

# Transformational Climate Science

The future of climate change research  
following the IPCC Fifth Assessment Report

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# Working Group III

The challenge of mitigation

#climate2014



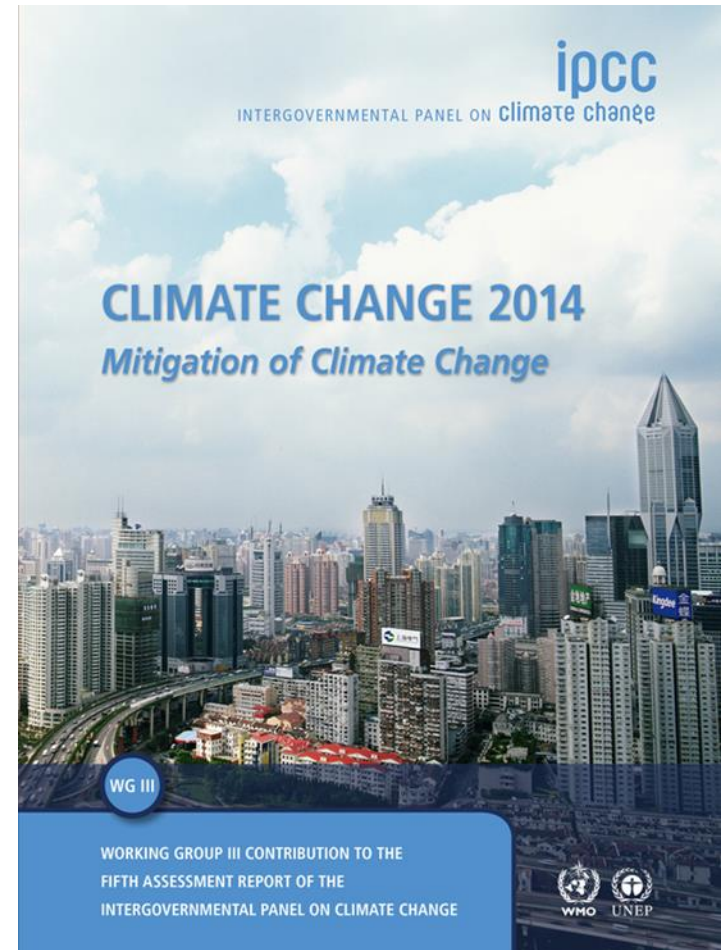


# WG3 and policy for climate change

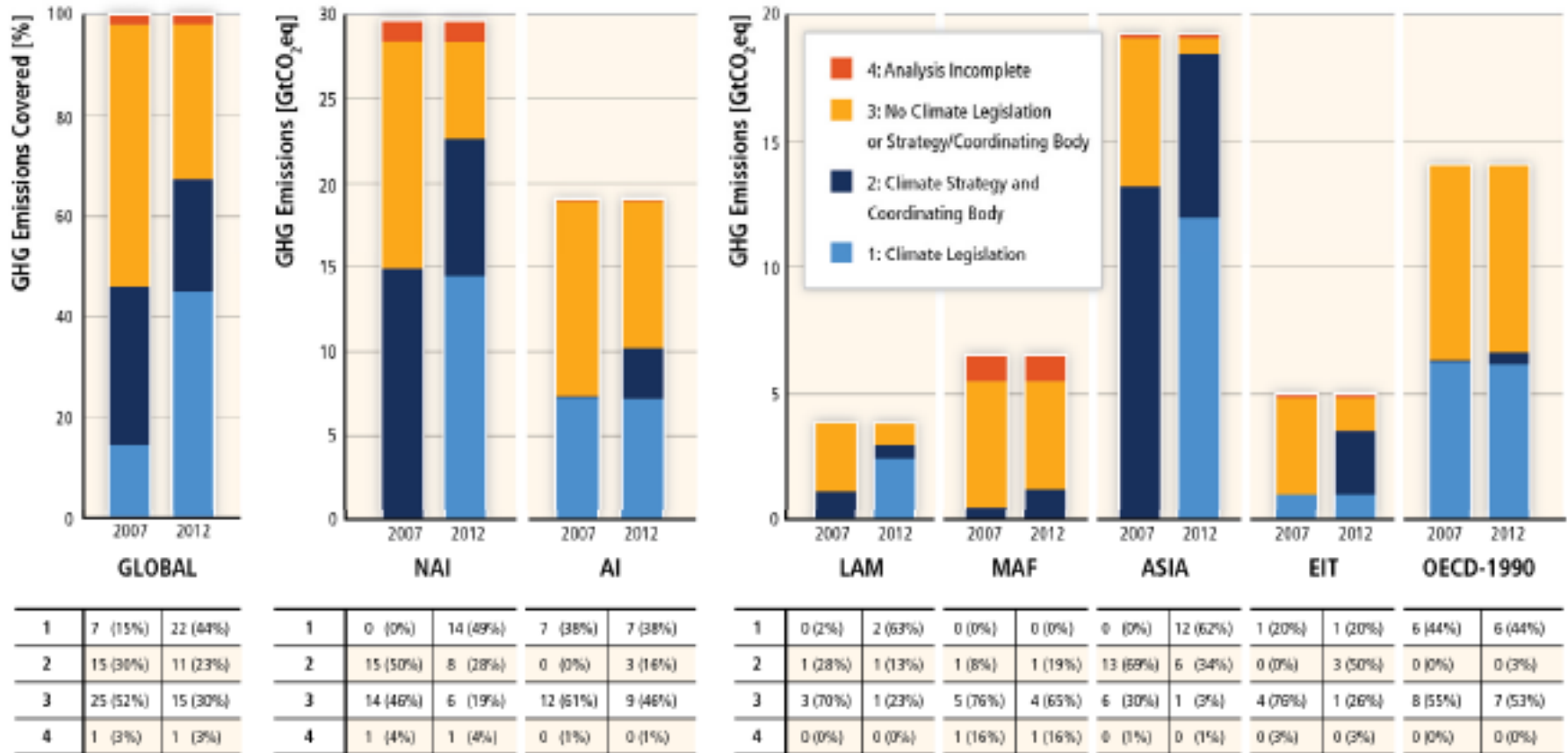
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# Discussion of mitigation policies runs through the WG3 Report

- The sector-specific chapters include policies specific to their sector, for example transport or buildings
- The policy chapters provide more general overviews of policy instruments
  - Chapter 13 International Cooperation
  - Chapter 14 Regional Development and Cooperation
  - Chapter 15 National and Sub-national Policies and Institutions
  - Chapter 16 Cross-cutting Investment and Finance issues

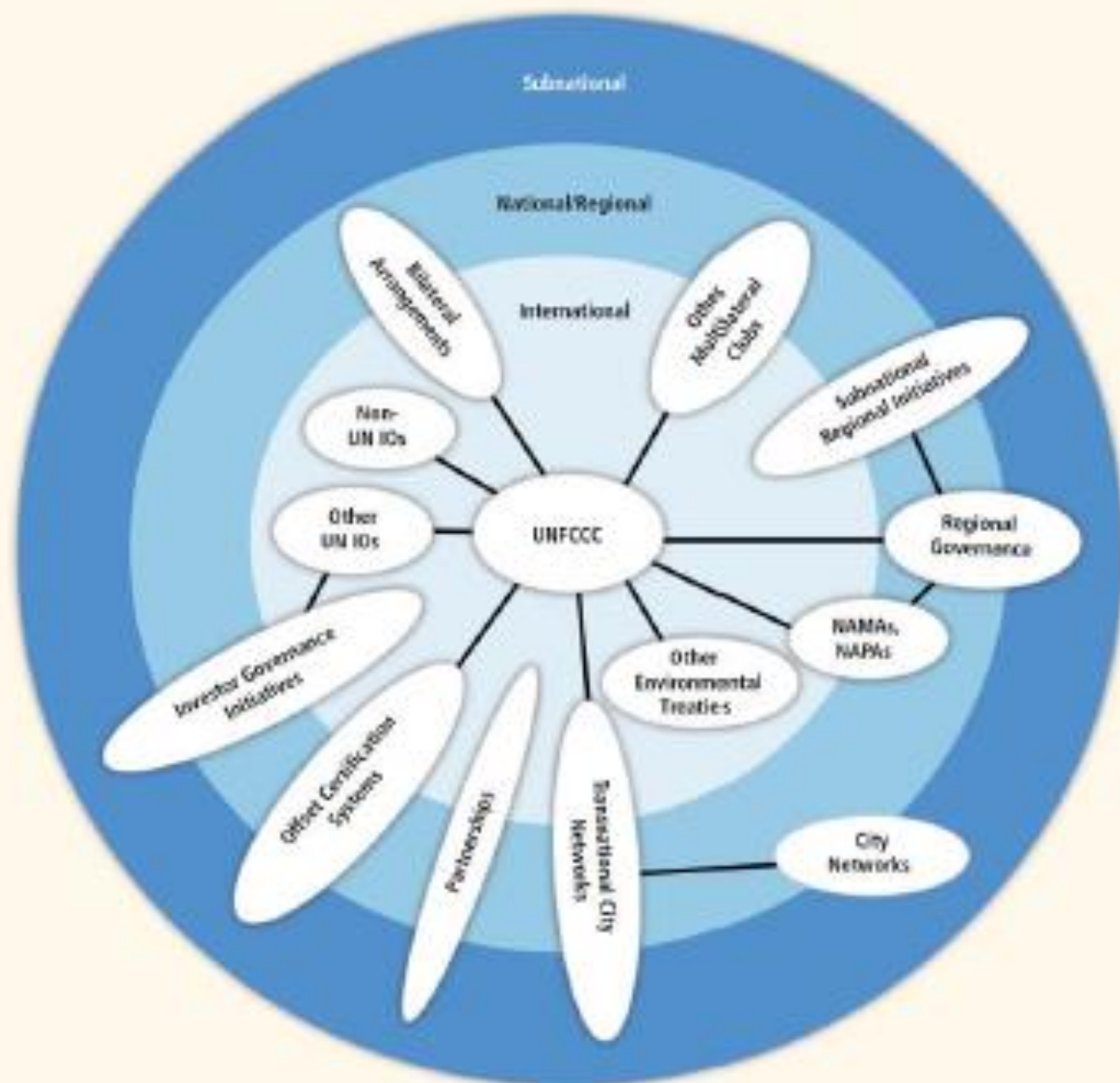


# More countries have climate policies now than they did in AR4





## The Landscape of Agreements on Climate Change



# There are lots of policies that work

- There is an increasing focus on policies designed to integrate multiple objectives and increase co-benefits
  - For example, combined development and GHG reduction targets; combined energy security and energy reduction policies
- Economy –wide policies, for example carbon taxes, have been implemented in some countries, and long with technology policies, have contributed to decoupling of emissions from GDP
- Sector-specific policies have been more widely used than economy wide policies, for example policies to increase the stringency of building regulation; policies to encourage change of modalities in transport
- Regulatory approaches (eg only allowing installation of efficient boilers) and information measures are widely used, and often environmentally effective
- There is a distinct role for technology and innovation policy to complement other climate mitigation policies
  - Technology push (eg R&D) and demand pull (eg support mechanisms) can complement each other in a virtuous cycle

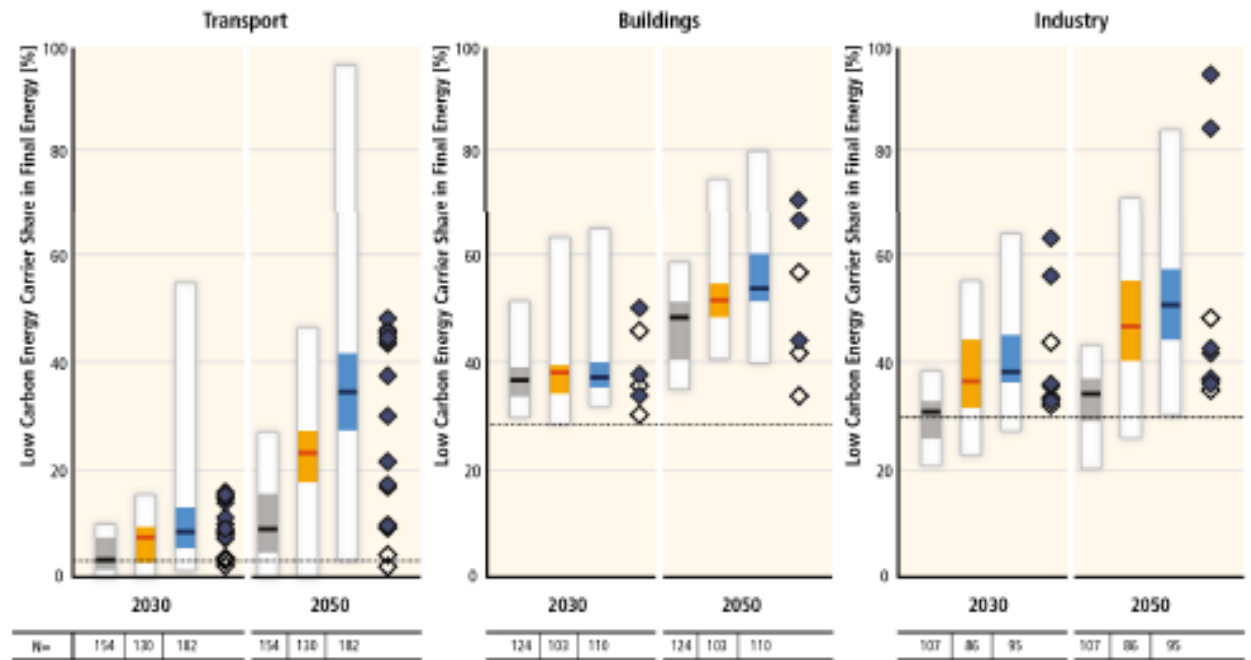
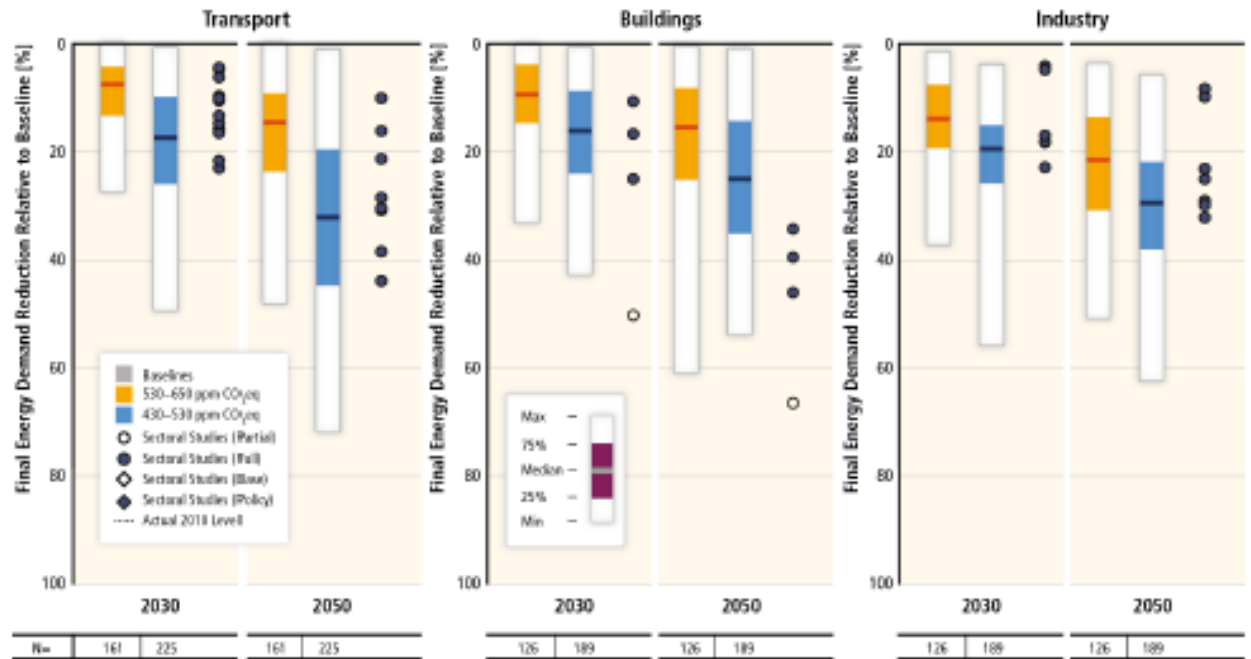
## Policies have to take account of other factors if they are to be successfully implemented

- Delayed mitigation significantly increases the challenge to reach low concentration targets
- A lot of inertia in the system and successful policies require an enabling environment
- Infrastructure developments, spatial planning and long lived products can lock societies into pathways which are difficult to change
  - On the other hand, if undertaken as part of early action they can act as a facilitator for mitigation
- The regions with the greatest potential and flexibility to leapfrog to low carbon development trajectories are the poorer development regions where there are few lock-in effects but they also have the lowest financial, technological and human capacities



Policies that reduce emissions will have major technological, institutional, business and social/experiential/attitudinal/behavioural impacts

Final Energy Demand Reduction and Low-Carbon Energy Carrier Shares in Energy End-Use Sectors



# Substantial reductions in emissions would require large changes in investment patterns and will have distributional impacts

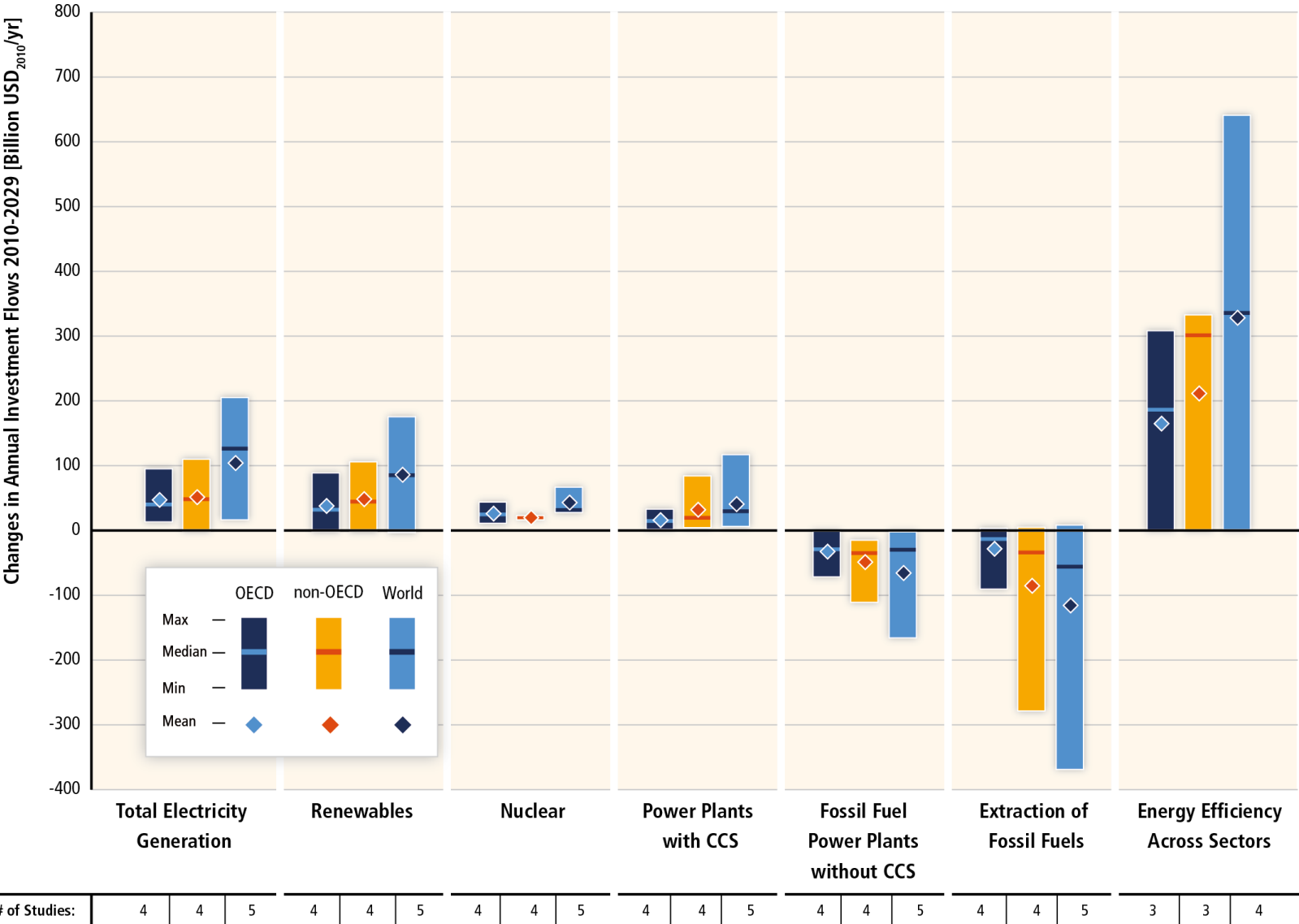


Figure SPM.9



# Conclusion

- There are now more climate policies in place than there was at AR4.
- GHG are still rising, and the rate is getting faster – in this sense, there is insufficient policy stringency.
- There is a lot of evidence about successful policies for emission reduction.
- There is a lot of examples of new actors and new ways of doing things which reduce emissions
- Achieving substantial emission reductions requires change and will have distributional etc impacts
- The role of government in policy is multifaceted:
  - signing up to international agreements
  - putting in place the enabling environment for climate change policies; but also
  - helping to break the inertia in the system
  - managing change and distributional impacts (both positive and negative) on business and society
  - enabling inclusion and innovation