

Road Through Paris Briefing Series

National Climate Commitments

October 28, 2015



Road Through Paris

Briefing #4: National Climate Commitments



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Recap

On the Road Through Paris

Potential outcomes from Paris

Agreement

- A new global climate agreement, the first concluded in nearly two decades
- Will set direction of travel, likely through a global goal

Universal

- Unlike previous agreements, will include commitments from all of the major economies

Future political cycles

- Could set pace of future government commitments for decades to come
- Leaning towards a 5-year cycle

Four pillars of the ‘Paris Climate Alliance’

Agreement

- Short international legal instrument sending political signals

National Commitments

- Targets and policies for 2025 or 2030 will reduce projected warming, perhaps to 2.7°C

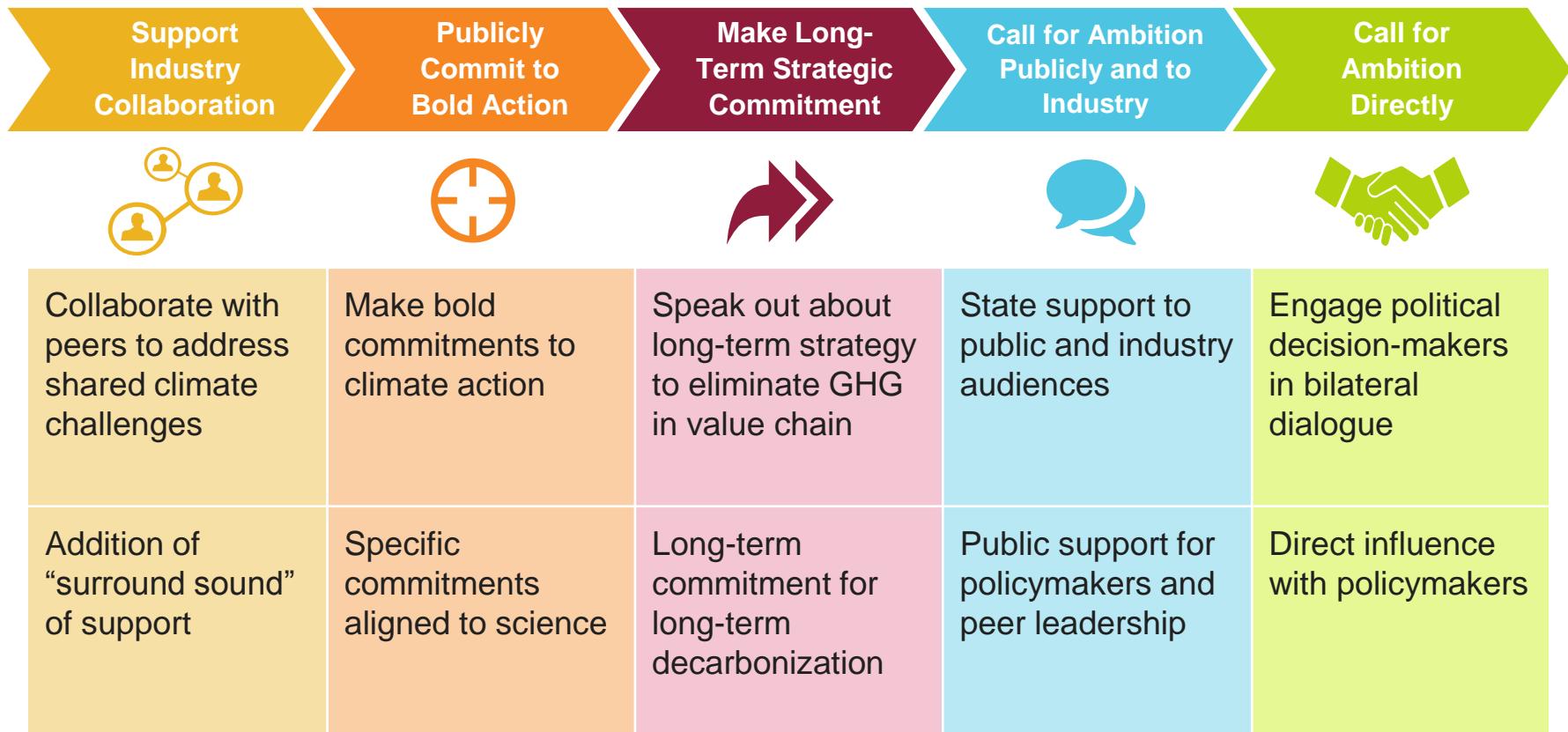
Climate Finance

- Governments mobilizing \$100 billion/year by 2020
- Need to shift trillions, carbon pricing as key market signal

Action Agenda

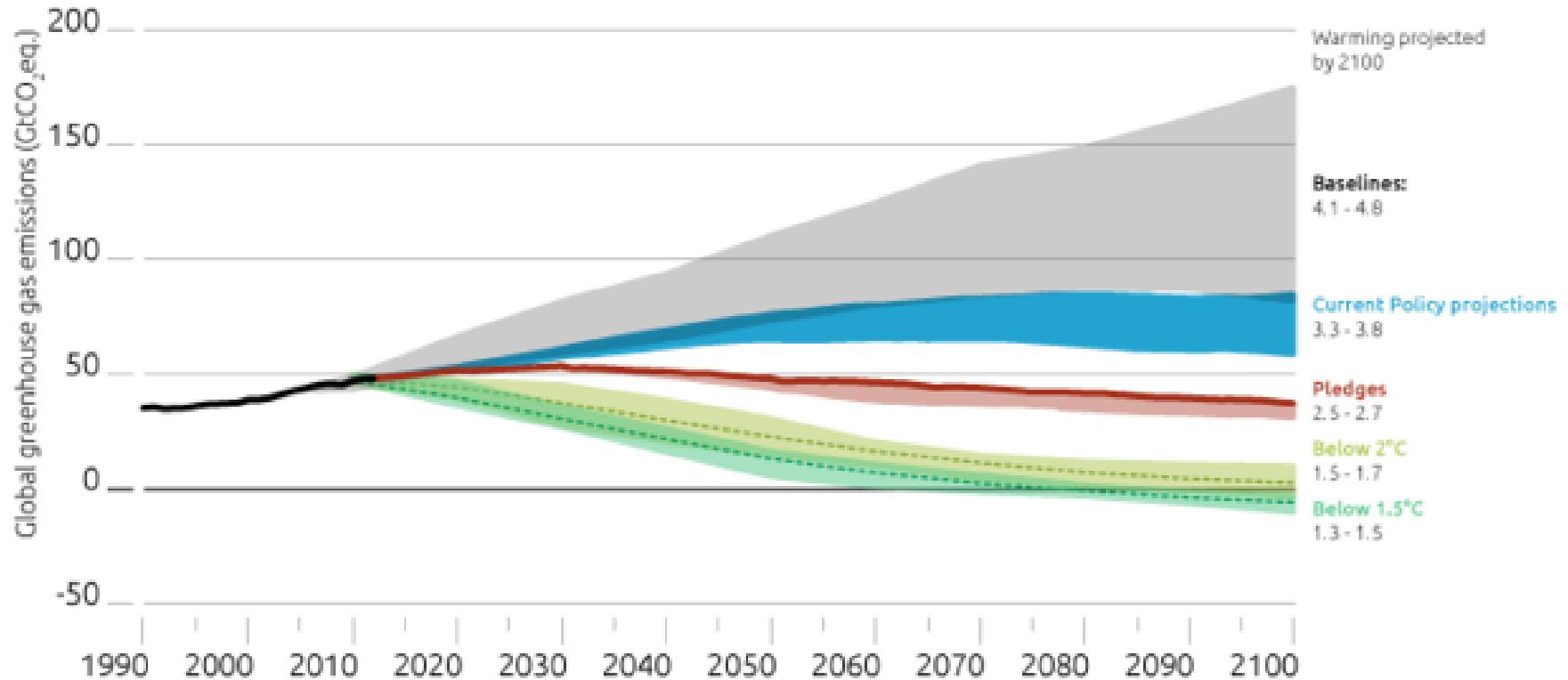
- Showcase climate action taken by businesses and sub-national governments

Road Through Paris – Strategic Engagement



“Intended Nationally Determined Contributions” (INDCs)

Projected effect of INDCs on temperature



[Climate Action Tracker brief on INDCs \(October 1, 2015\)](#)

[IEA World Energy Outlook Special Briefing for COP21 \(October 2015\)](#)
similarly estimates 2.7°C of average global temperature rise by 2100

IDDRI “MILES” report

Modelling and Informing Low-Emission Strategies (October 2015)

Acceleration
of climate
action

“INDCs imply an acceleration of climate action and a deviation from previous trends and policy commitments.”

INDCs not
enough for 2°C

“With this level of emissions in 2030 [54 GtCO₂eq], emissions reductions [after 2030] would need to be extremely rapid, more than 4% per year, if the below 2°C objective is to be met.”

Paris
Agreement
could bridge
to 2°C

“The bridge scenario...in which by 2020 targets and policies for 2030 are strengthened, and ideally new ambitious targets are proposed for the period after 2030...this can lower global emissions in 2030 substantially [to 49 GtCO₂eq which is within the 2°C pathway].”

Bernd Hackmann

Programme Officer, UNFCCC Secretariat

INDCs and their aggregate effect: an overview



28 October, 2015

Bernd Hackmann, UNFCCC Secretariat, MDA

Contents

- INDCs
 - a) Mandate
 - b) Country participation
- Aggregation effect of INDCs



Mandate

- COP 19, 2013 in Warsaw invited for the preparation of INDCs;
- COP 20, 2014 in Lima further elaborated on INDCs, and;
- Requested the secretariat to prepare by 1 November 2015 a synthesis report on the aggregate effect of the INDCs communicated by Parties by 1 October 2015.



Participation*

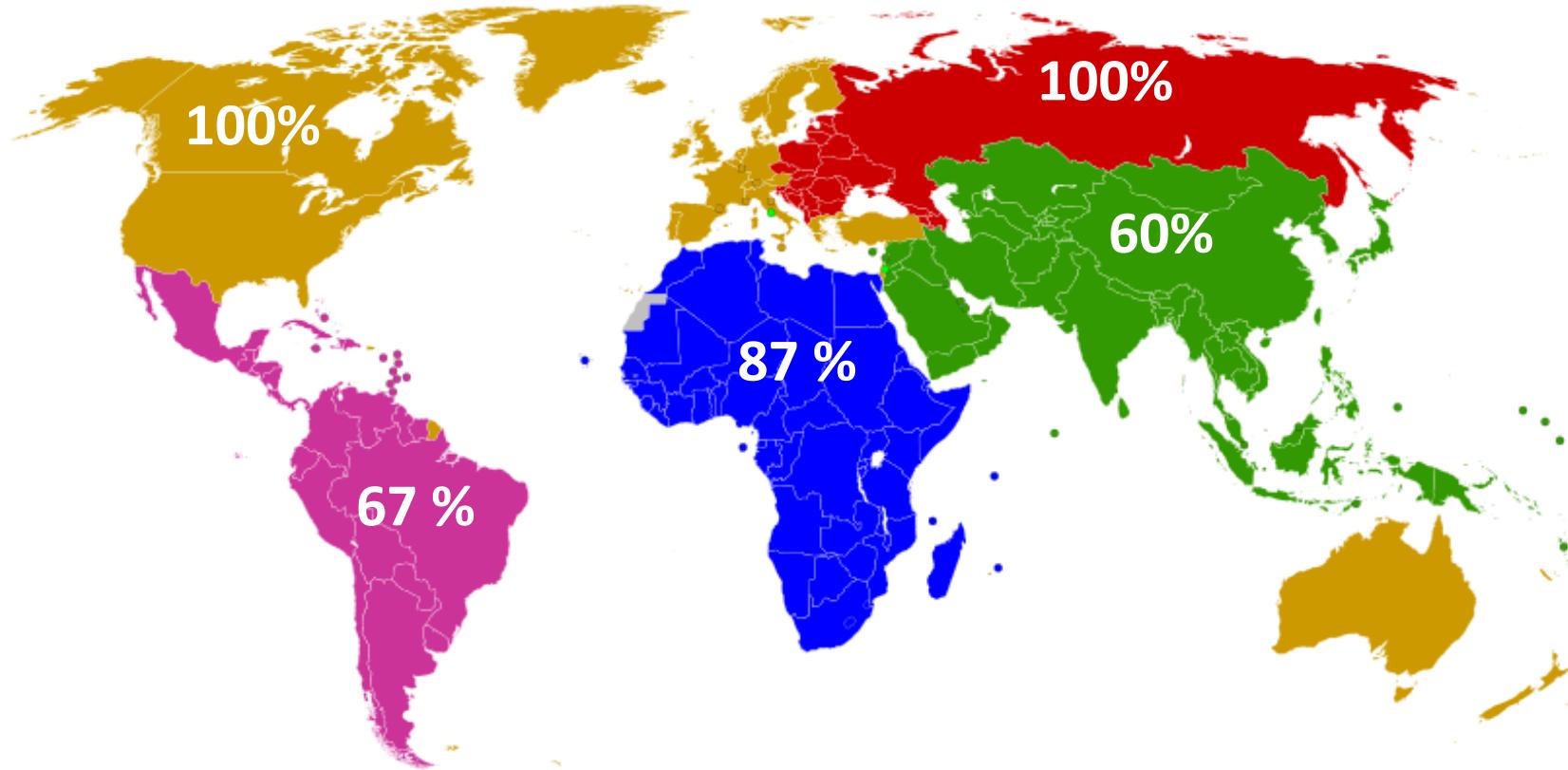
155/147

(79/75%)

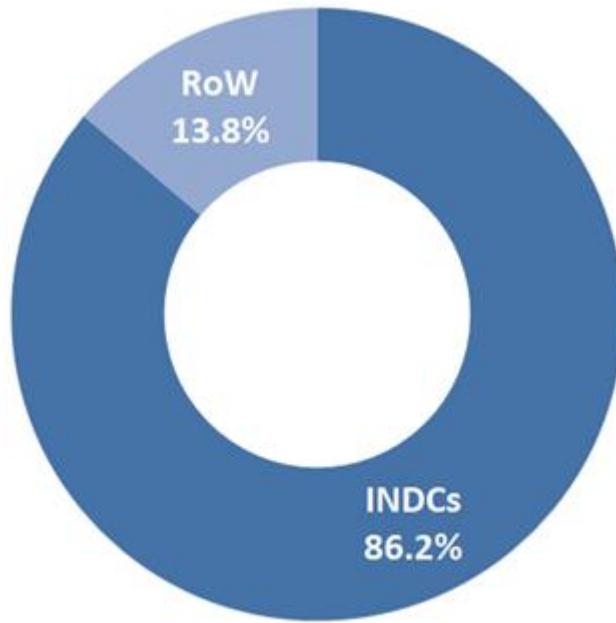
* Stats as of 26 October 2015 and as of 01 October 2015



INDCs and their aggregate effect: an overview



Coverage of global emissions*



*In 2010, source synthesis report tracker. The figure for emissions directly covered by INDC should be lower

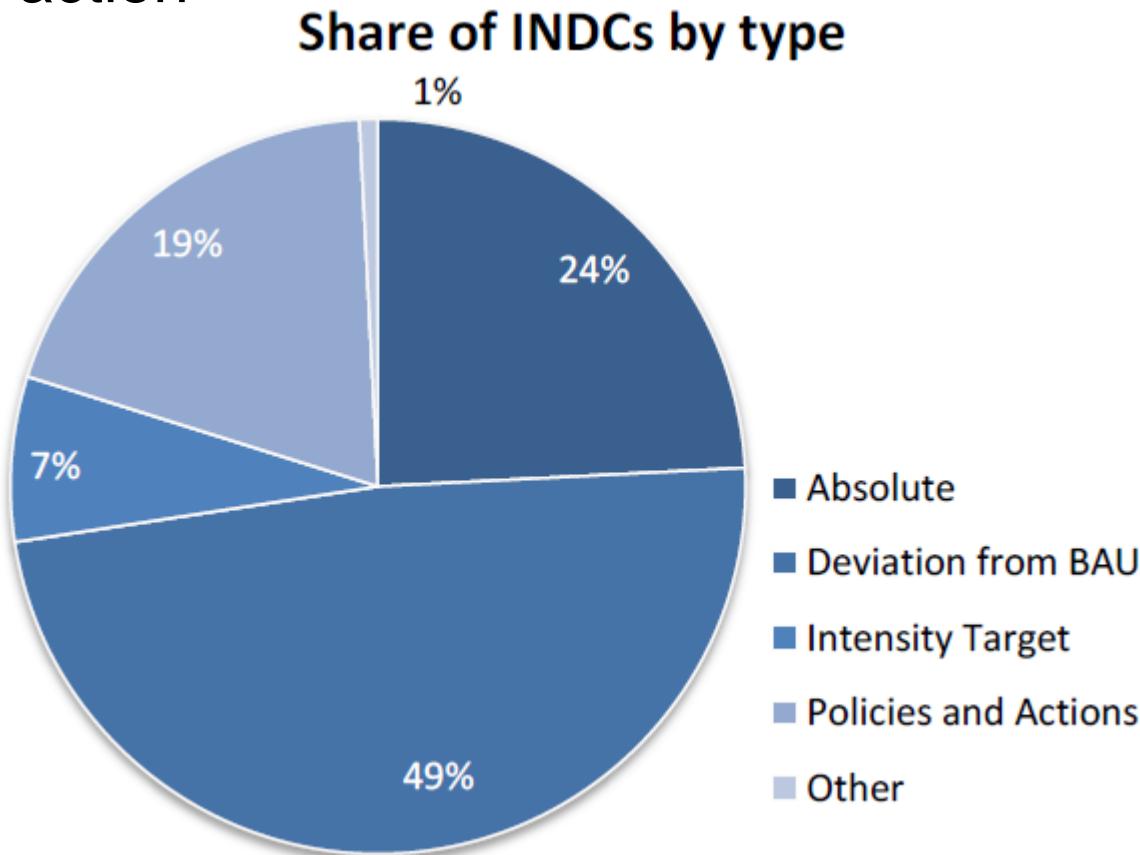


Components

- 100% mitigation, mostly nation-wide and quantified
- About 80% include an adaptation component
- All Parties included information in response 1/CP.20



Mitigation action*



*Preliminary. Basis for classification is the explicit contribution not its result. Some countries communicated more than one type.



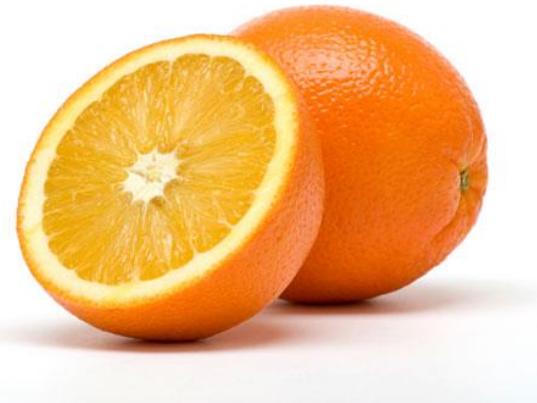
Timeframes

2030/ 2025



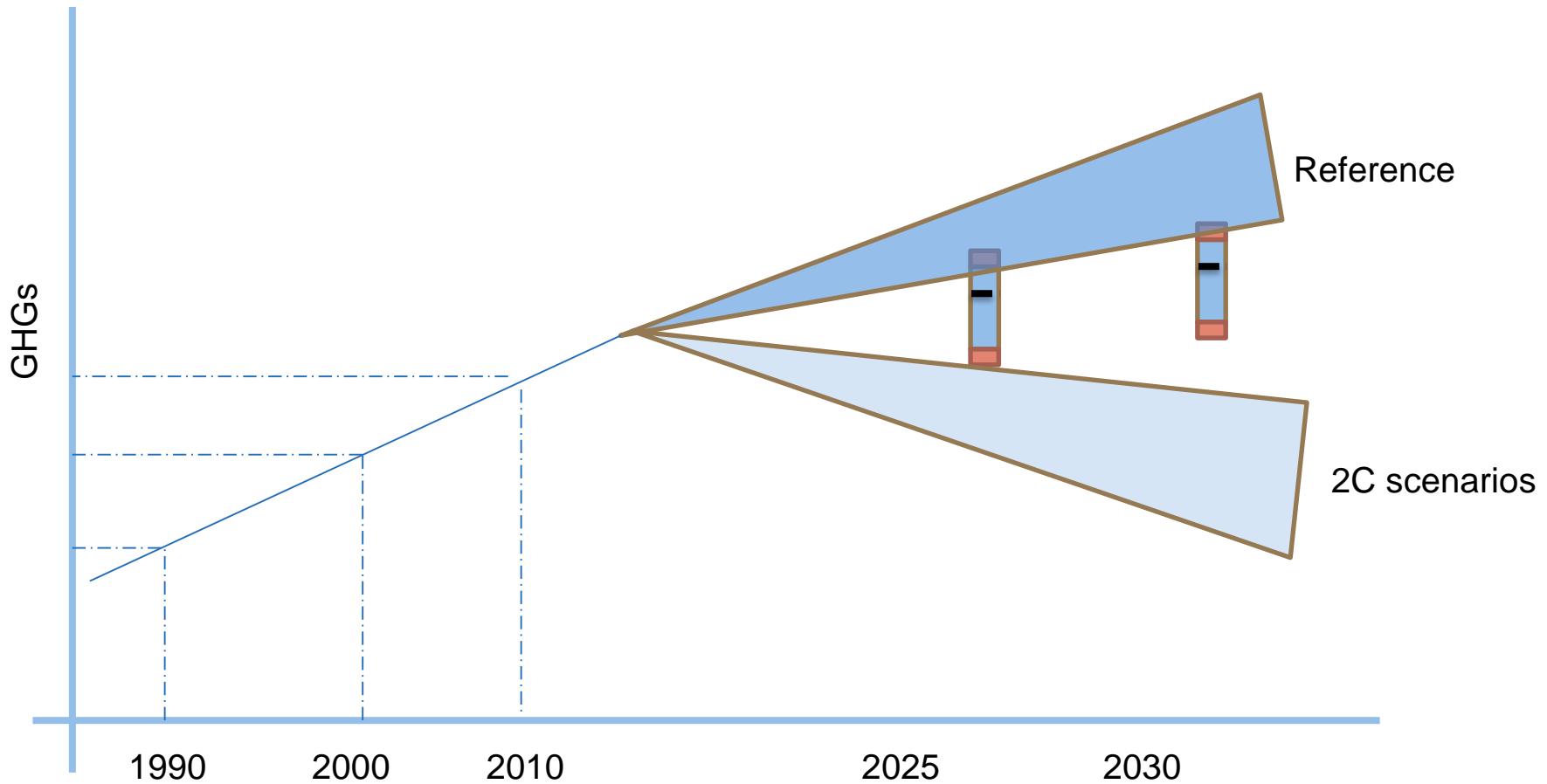
Medium term: 2050

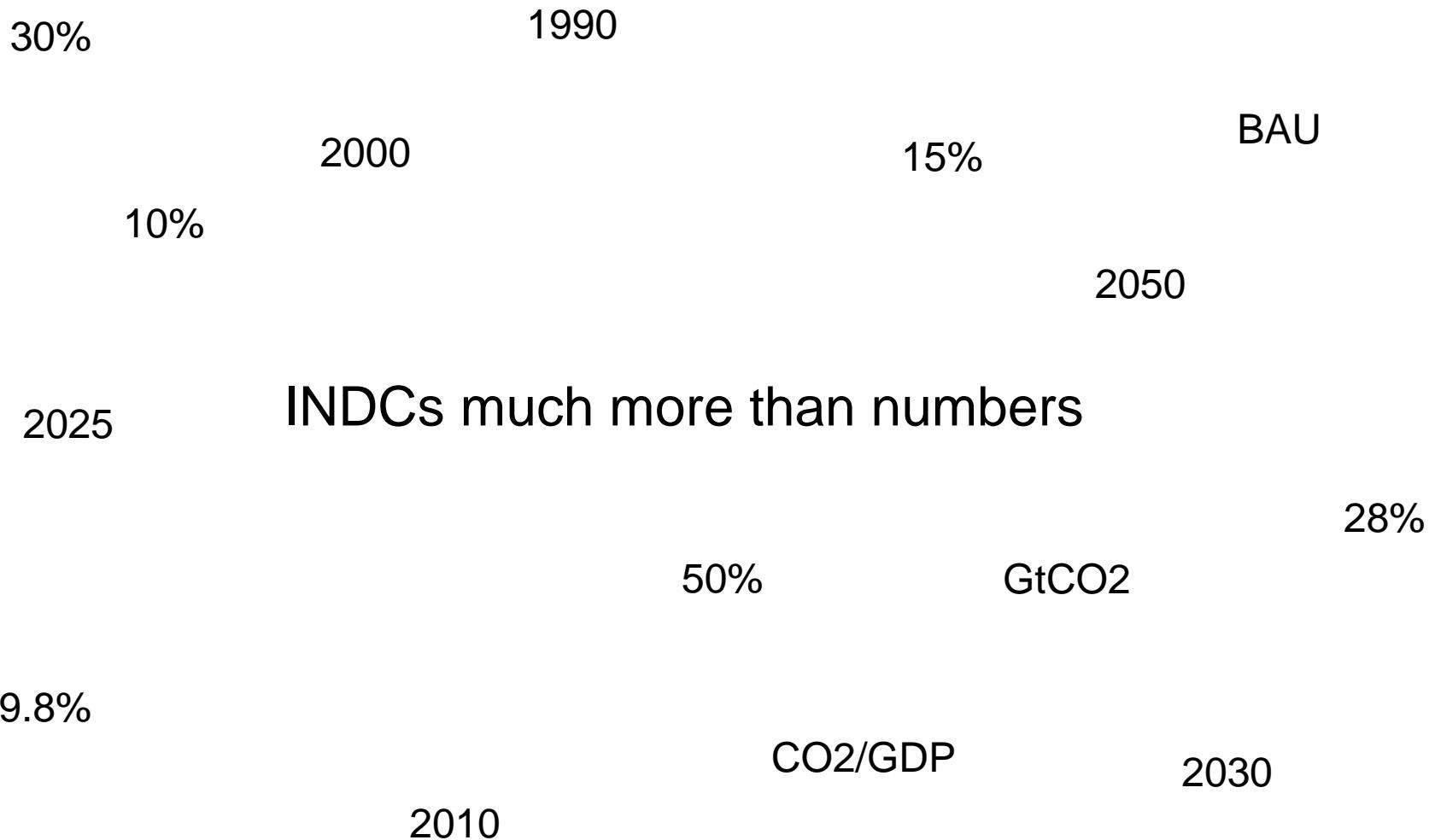
- Halving national emissions



- Carbon neutrality

Aggregate emissions vs. scenarios





4 Trends

- Increasing **participation in and scope** of climate action
 - a) National in scope and quantified
 - Increasing **institutional and political** processes
 - a) Some backed by law
 - b) Higher public acceptance
 - Increasing interest in **cooperation**
 - a) Markets
 - b) Finance, technology and technical assistance
 - Increasing **ambition** and commitment to 2C
 - a) Balance national circumstances with science
-



Thank you
www.unfccc.int



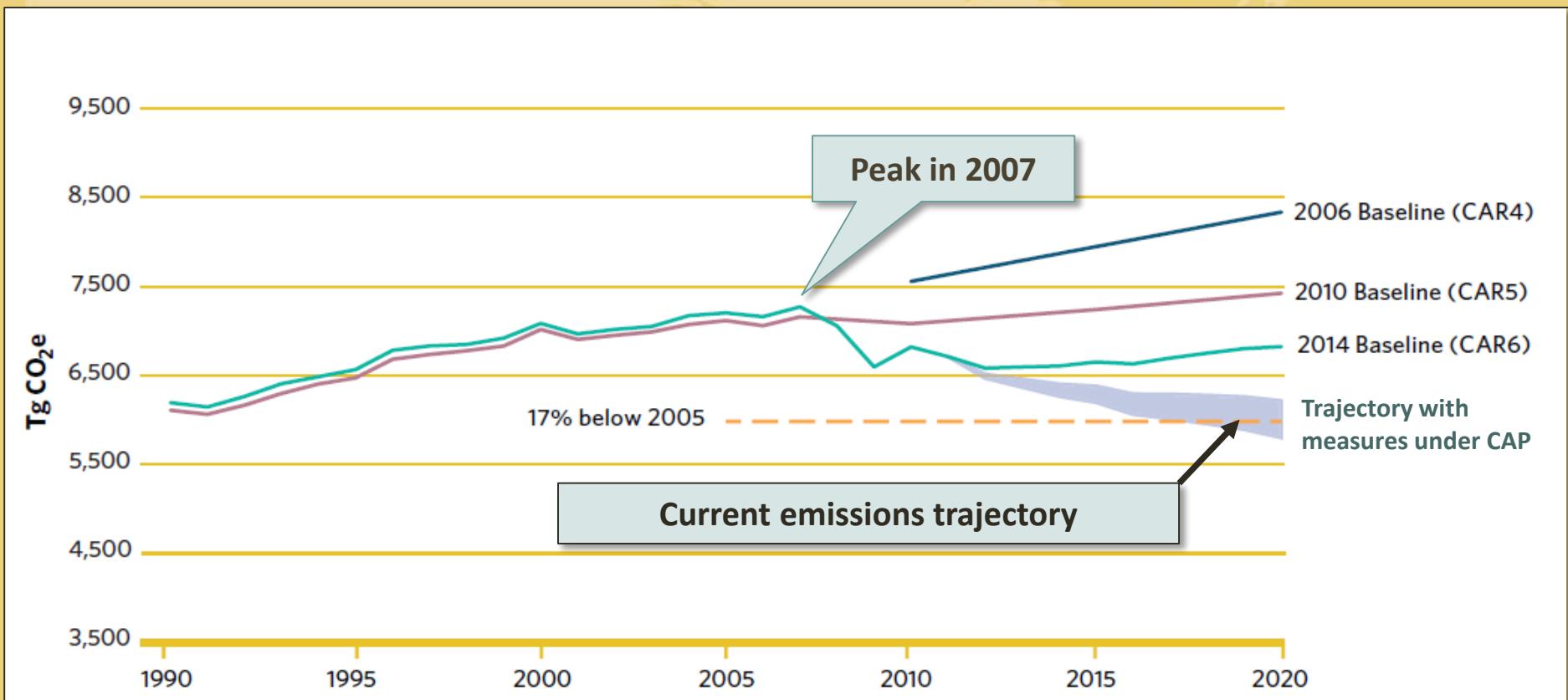
Reed Schuler

Foreign Affairs Officer, US Department of State

U.S. INDC

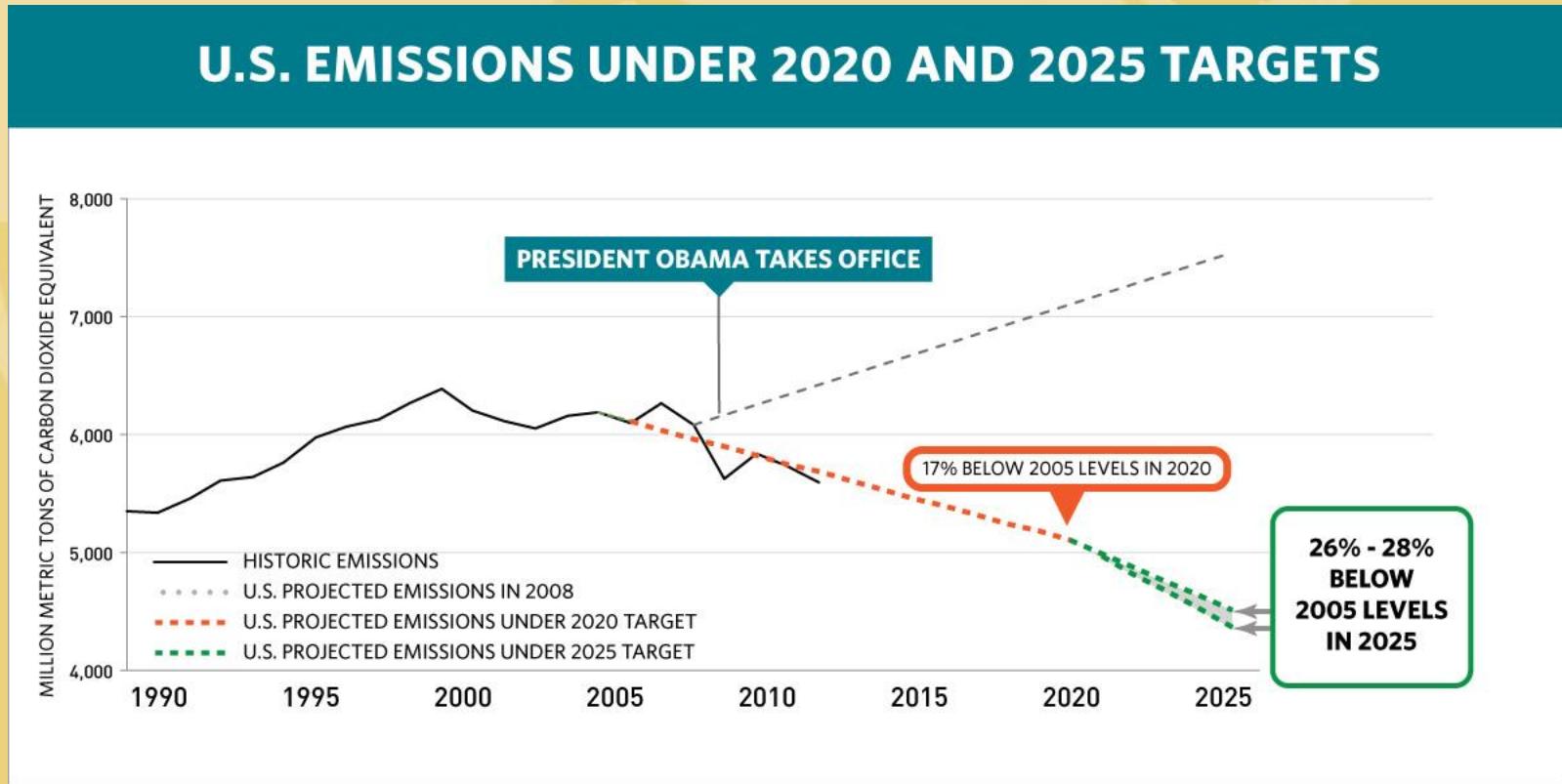
Reed Schuler
Office of Global Change
U.S. Department of State

WE ARE ON TRACK TO HIT OUR 2020 GOAL



Source: US Biennial Report 2013;
"CAR5"/"CAR6" are US Climate Action
Report projections

2025 TARGET

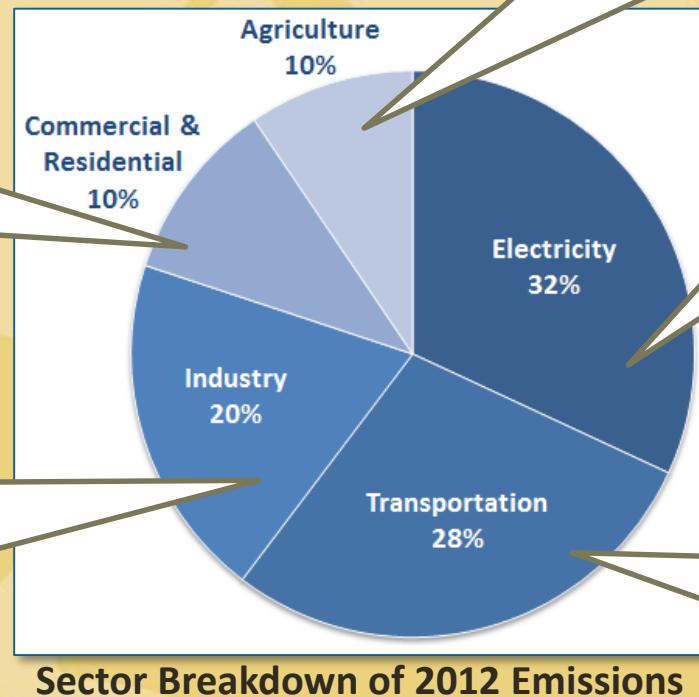


- Our target is a 26-28% reduction below 2005 levels in 2025, making best efforts to achieve a 28% reduction.
- This goal is ambitious and achievable, grounded in an intensive analysis of what can be done under existing law
- Doubles our decarbonization pace and is consistent with reductions of >80% by 2050

POLICIES TO ACHIEVE TARGET ADDRESS ALL SECTORS AND GASES

- Appliance & Equipment standards
- Building codes
- Other measures

- HFCs including SNAP
- Oil & Gas Methane
- Efficiency standards and programs
- Other measures



- Interagency Methane Strategy
- Agricultural programs

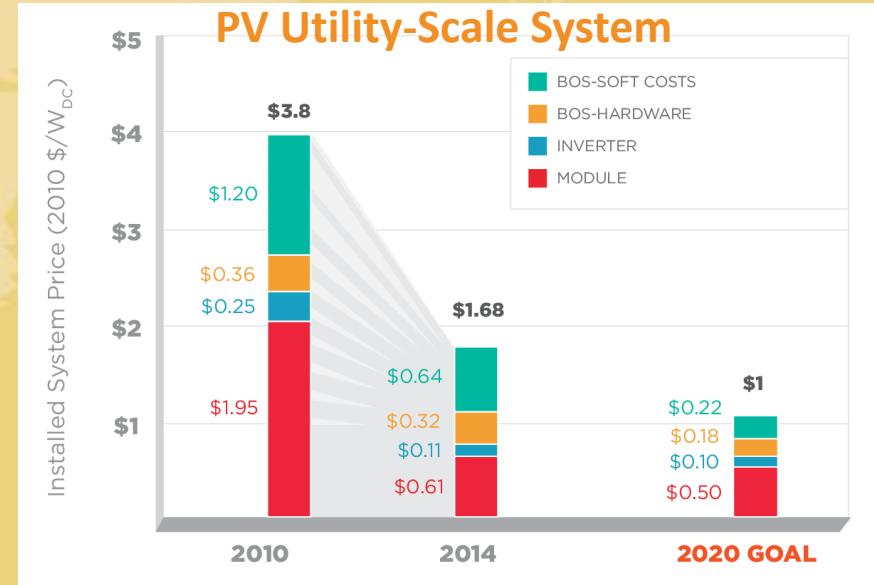
- Clean Power Plan
- Building codes
- Appliance & equipment standards
- Other measures

- Fuel economy standards
- Biofuels
- Other measures

- We are driving substantial reductions in all sectors and gases through existing and new policies.
- Enhanced policies to bolster sinks through reforestation and conservation will further contribute to reaching our 2025 goal

CUTTING GREENHOUSE GAS EMISSIONS THROUGH CLEAN ENERGY

- **On-going research, development and deployment**
 - **Sunshot:** Less than four years into decade-long SunShot Initiative, the solar industry is already more than 70% to cost target of \$0.06 per kilowatt-hour for utility-scale PV.
 - **EV Batteries:** Reduced modeled, high volume cost of EV battery production from \$1000/kWh in 2008 to \$300/kWh in 2014, with a goal of \$125/kWh by 2022
 - Through April 2015, more than 318,000 PEVs have been sold since December 2010.
 - **Biofuels:** Reduced modeled mature cost of cellulosic ethanol from over \$13 per gallon to about \$2 per gallon.
 - **Wind:** PPAs signed in 2014 show wind energy available at competitive rates as low as 2.2 cents/kWh.



CUTTING GREENHOUSE GAS EMISSIONS THROUGH CLEAN ENERGY

- **Develop carbon pollution standards for new and existing power plants**
 - Delivered proposed Standards for new power plants in Sep 2013
 - Delivered proposed Standards for existing power plants in June 2014
 - Final rules by summer 2015
- **Double electricity generation from solar and wind in the U.S. again by 2020**
 - Builds on previous doubling from 2009 to 2012
 - New target of 20 percent by 2020 renewables procurement for the Federal government
 - Half of new installed capacity in 2014 was renewable energy
 - U.S has 20 GW of installed capacity for solar and 66 GW of wind
 - In 2015, the U.S. now has 22 times more deployed solar energy than in 2008
 - U.S. leads world in wind power generation

ENERGY EFFICIENCY POLICIES ALSO DRIVING DOWN EMISSIONS

- **Major fuel economy standards for cars and light trucks**
 - New standards will double the efficiency of cars and trucks by 2025, reducing over 6,000 Mt of CO₂ over life of program
 - First-ever national fuel economy and greenhouse gas emission standards for commercial trucks, vans, and buses for model years 2014-2018
 - New post-2018 fuel economy standards planned for heavy-duty vehicles
- **Comprehensive buildings sector efficiency measures**
 - The US Department of Energy (DOE) has completed 29 appliance standards since 2009 and is on track to the goal of 3,000 MMT of cumulative abatement through 2030.
 - Through Better Buildings Challenge over 3.5 billion square feet of commercial and industrial buildings on track to achieve 20 percent efficiency gains by 2020; \$4.5 billion invested already.

CUTTING GREENHOUSE GAS EMISSIONS BEYOND THE ENERGY SECTOR

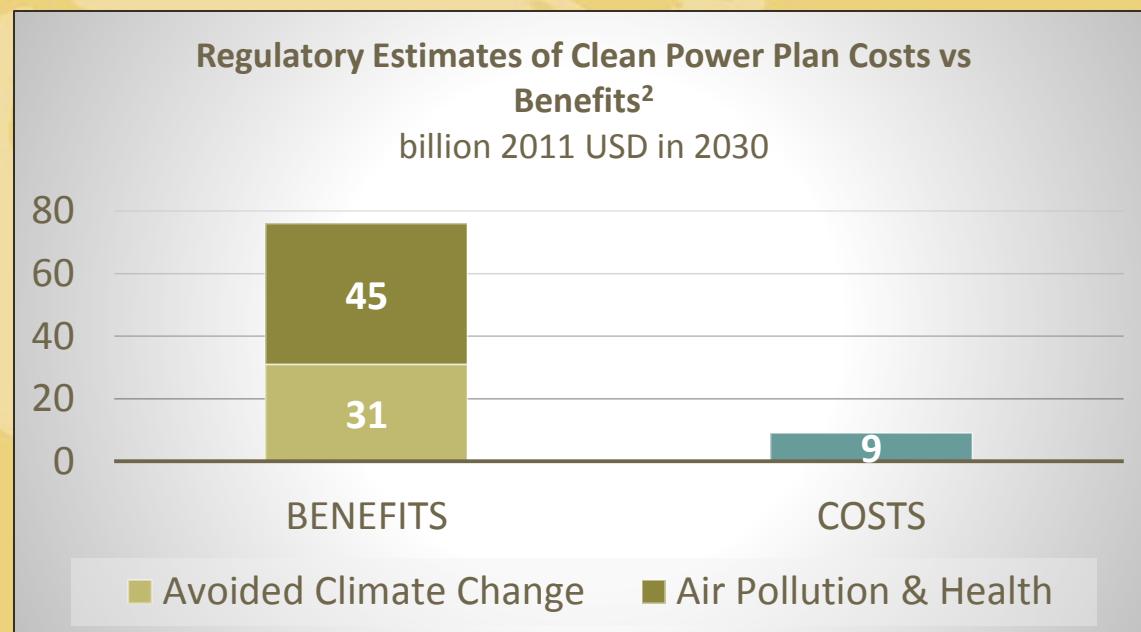
- **Domestic actions to reduce short-lived climate pollutants**
 - On September 16, 2014, White House announced new executive actions and private sector commitments to reduce cumulative global consumption of HFCs by the equivalent of 700 million metric tons of CO₂e through 2025, or 1.5% of the world's 2010 GHG emissions
 - The Environmental Protection Agency finalized a rule in April 2015 under the Significant New Alternatives Policy program to expand the list of climate-friendly alternatives to HFCs.
 - It also proposed a rule in 2014 to prohibit the use of certain HFCs for specific applications, which would reduce 31 to 42 million metric tons of CO₂e in 2020.

CUTTING GREENHOUSE GAS EMISSIONS BEYOND THE ENERGY SECTOR

- **New approaches to protect and restore forests, grasslands and wetlands to bolster our carbon sinks**
 - In April, USDA announced suite of ten programs to reduce greenhouse gas emissions, increase carbon sequestration and expand renewable energy production in the agricultural and forestry sectors.
 - Through these efforts, the U.S. expects to reduce net emissions and enhance carbon sequestration by over 120 million metric tons of CO₂ equivalent (MMTCO₂e) per year – about 2 percent of economy-wide net greenhouse emissions – by 2025.
 - These building blocks include increasing soil health, improving nitrogen stewardship, reducing livestock emissions, promoting rural renewable generation and efficiency, and encouraging forest growth and retention.
 - USDA will promote broader deployment of no-till agriculture, optimized nitrogen application, anaerobic digesters, and lagoon covers to reduce carbon dioxide, nitrous oxide, and methane emissions.

COST-BENEFIT ANALYSIS

- We use a rigorous process to calculate benefits of greenhouse gas regulations
- This process includes the benefits of avoiding global climate change from GHGs and the benefits of improved health outcomes for U.S. residents
- Our standard regulatory process requires a transparent calculation of costs and benefits, **including co-benefits**, and the associated Regulatory Impact Analysis documents are publicly available online
- Social benefits of carbon dioxide mitigation are calculated to be between \$40-50/ton (2007\$US).¹



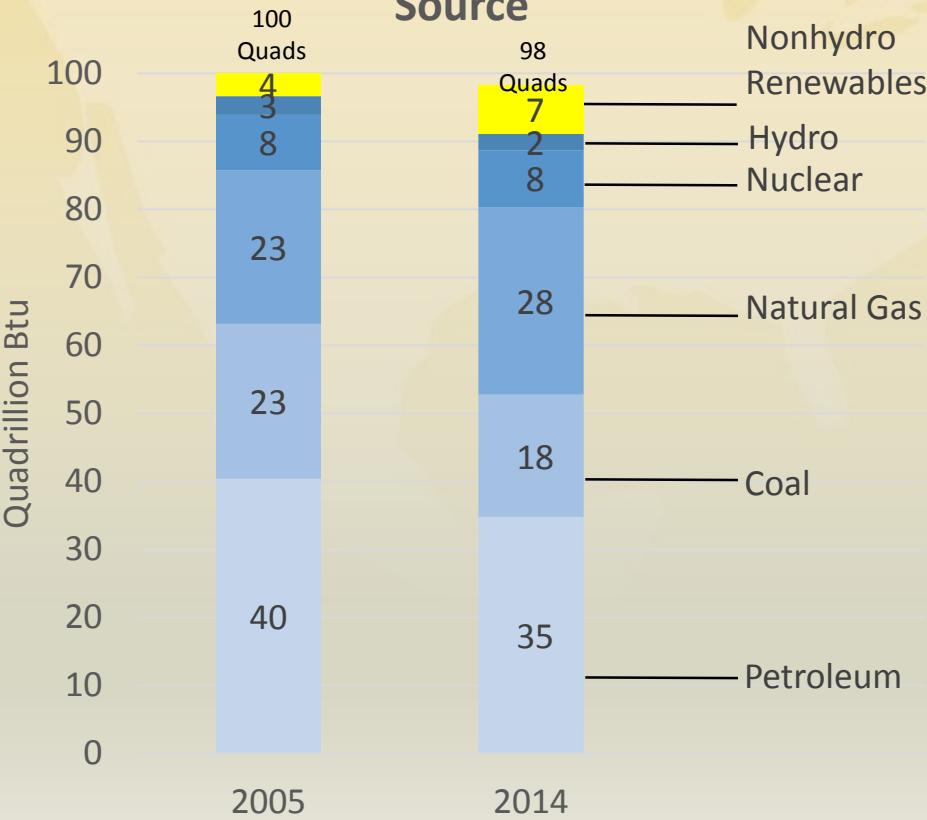
¹Using 3% discount rate.

²The climate benefit estimates in this summary table reflect global impacts from CO2 emission changes and do not account for changes in non-CO2 GHG emissions. Also, different discount rates are applied to SCC than to the other estimates because CO2 emissions are long-lived and subsequent damages occur over many years. The SCC estimates are year-specific and increase over time. Total social costs are approximated by the illustrative compliance costs which, in part, are estimated using the Integrated Planning Model for the proposed option and a discount rate of approximately 5%. This estimate also includes monitoring, recordkeeping, and reporting costs and demand side energy efficiency program and participant costs.

The estimates of net benefits in this summary table are calculated using the global SCC at a 3 percent discount rate (model average). The RIA includes combined climate and health estimates based on these additional discount rates.

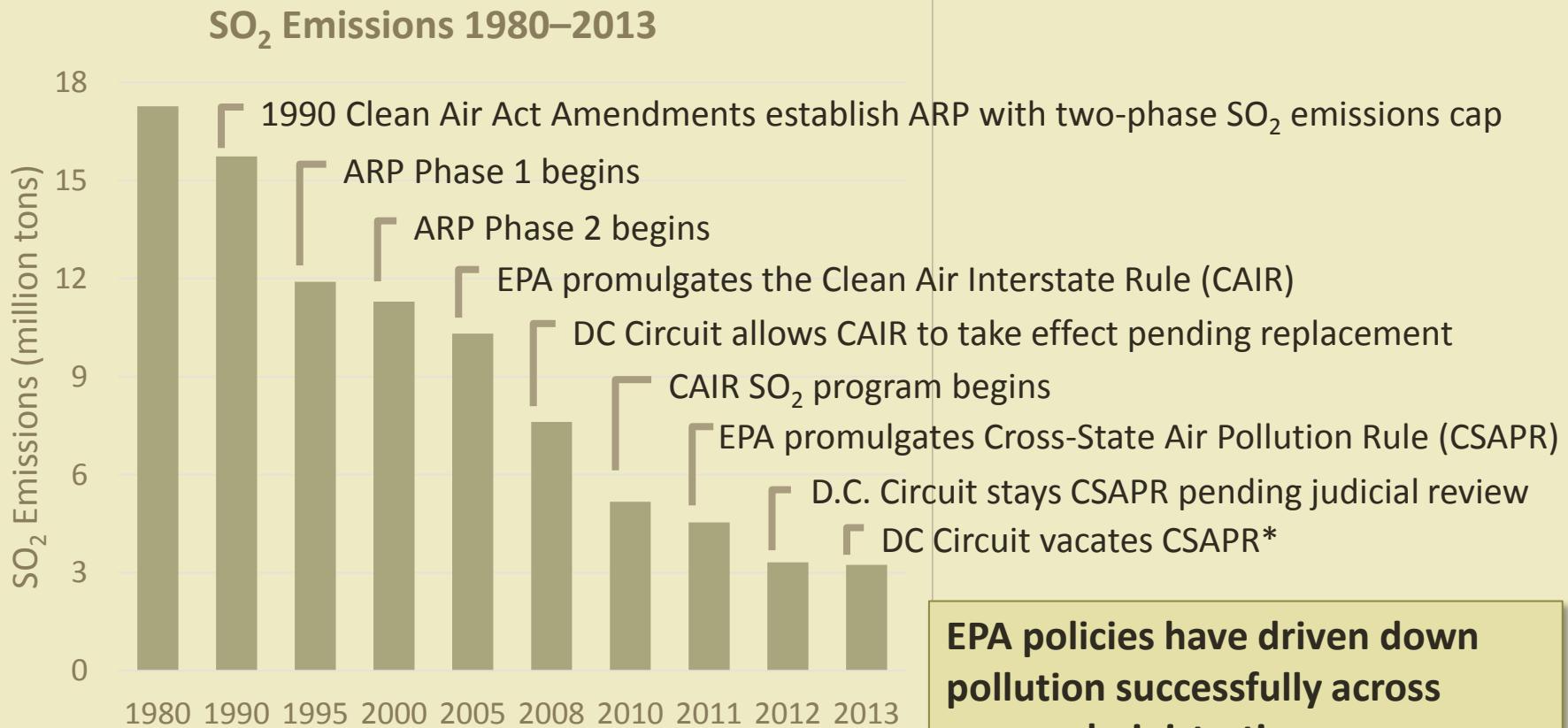
POLICIES ARE ALREADY DELIVERING RESULTS

U.S. Primary Energy Consumption by Source



- Since 2005, fuel economy standards, appliance efficiency standards, building codes, private sector innovation, and state and local action have driven down energy consumption by roughly 2%, even as real GDP increased by 13%
- From 2009 to 2014, electricity generation from wind and solar power nearly tripled
- Shift from coal to natural gas, largely in the power sector
- Fuel economy standards and other policies are cutting petroleum consumption

EXAMPLE OF DURABILITY: SO₂ REDUCTION POLICIES



Note: For CAIR units not in the ARP, the 2009 annual SO₂ emissions were applied retroactively for each pre-CAIR year following the year in which the unit began operating. * On April 29, 2014, the U.S. Supreme Court reversed the D.C. Circuit Court opinion and on June 26, EPA filed a motion to lift the stay of CSAPR and begin implementation on January 1, 2015.

Source: EPA, 2014

Kevin Rabinovitch

Global Sustainability Director, Mars

Discussion



Future Road Through Paris Briefings

- The Paris Climate Agreement (Nov 18)
- First Results from COP21 (Dec 16)
- Moving the Needle, What's Next? (Jan 20)

Register: www.bsr.org

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