

# **A Second Narrative – a world of unequal ambition (and action)**

RIPPLES workshop, Warsaw, 26 April 2018

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- Context
- Economics
- Governance
- Modeling
- Possible implication for RIPPLES



## Audience participation ...

- How many people here think the different regions of the world will move to implement the Paris agreement with similar and broadly coordinated levels of ambition and speed?
- How many think that “laggards” risk being a constraint on action to implement Paris and to increase Ambition?
- How many think that those with strong vested interests in carbon-intensive production, and/or higher carbon intensity, are more likely to be laggards?
- Should we analyse a Narrative that is both structurally realistic and positive in its treatment of these issues?



## Multilateral [or Plurilateral?] Arrangements for Cooperation and Ambition (MACAs)

- The climate world has always been characterised by different levels of ambition: this is nothing new
- In Kyoto was reflected in Annex I vs non-Annex I and differentiated targets, with a narrative of leadership by industrialised countries
- However the economic and political realities did not align with this (and became increasingly divergent)
- ... whilst rationale of rich-poor differentiation and the *mirage* of moving to equalised global action prevented serious analysis of, or political development of, ways to support regions of greater ambition
- ... reinforced by the economic narratives of ineffectiveness, adverse competitiveness & carbon leakage



## Multilateral Arrangements for Cooperation and Ambition (MACAs)

- Essentially, within the ‘bottom-up’ and evolutionary context of the Paris Agreement:
  - Recognise that this fundamentally recognises the reality of differing levels of implementation ambition
  - Would endorse cooperative actions between countries seeking to move from NDC ambition towards the actual overall ambition of the Aims
- Key questions are whether and how such countries and associated actors can move from ‘coalition’ to ‘cooperation’, and how much could they thereby achieve?



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## Multilateral Arrangements for Cooperation and Ambition (MACAs) - Economics

- In economic language, MACAs are “clubs” – something with rules of participation
- To be stable, participation should bring benefits, or at least not reward non-participation
- Two broad approaches to achieving this:
  - Protective and punitive
  - Positive and progressive



## ‘Economics of clubs’, 1: - the pure, protective and punitive version

*Conceive climate change as a burden-sharing problem of pure global economic externality, need to deter ‘free riding’*

- Focus on common carbon price
- Protect participants with border adjustments
- Most widely-cited version, Nordhaus, implementing generalised VAT adjustments at border against non-participants
- Supports carbon price up to c. \$50/tCO<sub>2</sub>

*The false analogies*



## ‘Economics of clubs’, 2: positive and progressive

*Conceive climate change as an evolutionary problem characterised by innovation, co-benefits and the need to overcome vested interests*

- Neither pace nor direction of energy innovation is self-optimising
  - (least of all in presence of a public bad – eg. Acemoglu, Aghion et al 2012 & 2013)
- Accelerating innovation in such sectors can generate an economic surplus
  - which can be shared between private and public / cooperative
  - the economic gains emerge as industry gets closer to market and supply chains mature
  - deployment phase forestalls fossil lock-in costs – generate positive not negative lock-in
- Financial dimension: potential to attract investment
  - smart policy and governance design may reduce political risk and lower cost of capital
- ‘Carbon leakage’ (-ve) is increasingly offset by ‘clean tech diffusion’ (+ve)
  - ‘Positive carbon leakage’
- ...which also amplifies the economic gains to the earlier emergent industrial

*=> Propose that our Second Narrative is constructed on the basis of positive and progressive Multilateral Cooperative Arrangements*

# ‘Carbon-Clubs’ in the Green-WIN project, 1: context

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“...Article 6 of the Paris Agreement encourages voluntary cooperation between Parties (Brewer et al (2016)).

As in Keohane et al (2015), we consider a carbon club similar to the economic clubs described in Buchanan (1965), where members participate voluntarily and share a set of benefits from which non-members are excluded.”

This set of benefits include positive incentives:

- technology transfer, common R&D schemes,
- direct money transfers,
- preferential climate financing,
- regional emissions trading scheme,
- free trade agreements,

# ‘Carbon clubs’ in the Green-WIN project, II: club features

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It is assumed that a club formulation will provide incentives according to each party's different priorities, needs and capabilities.

## The “Pro-climate coalition” club features:

1. a common carbon market that works as an incentive for big emitters that have undertaken historical efforts towards a low-carbon economy. High-income, big-scale emitters have used most own available cheap abatement measures and thus benefit from gaining access to cheap abatement measures
2. Countries that belong to the low-income group are incentivized by preferential access to climate finance in addition to the revenues from selling emission allowances
3. Members enjoy exclusive intra and cross-sectoral spillover of knowledge that is associated with R&D in clean technology.
4. A scheme of common standards and an elimination of tariffs on goods related to the mitigation action across members, as well as an increase of such tariffs for non-members.

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# Multilateral Arrangements for Cooperation and Ambition (MACAs) - Governance challenges

- Purely nation-state, or sectoral?
  - MACAs may well be most relevant and impactful at sector level, perhaps supported by intergovernmental agreements
- Governance institutions may be not well aligned
  - Sector bodies tend to be global levelling, least-common-denominator
  - What government arrangements could support sector MACAs? Within or outside existing governance arrangements?
- Given the curse of 'American exceptionalism' are there important multilateral processes that could circumnavigate Washington?
- What if any might be the role of the 'Seven Pathways beyond Gridlock' (Hale and Held, 2017)?



# What's out there to build on – between 'coalitions' and 'clubs'?

## Technology emphasis

- CTCN
- Mission: Innovation
- Energy Breakthrough coalition
- Renewable Energy coalitions – IRENA, the Solar Energy Initiative

## Pricing emphasis

- Carbon pricing leadership coalition (World-Bank led), as of Dec 2015:
  - Currently around 12 countries (8 EU, Canada, Mexico, Chile, Ethiopia + California, Canadian provinces; Several hundred companies
  - Joint governance structure and work programme with 1<sup>st</sup> Annual Assembly in April 2016

Trade emphasis – EGA @ WTO Nairobi, others?



## Do we need a trade dimension? If so, what?

- Remark on EGA
  - Club good, or club leadership gains offered globally?

And

Can any of this help to solve long-standing roadblocks to any of the component agendas (on carbon pricing, technology cooperation, or trade & investment agreements ...)



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# Multilateral Arrangements for Cooperation and Ambition (MACAs)

## - Modelling challenges

- To be applied to Narrative 2, models *must* :
  - Have a useful level of regional specification
  - Have *some* capacity for *some* element of non-optimality or evolutionary processes\* eg. relating to:
    - Accelerated adoption of better technologies / efficiency improvements
    - Technology innovation & learning-by-doing
    - Cost of capital
  - Have some element of trade

\* A shorthand way of thinking about this is to say that models need some element of first and/or third Economic Domain processes relating to technology and/or finance (Grubb, Hourcade and Neuhoff 2014, *Planetary Economics*)



# Multilateral Arrangements for Cooperation and Ambition (MACAs)

- Modelling challenges

- We need to specify a regional structure for the Narrative, ideally from a standpoint of underlying national characteristics
- Small enough to exclude blocking coalitions, but big enough to generate significant benefits



# Key factors specifying club structure – the determinants in Green-WIN

	Climate policy agenda	Clean Tech exporter	Fossil fuel exporter	High GHG emissions	High abatement potential	Historical equity considerations	Low & lower middle income
EU28	+	+		+			
USA	+/-	+	+	+			
Japan		+		+			
Canada			+				
Brazil		+		+	+	+	
China	+	+		+	+	+	
India		+		+	+	+	+
South Korea	+/-	+					
Indonesia	+/-		+	+	+	+	+
Mexico	+/-		+		+		
Argentina							
Turkey							
Saudi Arabia			+				
Oceania			+				
Russian federation			+	+	+		
Rest of energy producing countries			+				
South Africa			+			+	
Rest of Europe							
Rest of the World					+	+	+

# Clubs in Green-WIN (and caveats)

	Green Club	Brown Club
EU28	*	
USA		*
Japan	*	
Canada		*
Brazil	*	
China	*	
India	*	
South Korea	*	
Indonesia	*	
Mexico		*
Argentina	*	
Turkey		*
Saudi Arabia		*
Oceania		*
Russia		*
Rest of energy producers		*
South Africa		*
Rest of Europe	*	
Rest of the World		*
Share to global GHG Emissions	51%	49%

# Scenarios in Green-WIN

	2020-2030		2030-2050	
	Green coalition	Brown coalition	Green coalition	Brown coalition
Policy fragmentation	Implementation of their NDCs	Implementation of their NDCs	No climate policy intensification (i.e. constant carbon prices)	No climate policy intensification (i.e. constant carbon prices)
Core Carbon club	Join forces to strengthen NDCs and establish a carbon club. CO2 target as in the 2C scenario	Implementation of their NDCs	Carbon club with CO2 target as in the 2C scenario	No climate policy intensification (i.e. constant carbon prices)
Carbon club with finance	Core Carbon club with provision of adequate low-cost climate finance	Core Carbon club	Core Carbon club of adequate low-cost climate finance	Core Carbon club
Carbon club sharing innovation (without spillovers)	Core Carbon club with learning by research	Core Carbon club	Core Carbon club with learning by research	Core Carbon club
Carbon club sharing innovation (with spillovers)	Core Carbon club with learning by research and spillovers	Core Carbon club	Core Carbon club with learning by research and spillovers	Core Carbon club
Carbon Club common trade area	Core Carbon club with common trade area	Core Carbon club	Core Carbon club with common trade area	Core Carbon club
Green Club	Core Carbon club with sharing, knowledge, financial resources and a common trade area	Core Carbon club	Core Carbon club with sharing, knowledge, financial resources and a common trade area	Core Carbon club

# Multilateral Arrangements for Cooperation and Ambition (MACAs)

- Modelling challenges

- Reprise: “Key questions are whether and how such countries and associated actors can move from ‘coalition’ to ‘cooperation’ [WP4?], and how much could they thereby achieve [WP3?]?”
- We need to specify a regional structure for the Narrative, ideally from a standpoint of underlying national characteristics
- Small enough to exclude blocking coalitions, but big enough to generate significant benefits



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Suggestion:

- RIPPLES Second Narrative should be based on a world of unequal ambition
- Should define a regional scope of ‘Paris-compliant’ ambition and action covering approx. half to two-thirds of global emissions
- Analysed in both WP3 and WP4
- Building on but not necessarily replicating the Green-WIN modelling structure

