

SESSION 4. Extending the policy toolbox: non-pricing and complementary policies

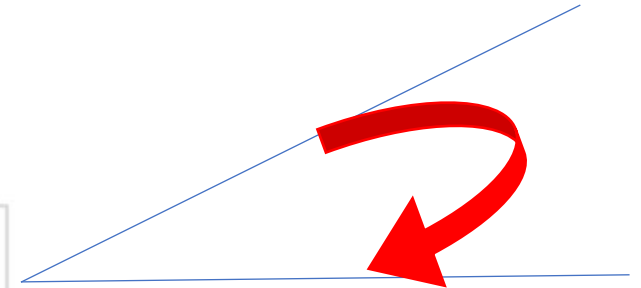
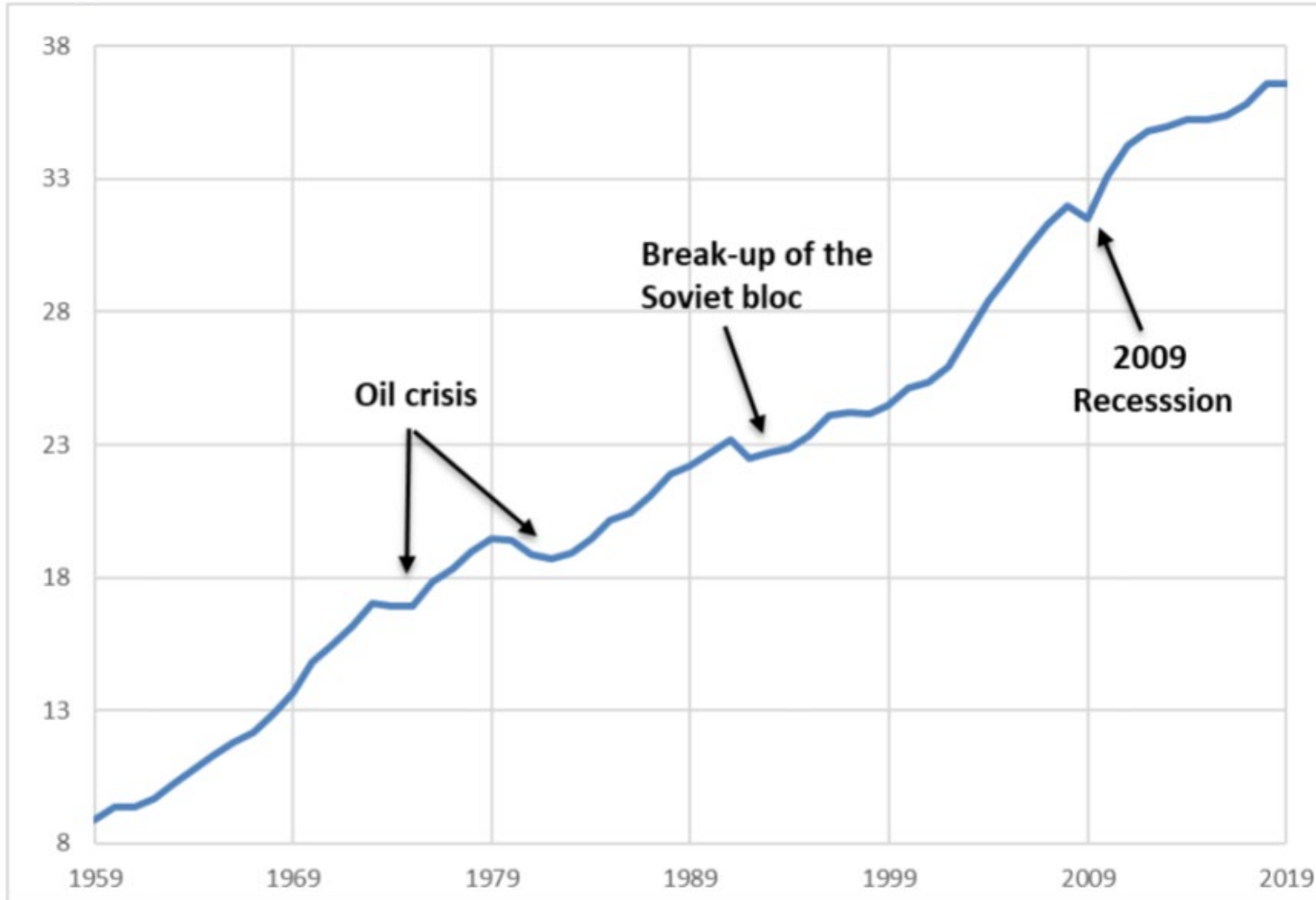
Thomas Sterner

Policy sequencing toward decarbonization

The Goal, The Instrument(s), The Path

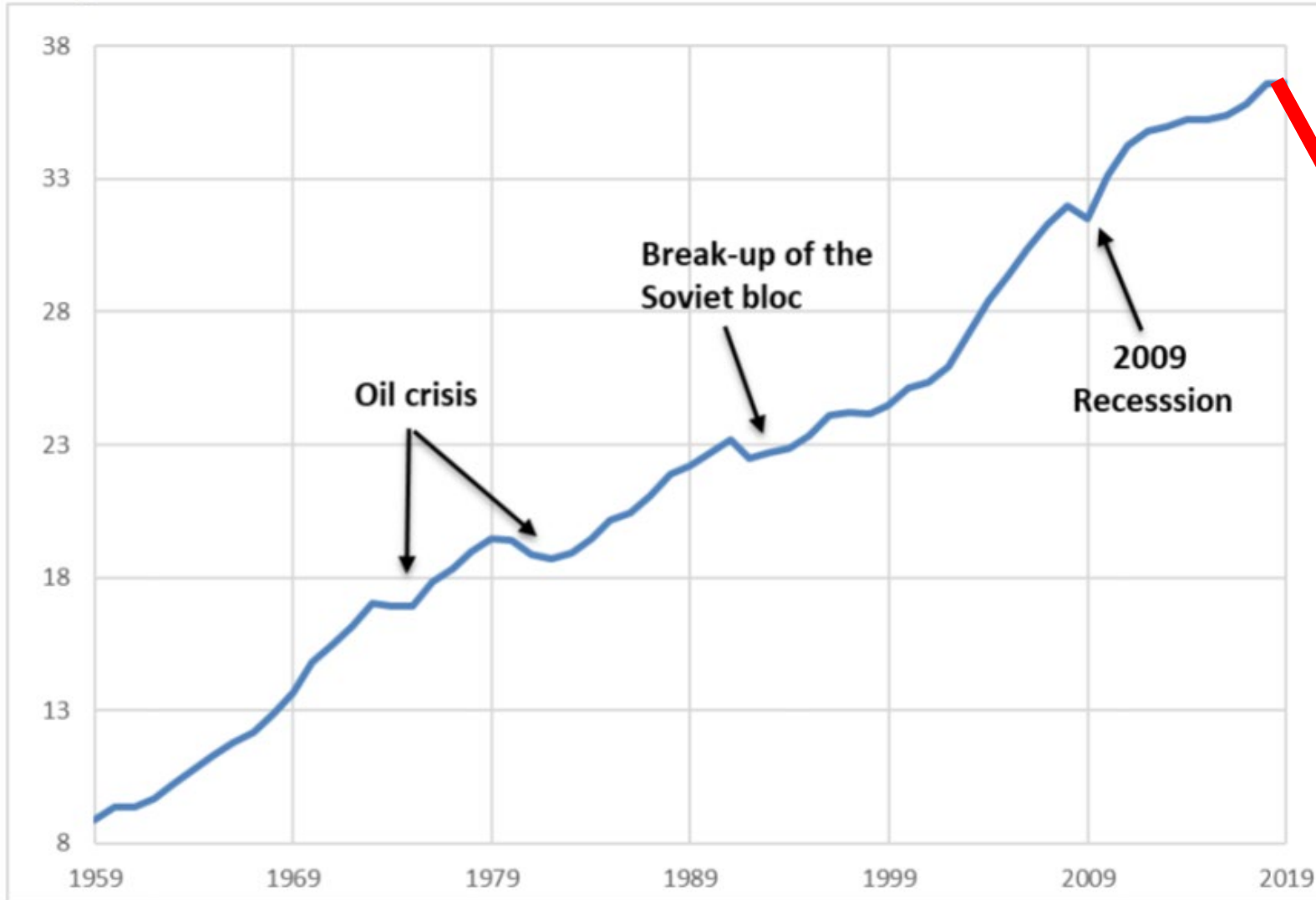
History

Global CO₂ emissions
In Gigatonnes



THE GOAL

Global CO₂ emissions
In Gigatonnes



Annual CO₂ emissions

Carbon dioxide (CO₂) emissions from the burning of fossil fuels for energy and cement production. Land use change is not included.

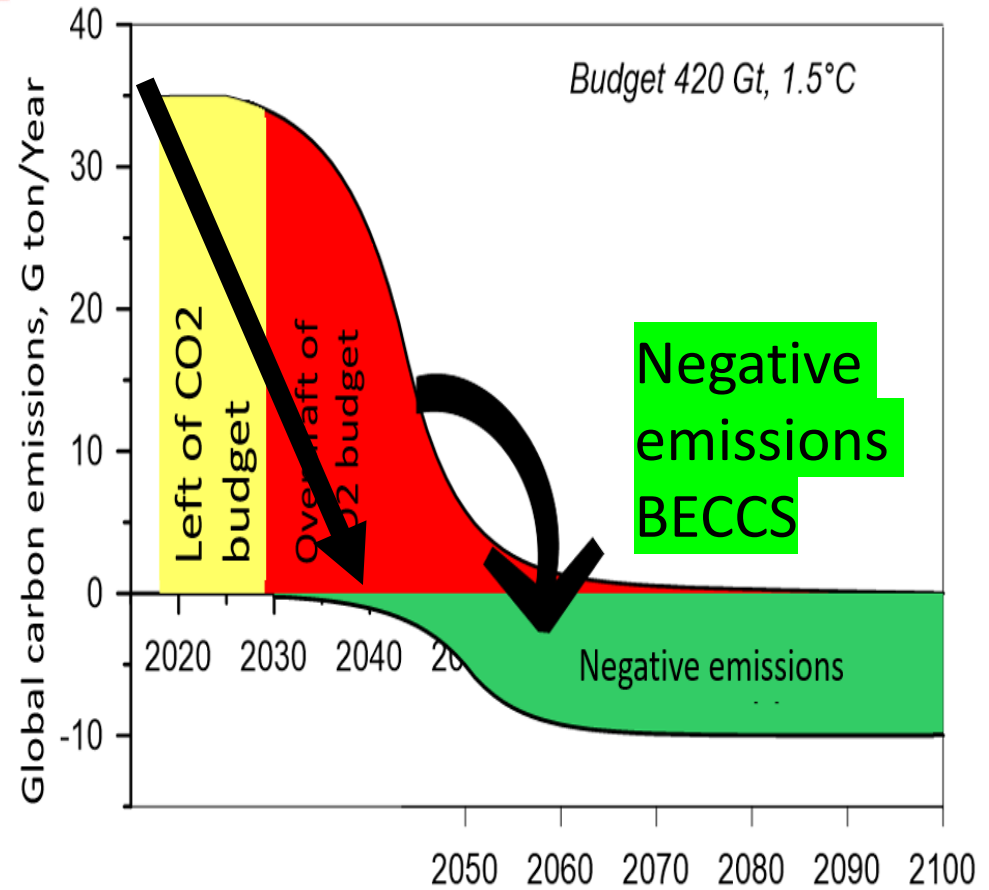
Our World
in Data



Source: Global Carbon Project

OurWorldInData.org/co2-and-other-greenhouse-gas-emissions/ • CC BY

Note: CO₂ emissions are measured on a production basis, meaning they do not adjust for emissions embedded in traded goods.



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P=SCC 200 \$

Analysis | Published: 13 July 2020

Climate economics support for the UN climate targets

Martin C. Hänsel, Moritz A. Drupp, Daniel J. A. Johansson, Frikk Nesje, Christian Azar, Mark C. Freeman, Ben Groom  & Thomas Sterner

Nature Climate Change **10**, 781–789(2020) | [Cite this article](#)

Policy Instruments for Environmental and Natural Resource Management

Second Edition



Thomas Sterner and Jessica Coria

 RFF PRESS
RESOURCES FOR THE FUTURE

 ROUTLEDGE

A price!

Rising / Falling?

Tax versus Permit (P vs Q)

Or combination?

JUST a single Price

Politically feasible instruments.

Acceptability, Distribution. Use of Revenue, CBAM, Output allocation, GF, Refunding or earmarking, Intensity based instruments like tradable performance standards...
... Sector specific vs general instruments. (public procurement, green funding, circularity...

Policy Instrument Menu

PRICE-TYPE	RIGHTS	REGULATION	INFO/LEGAL
Taxes	Property rights	Technological Standard	Public participation
Subsidy (Reduct.)	Tradable permits	Performance Standard	Information disclosure
Charge, Fee/Tariff	Tradable Quotas	Ban	Voluntary Agreement
Deposit-refund	Certificate	Permit	Liability
Refunded Charge	CPR	Zoning	

Policy Instrument Menu

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Problems with Carbon price
Efficient, quite fair but ...
is it acceptable



MAKING
CLIMATE
POLICY
WORK

DANNY CULLENWARD
DAVID G. VICTOR

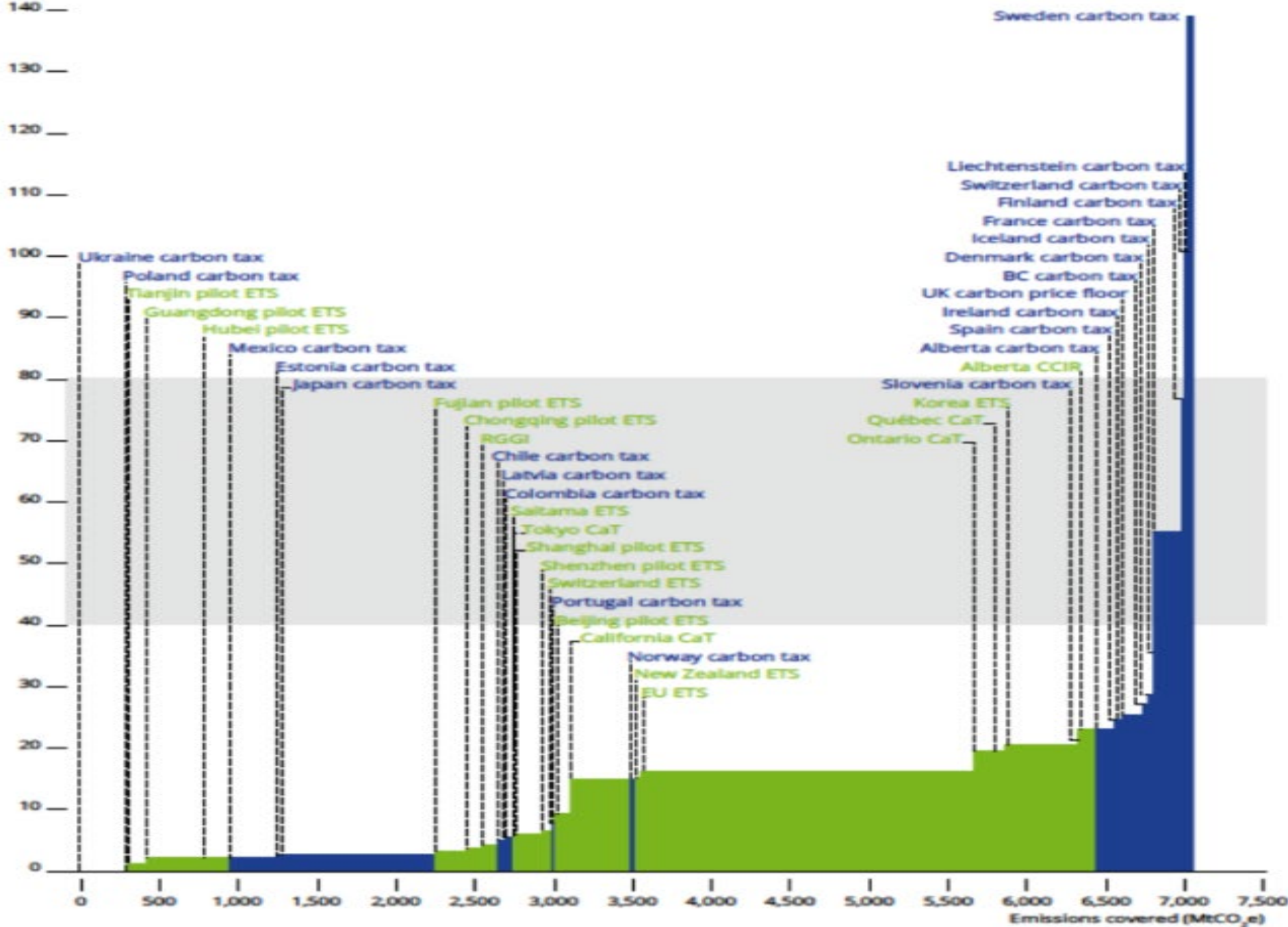
Nations Unies
sur les Changements Climatiques 2015
COP21/CMP11
Paris, France



Policy Sequencing

- Price of Carbon still needed
- But if (high price) not feasible in short run then:
- Use other instruments that are feasible:
- Subsidy for education, RDD, renewables and lumpy infrastructure
- Use Refunded charges, Tradable performance standards etc
- Build lobbies, change perceptions, remove uncertainties, provide funding...
- Then raise the price of carbon in the long run

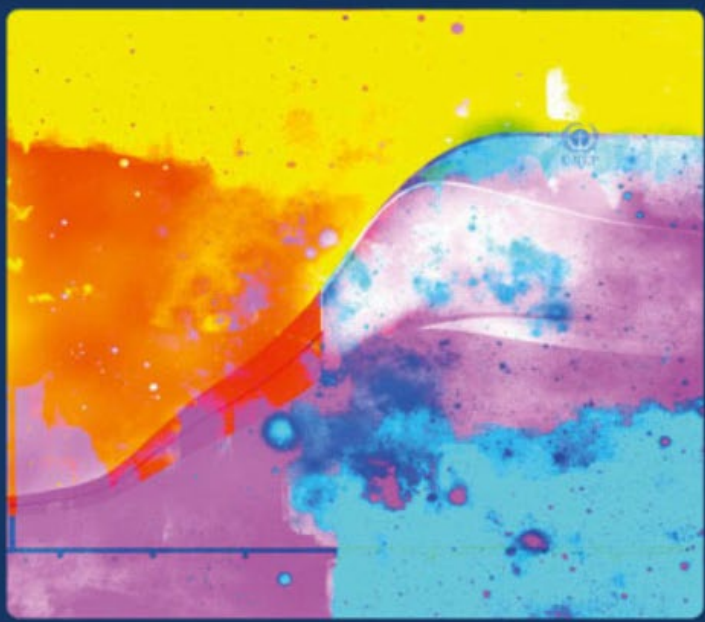
Extras



Many countries but prices too low – just a fraction of oil prices. / (20%)

Carbon price range needed in 2020 to stay consistent with achieving the temperature goal of the Paris Agreement as identified by the High-Level Commission on Carbon Prices.

ETS Carbon tax



Global Warming of 1.5 °C

An IPCC special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate p

Oct 8 2018

The IPCC Special Report on Global Warming of 1.5°C is out

October 11, 2018 News

1.5 or 4°C



6 UPDATES and Choices to DICE

1. Damage Function
2. Carbon cycle/ Energy balance
3. Non-CO₂ gases
4. Negative emissions technologies
5. Ethical Parameters/Discounting
6. Speed of Adjustment
7. Now CH₄ N₂O endogenous