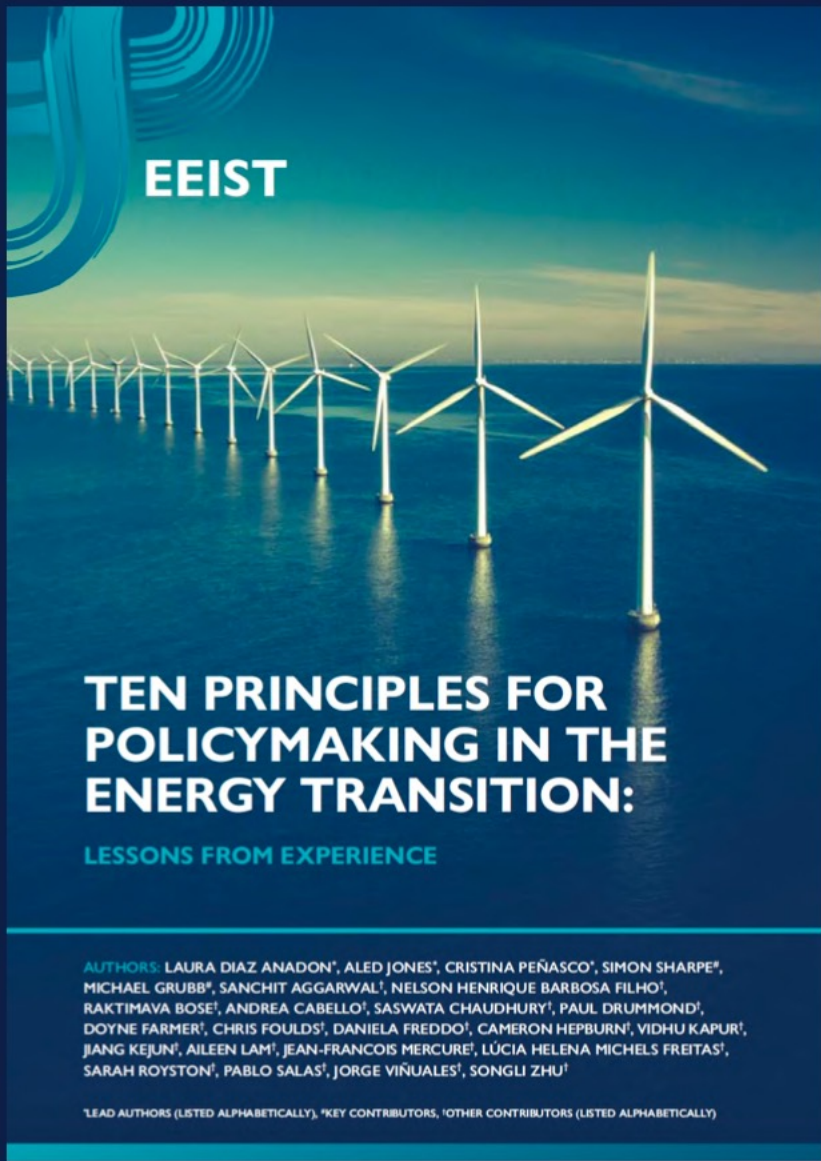
Policies critical to the most outstanding successes so far in low carbon transitions in China, India, Brazil, the UK and EU were generally implemented **‘despite, not because of, the predominant economic analysis and advice.’**

# Why is that?

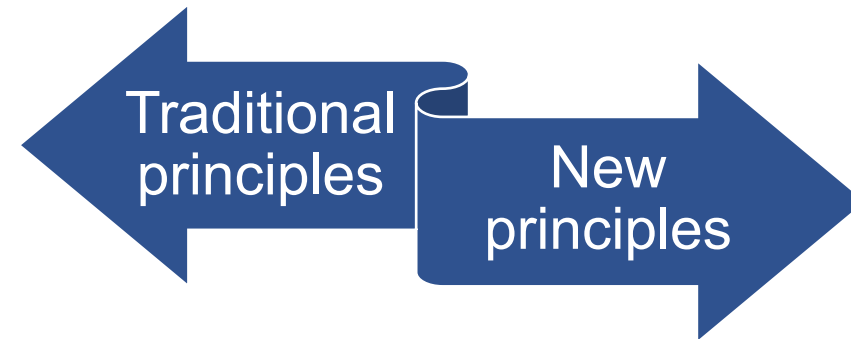


1. In this context, we do not only need new and innovative modelling tools that help identify policies that will drive cost-effective decarbonisation.
2. We also need an innovative way of understanding and doing climate policy a.k.a. a change in paradigm in policy making for the transition to low carbon economies.

Source: Barbrook-Johnson et al. 2023; Anadon et al. 2022



In the context of dynamic processes and structural change like the energy transition, **new general principles for policymaking are needed.**



This New Principles are built on a wealth of **experience and analysis gathered over the last three decades** where policy has induced rapid innovation and growth in clean energy technologies.

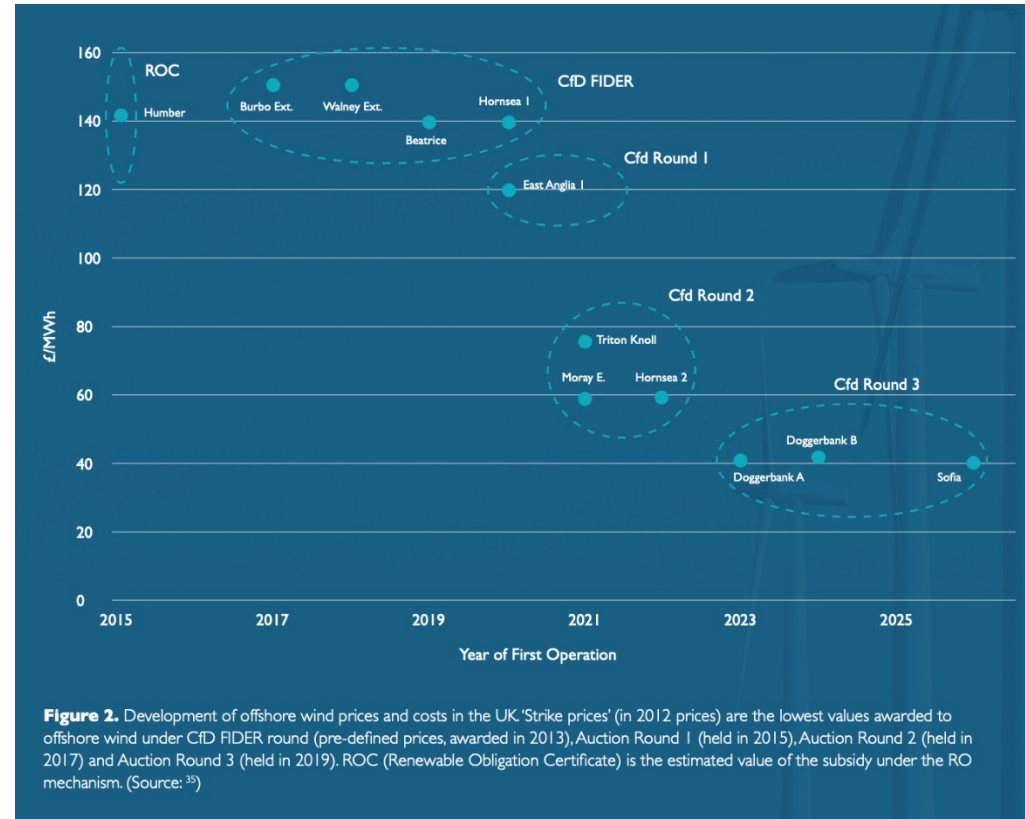


	<b>Traditional principle</b>	<b>Principle for the transition</b>
<b>1</b>	<i>Policy should be 'technology neutral'</i>	<b>Technology choices need to be made</b>
<b>2</b>	<i>Government interventions raise costs</i>	<b>Invest and regulate to bring down costs</b>
<b>3</b>	<i>Markets on their own optimally manage risks</i>	<b>Actively manage risks to crowd-in investment</b>
<b>4</b>	<i>Simply price carbon at a level that internalises the damages of climate change</i>	<b>Target tipping points</b>
<b>5</b>	<i>Consider policies individually based upon distinct 'market failures'</i>	<b>Combine policies for better outcomes</b>
<b>6</b>	<i>Policy should be optimal</i>	<b>Policy should be adaptive</b>
<b>7</b>	<i>Act as long as total benefits outweigh the costs</i>	<b>Put distributional issues at the centre</b>
<b>8</b>	<i>Link carbon markets to minimise current costs</i>	<b>Coordinate internationally to grow clean technology markets</b>
<b>9</b>	<i>Assess aggregate costs and benefits</i>	<b>Assess opportunities and risks</b>
<b>10</b>	<i>Policy models and assessment are neutral</i>	<b>Know your biases</b>

# Technology choices need to be made

*Traditional principle: Policy should be 'technology neutral'*

- In a context of innovation and structural change, policies will almost always advantage some technologies. It is better to choose deliberately rather than accidentally, supporting innovation in low-carbon directions.



*Case Study:  
UK offshore  
wind power*

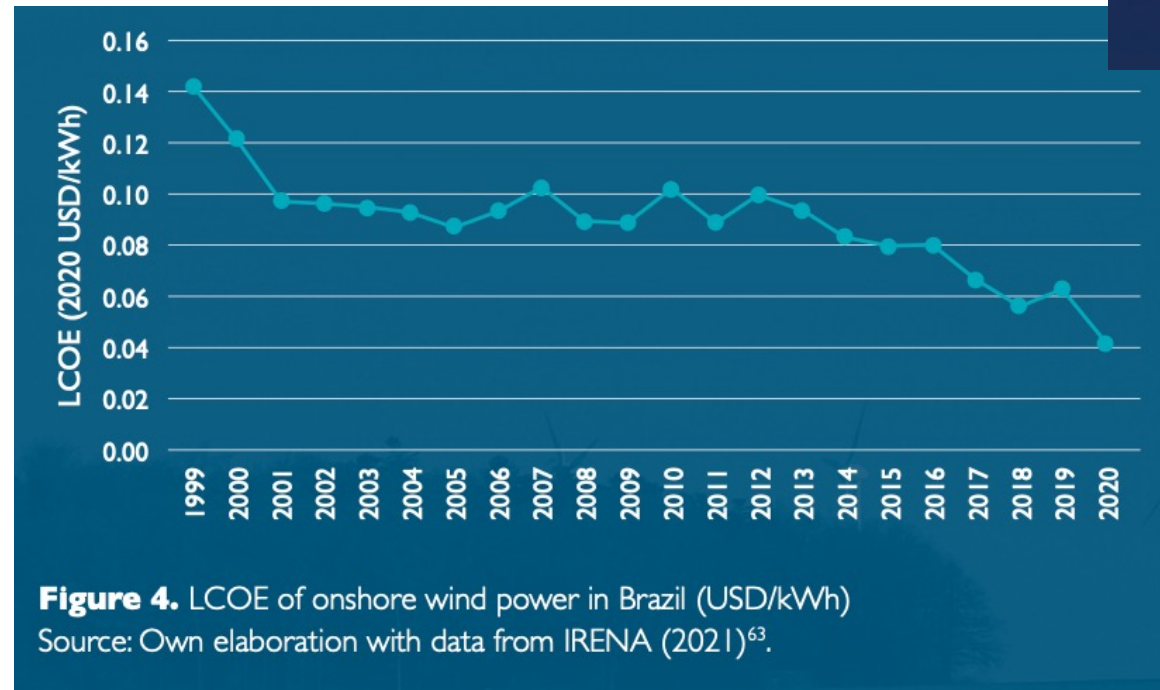


# Invest and regulate to bring down costs

*Traditional principle: Government interventions raise costs*

- Well-designed investment and regulation policies can bring down the cost of clean technologies, by creating a 'demand pull' for innovation.

## Case Study: Wind turbines in Brazil



# Actively manage risks to crowd-in investment

**Traditional principle: Markets on their own optimally manage risks**

- Efforts to reduce the risks of private investment in clean technologies, including public finance acting as a lead investor, can reduce technology risk and financing costs and greatly increase investment and deployment.



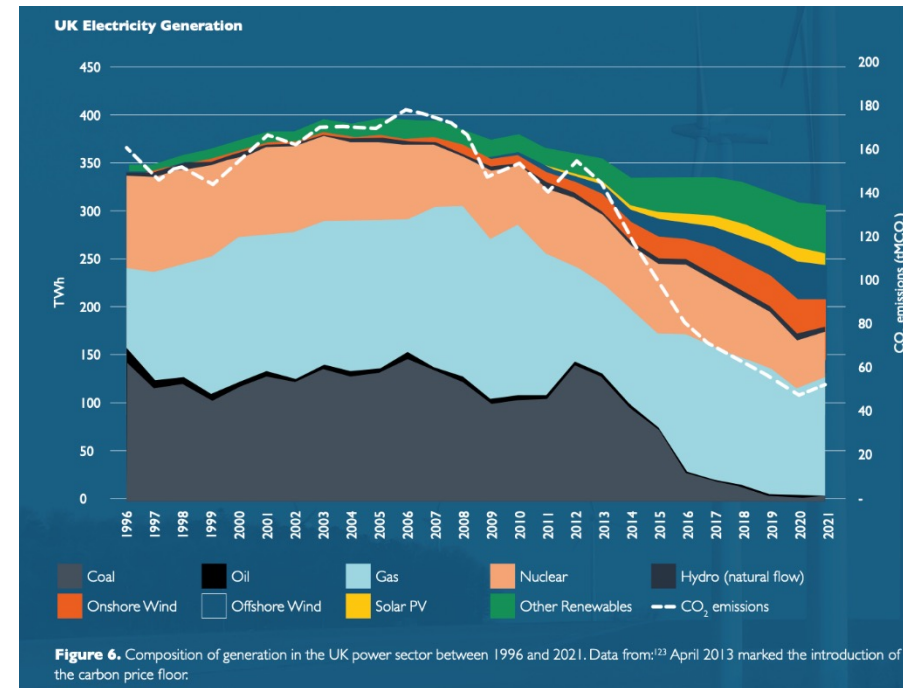
**Case Study:  
Feed-in tariffs &  
internationally  
funded top-ups  
for small  
hydropower in  
Uganda**

# Target tipping points

*Traditional principle: Simply price carbon at a level that internalizes the damages of climate change*

- Well targeted interventions can activate tipping points where a small input leads to a large change. This can inform the targeting and level of subsidies and taxes, as well as the stringency of regulations.

*Case Study: Triggering the electricity transition with Electricity Market Reform and a carbon price floor*

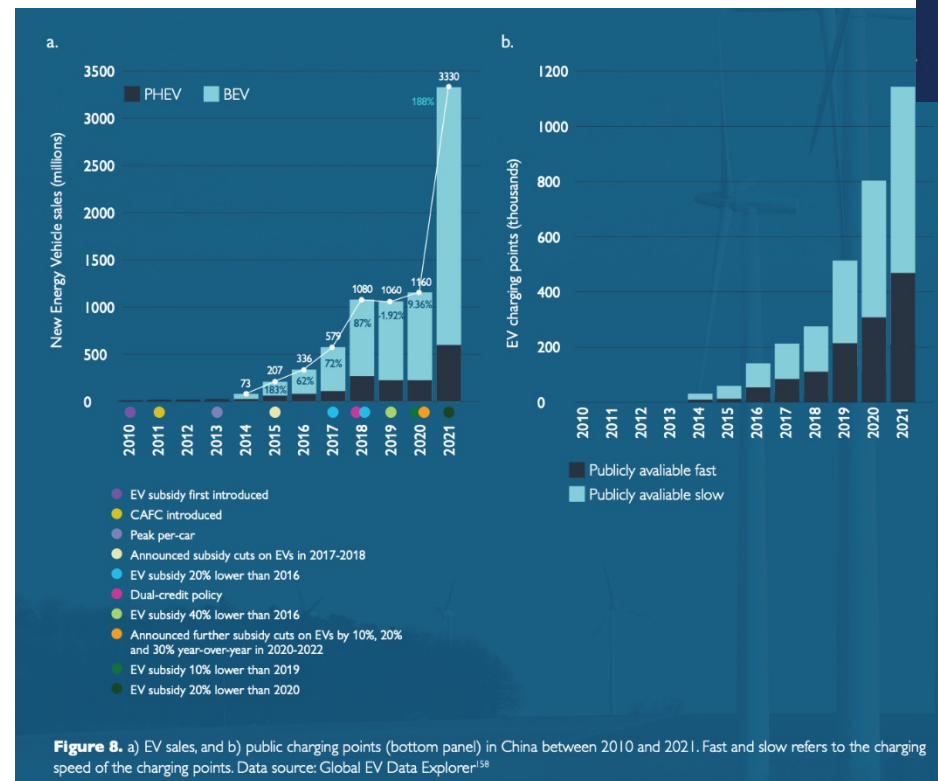




# Combine policies for better outcomes

*Traditional principle: consider policies individually based upon distinct ‘market failures’*

- A combination of policies will be needed to drive each low-carbon transition. Assessing policies as a package can identify those that are mutually reinforcing, generating outcomes ‘greater than the sum of the parts’.



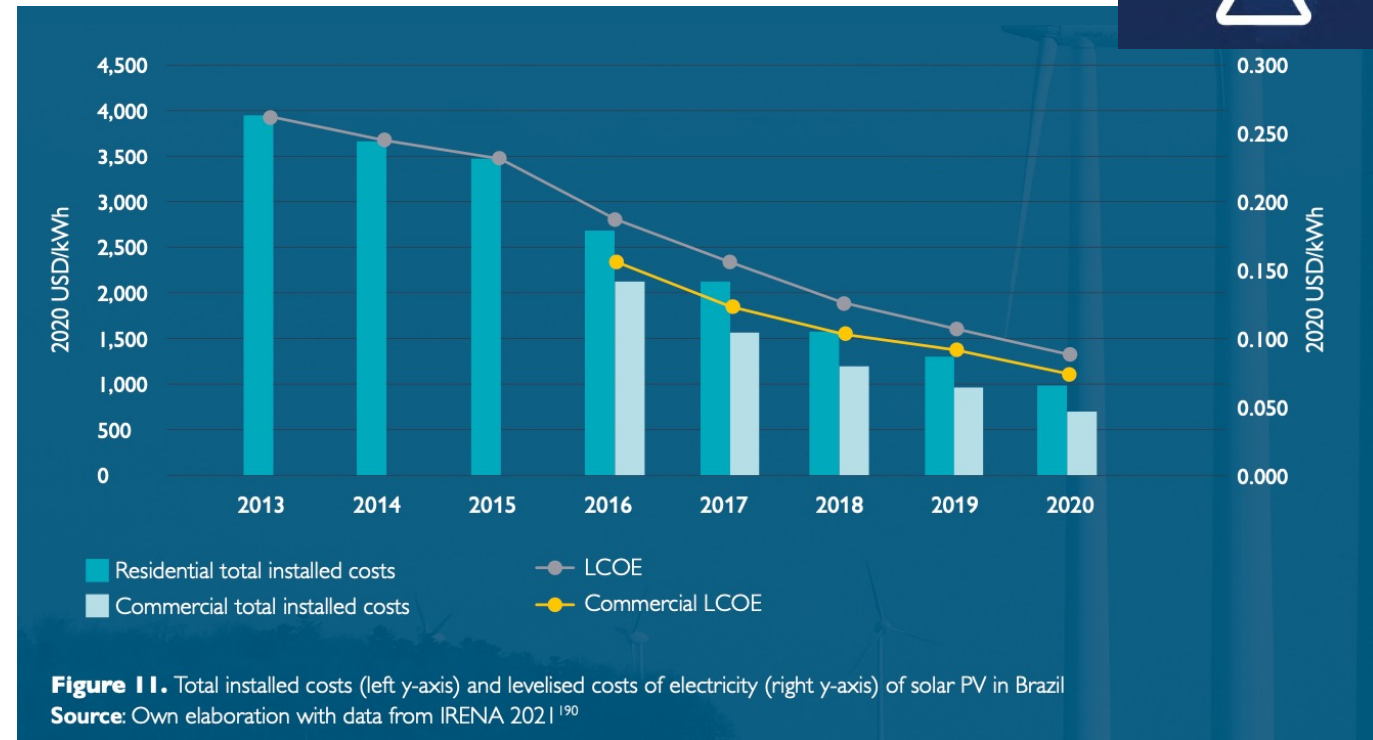
*Case Study:  
Policies  
supporting  
China's  
electric  
vehicle  
development*

# Policy should be adaptive

*Traditional principle: policy should be optimal*

- Policy should be designed to be adaptive, so that it can more easily respond to unforeseen changes, exploit opportunities and manage risks.

## Case Study: Expansion of solar PV in Brazil



# Put distributional issues at the centre

***Traditional principle: Act as long as total benefits outweigh the costs***

- Distributional issues should be central to policy analysis, since they are important for environmental, economic and social goals, and are likely to have a strong bearing on social support for the transition.



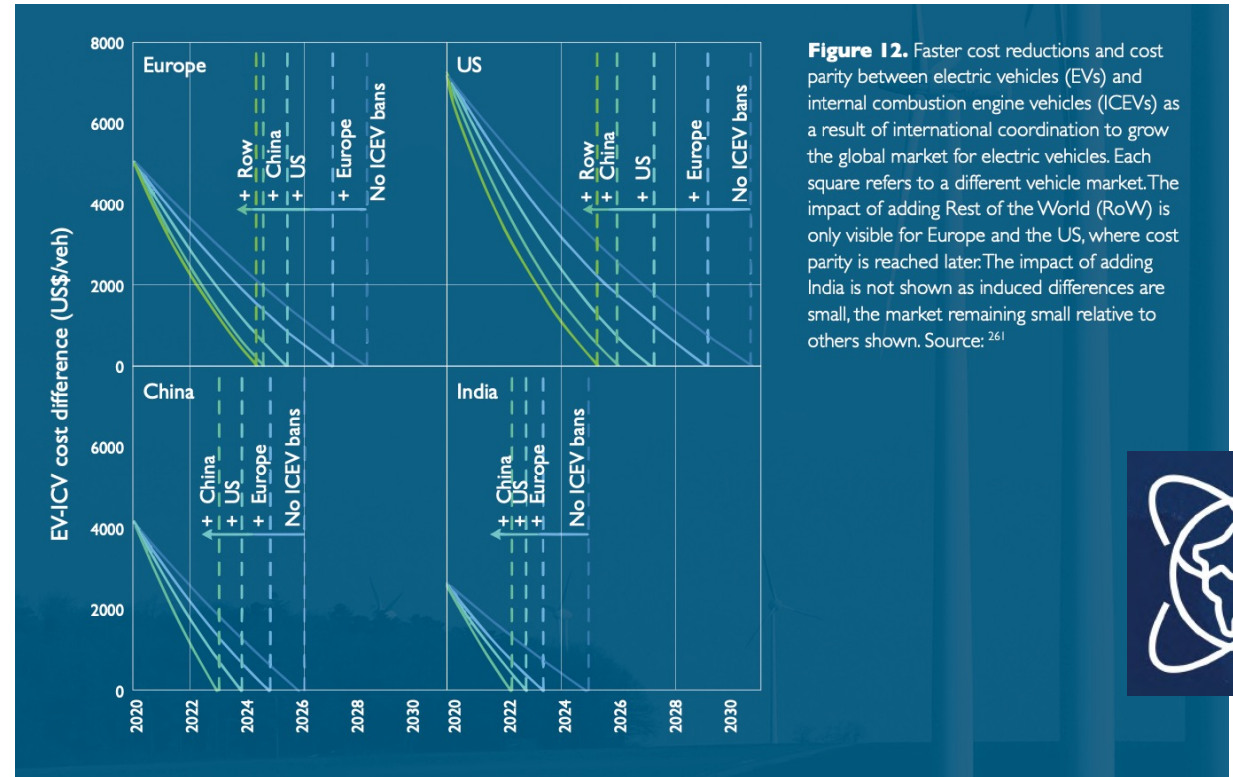
***Case Study:  
Carbon road fuel  
taxes and the  
'Gilets Jaunes'  
movement in  
France***



# Coordinate internationally to grow clean technology markets

**Traditional principle: Link carbon markets to minimise current costs**

- Coordinate internationally to grow clean technology markets can lead to faster innovation and larger economies of scale, accelerating the cost reduction of clean technologies, with benefits for all countries.

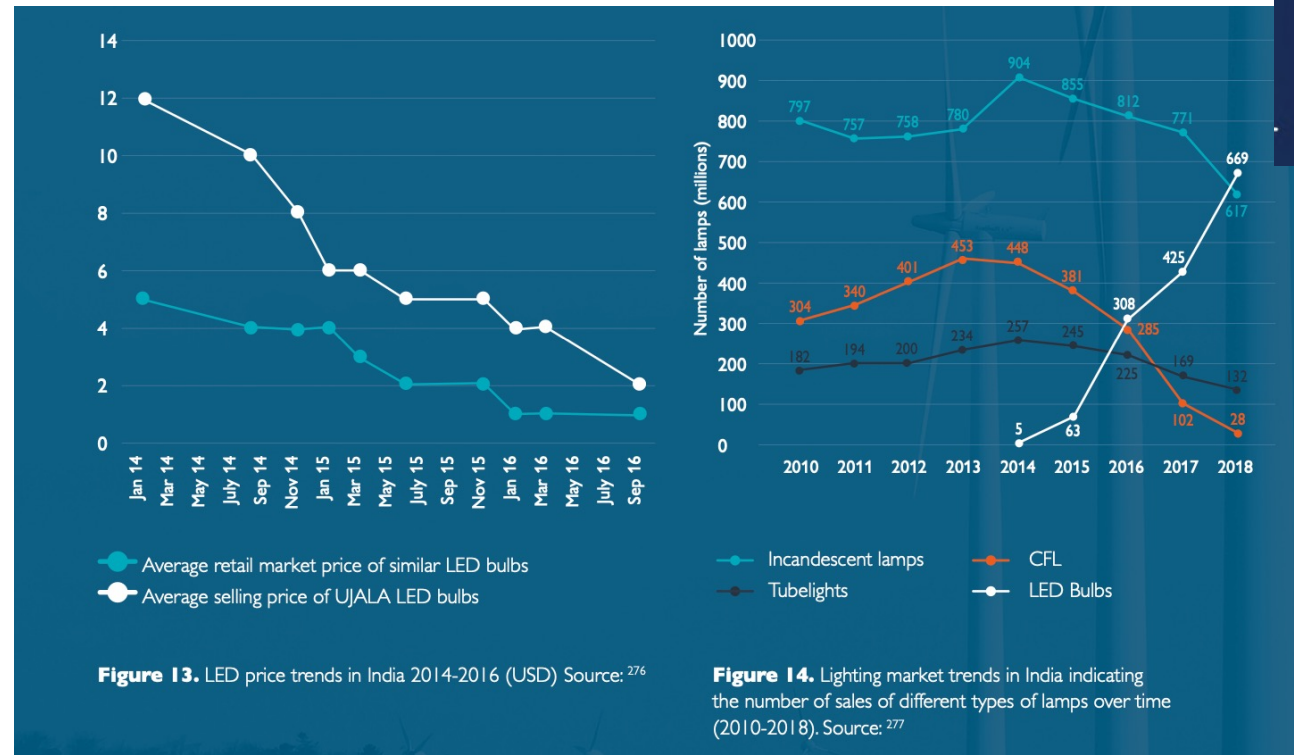


**Case Study: International cooperation on zero-emission vehicles**

# Assess opportunities and risks

**Traditional principle: Assess aggregate costs and benefits**

- Where the aim is transformational change, appraisal should consider the effects of policies on processes of change in the economy, alongside their expected outcomes.



**Case Study: India's transformation of LED demand aggregation through procurement**

# Know your biases

## *Policy models and assessment are neutral*

- The construction of economic models unavoidably involves many choices that will influence their outputs, in which there are no 'correct' answers.



***Case Study:  
European 2030  
renewable energy  
targets***



# Conclusions

- ✓ Within a complex system, a structural change requires transformational climate policy, underpinned by appropriate policy processes and informed by a set of organising principles
- ✓ Acknowledge the limitations of the traditional principles in a changing context and complement the ‘assumed’ knowledge with analytic frameworks considering structural change beyond equilibrium theory.
- ✓ Where the traditional principles aim to achieve an efficient allocation of existing economic resources, our principles aim to guide the process of economic change in an effective and fair way
- ✓ Useful for governments wishing to achieve fast enough transitions to avoid dangerous and irreversible climate change impacts while minimising costs and maximizing opportunities for economic development.



Thanks so much – Q&A



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