

# Expectations for a New Climate Agreement

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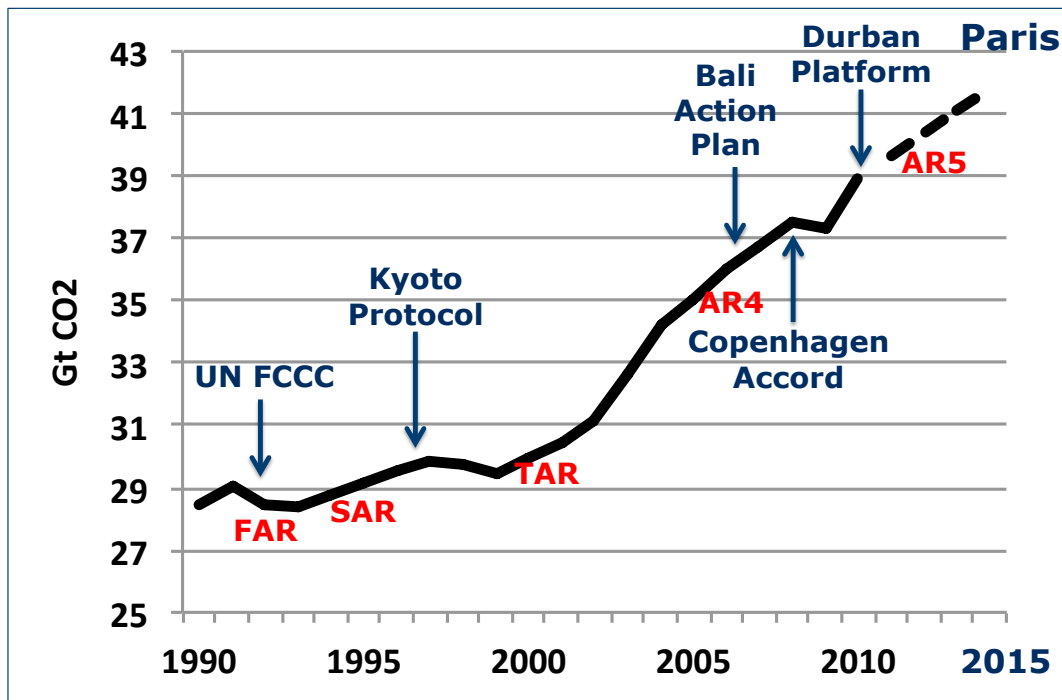
## Motivation & Approach

- What prospects for current negotiations?
  - ✓ Commitment to agree to a new climate regime by COP-21 in Paris, November 2015
- Study objectives
  - ✓ Anticipate how negotiations may proceed
  - ✓ Stimulate open discussion of process & targets
- Our approach
  - ✓ Wide consultation on national positions
  - ✓ Explore expected outcomes
  - ✓ Elicit response to assumptions & update expectations



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## The Global Effort to Date



CDIAC ORNL

## Instructions to Negotiators

- Provisions
  - ✓ “. . . a protocol, another legal instrument or agreed outcome with legal force”
  - ✓ Nationally Defined Contributions (NDCs)
  - ✓ To take effect from 2020
  - ✓ Indicated contributions (INDCs) by early 2015
  - ✓ “Mobilize” \$100 b/yr for mitigation & adaptation
- On path to 2°C as standard of success
- Very Little Is Agreed Yet
  - ✓ What can include as “contributions”
  - ✓ Target dates or length of agreement
  - ✓ Accounting rules, legal form, review procedures
  - ✓ Nuclear, CCS, offsets

## Our Expectation for a Paris Agreement

- No wide, Kyoto-style agreement, e.g.,
  - ✓ National targets and timetables (QELROs)
  - ✓ Legal provisions requiring ratification
- Domestic Policies and Measures (PAMs)
  - ✓ Build-up practical domestic actions
  - ✓ Copenhagen-style voluntary “pledges”
- Some parties: compute implied total GHG contribution
- Limited \$\$ for aid (Green Fund & other)



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## Our Analysis Design

- Reference Case
  - ✓ Negotiations break down
  - ✓ No Copenhagen effects after 2020
- Copenhagen: Expected *actual* Effects (close to Joint Program Outlook)
- Contributions Expected in Paris
  - ✓ Some effort starts in 2015
  - ✓ 2030 target date for review of achievements
- Simulation to 2050



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## Emissions Prediction & Policy Analysis Model

- **Developed**
  - ✓ Aus. & N.Z.
  - ✓ Canada
  - ✓ EU+
  - ✓ Japan
  - ✓ USA
- **Other G20**
  - ✓ Brazil
  - ✓ China
  - ✓ Dynamic Asia
  - ✓ India
  - ✓ Mexico
  - ✓ Russia
- **Rest of World**
  - ✓ Africa
  - ✓ Middle East
  - ✓ Other East Asia
  - ✓ Other Eurasia
  - ✓ Other Latin America

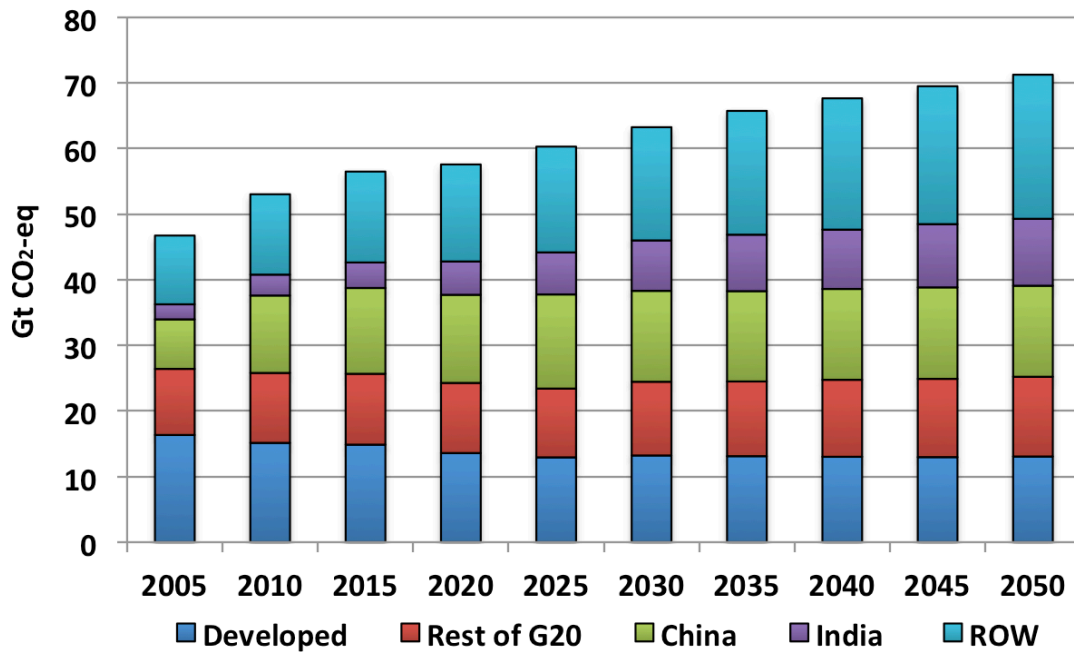


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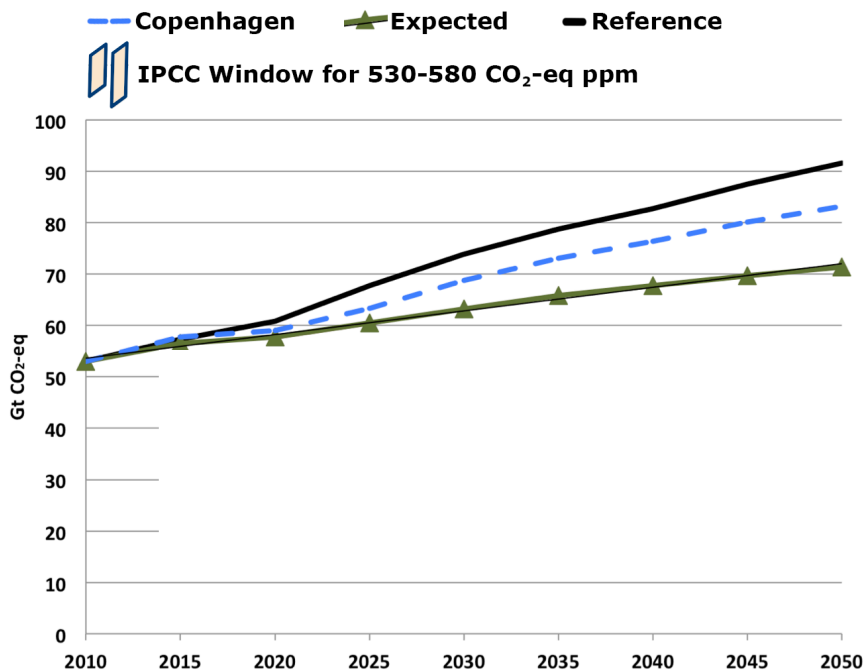
## Expected Contributions

- **Electric Sector**
  - ✓ Coal: retire old plants, limits on new build
  - ✓ Renewables: renewable portfolio standards
- **Transport**
  - ✓ Personal: tighten mileage standards
  - ✓ Commercial (trucks): efficiency standards
- **Household: subsidies, regulations**
- **Land Use: reduced tropical deforestation**
- **National Targets**
  - ✓ EU: stated 2030 target & estimate for 2050
  - ✓ China: extension of intensity target
- **Methane**
  - ✓ Reduced leakage in natural gas systems
  - ✓ Improved agricultural practices

# Expected 2030 Emissions by Region



# Results & Path to 530-580 ppm ( $\approx 2.6^\circ\text{C}$ )



## What Response in Paris?

- Focus on a 2030 target date
  - ✓ Capture practical NDCs, with sound accounting
  - ✓ Creative accounting, seek confidence in FCCC Review and next steps to follow (lock-in)
- Continuous diplomatic process
  - ✓ Short-term review
  - ✓ Update NDCs on 5-year schedule
- Failure of agreement
  - ✓ FCCC goes on as an accounting service
  - ✓ Mitigation shifts even more to other venues

## Climate Change Regime

### UN Framework Convention

Kyoto Protocol  
Copenhagen-Cancun  
Durban Platform

### UN Agencies

WMO, UNEP, FAO, UNDP, IEA

### Bilateral Initiatives

EU-China, US-India

### Montreal Protocol

### Clubs

Major Economies Forum,  
Asia-Pacific Partnership  
G20, G8+5

### Multilateral Development Banks

World Bank, Forest & Adaptation Funds



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# Thank You

(For more details see H. Jacoby and Y.-H. Chen (2014).  
Expectations for a New Climate Agreement, MIT Joint  
Program on the Science and Policy of Global Change,  
Report No. 264.)



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