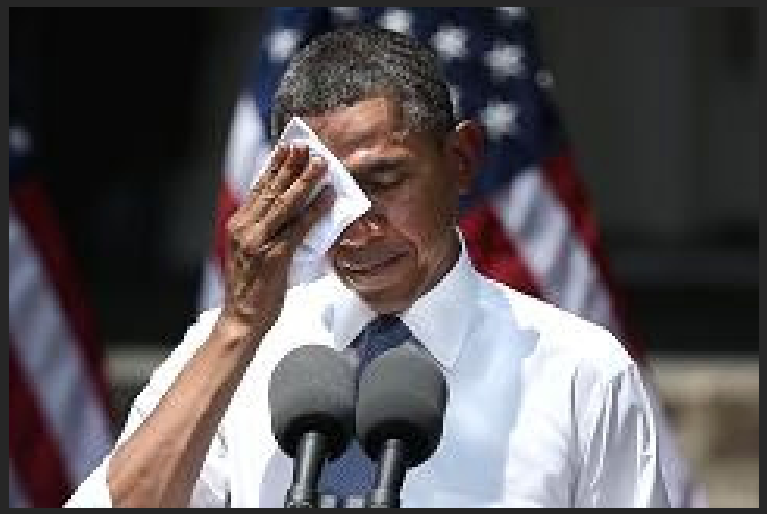
CLOSING THE POWER PLANT CARBON POLLUTION LOOPHOLE:
SMART WAYS THE CLEAN AIR ACT CAN CLEAN UP AMERICA'S BIGGEST CLIMATE POLLUTERS

"We will respond to the threat of climate change, knowing that the failure to do so would betray our children and future generations." 1/21/2013

FORWARD ON CLIMATE:
PRIORITIES OF PRESIDENT OBAMA'S CLIMATE PLAN



Use executive authority to promote efficiency, expand clean energy, and reduce carbon pollution: Goal: 17% reduction in global warming pollution by 2020 compared to 2005 levels.

Prepare for changes in climate that are no longer preventable. Support community-based preparedness and resilience planning and investment.

Lead internationally: Develop bilateral and multilateral agreements.

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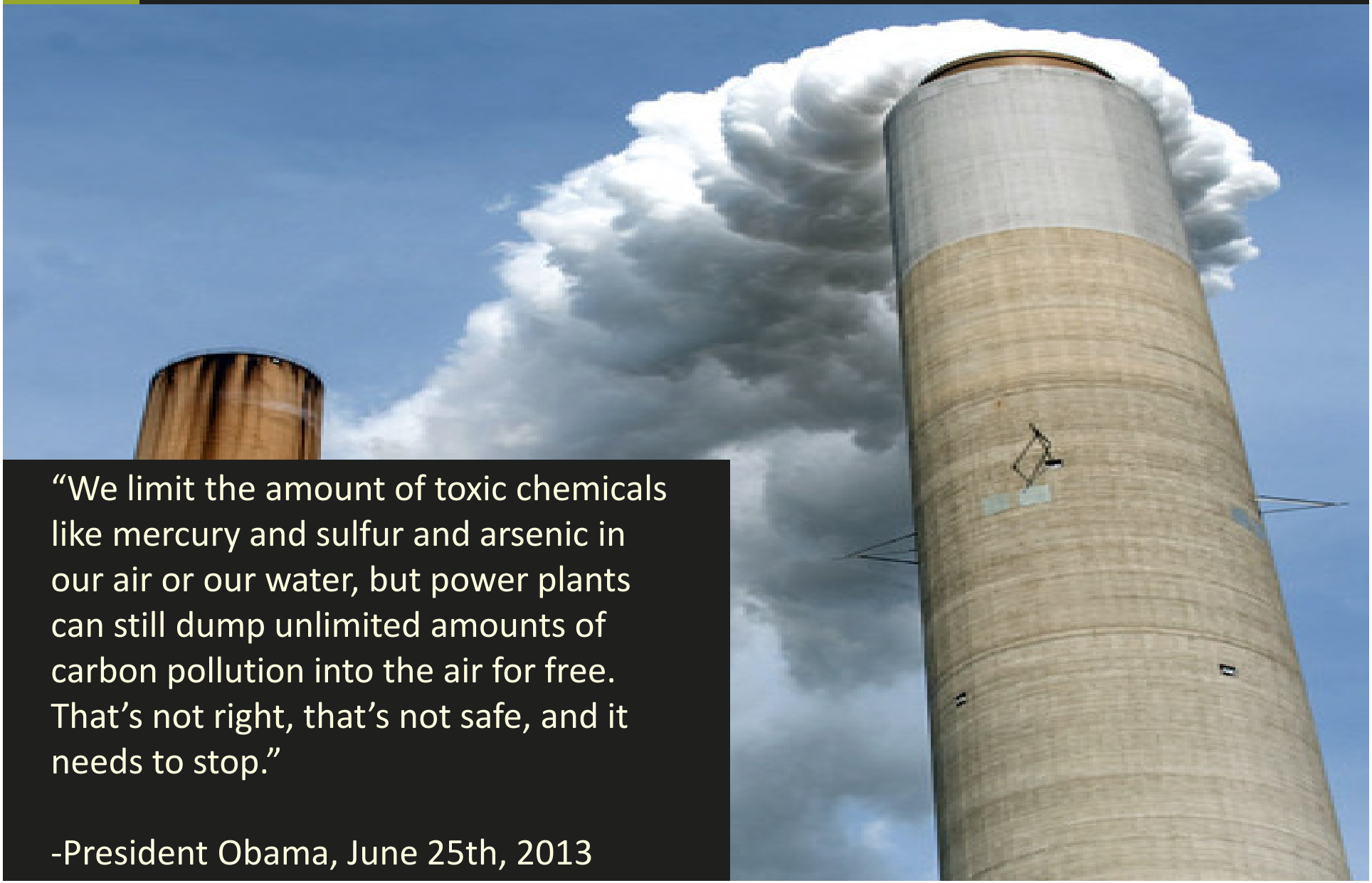


"We limit the amount of toxic chemicals like mercury and sulfur and arsenic in our air or our water, but power plants can still dump unlimited amounts of carbon pollution into the air for free. That's not right, that's not safe, and it needs to stop."

-President Obama, June 25th, 2013

PRESIDENTIAL MEMORANDUM

By September 20, 2013, EPA reproposes the standard for new power plants. EPA met this deadline. Proposed limits are 1100 lbs/MWh for coal (based on partial CCS) and small gas units; 1000 lbs/MWh for large gas units.

By June 1, 2014, EPA proposes a standard for existing power plant. EPA has announced an extensive process to engage states, utilities and other stakeholders.

By June 1, 2015, EPA issues the final existing power plant standard. Final rule will be challenged under the Congressional Review Act and in court.

By June 30, 2016, states submit implementation plans to EPA. This gives EPA time to determine whether these plans comply with their standard by January 20th, 2017, but there is no room for slippage.

NRDC PROPOSAL: LARGE BENEFITS, LOW COSTS

Pollution cuts: 560 million tons less carbon pollution in 2020; twice the reductions from the clean car standards

Health protections: up to 3,600 lives saved, and thousands of asthma attacks and other health incidents prevented in 2020 alone

Clean energy investments: $90 billion in energy efficiency and renewables investments between now and 2020

Low costs: only $4 billion in compliance costs in 2020

Large benefits: $25-60 billion value of avoided climate change and health effects in 2020

POLICY DESIGN
STRONG STANDARDS, MAXIMUM FLEXIBILITY

- **FAIR:** State-specific fossil-fleet average CO_2 emission rate standards
  - Different standard for each state, recognizing differences in baseline coal/gas generation mix
  - All fossil fuel generators within a state subject to same lbs/MWh standard in 2020 and 2025

- **FLEXIBLE:** Full range of emission reduction measures count
  - Reducing heat rates at individual power plants
  - Shifting dispatch from high-emissions to low-emissions units
  - Credit for incremental renewables and energy efficiency
  - States may opt in to interstate averaging or credit trading
  - States may adopt alternative compliance plan that achieves equivalent emission reductions

FLEXIBLE COMPLIANCE OPTIONS

HEAT RATE REDUCTIONS

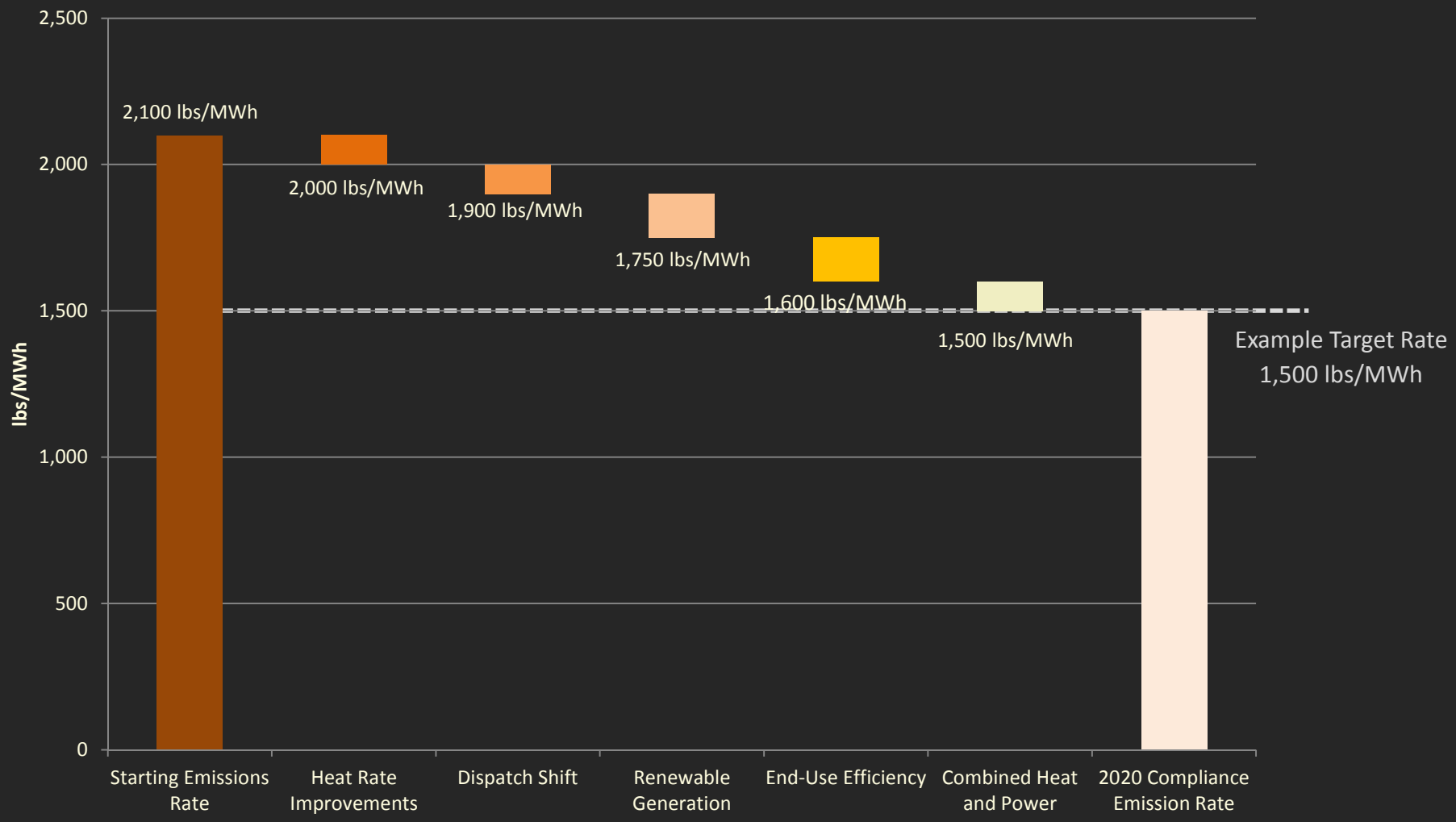
CLEANER POWER SOURCES

FLEXIBLE COMPLIANCE

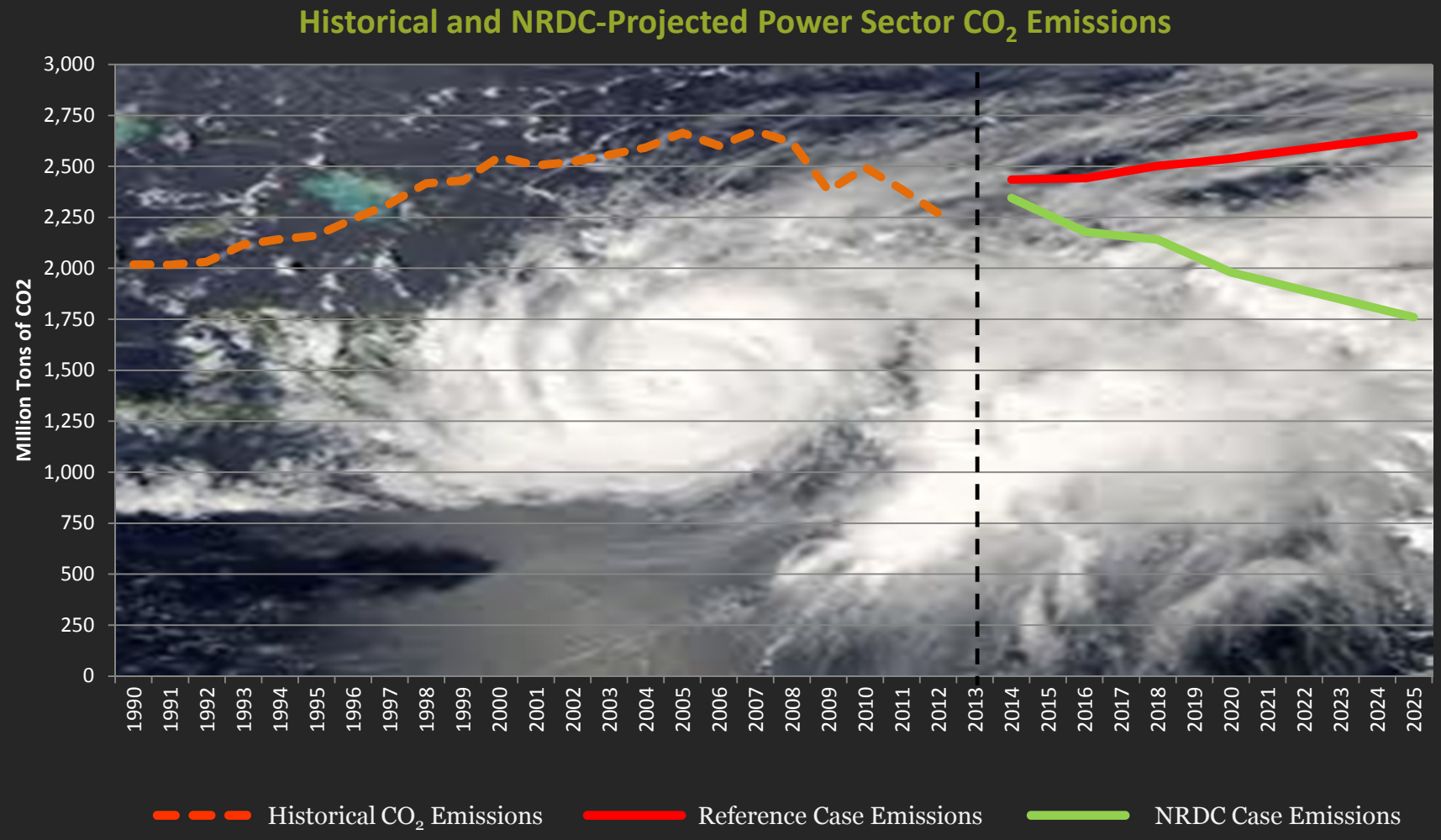
MORE RENEWABLES

INVESTMENTS IN EFFICIENCY

FLEXIBLE COMPLIANCE OPTIONS

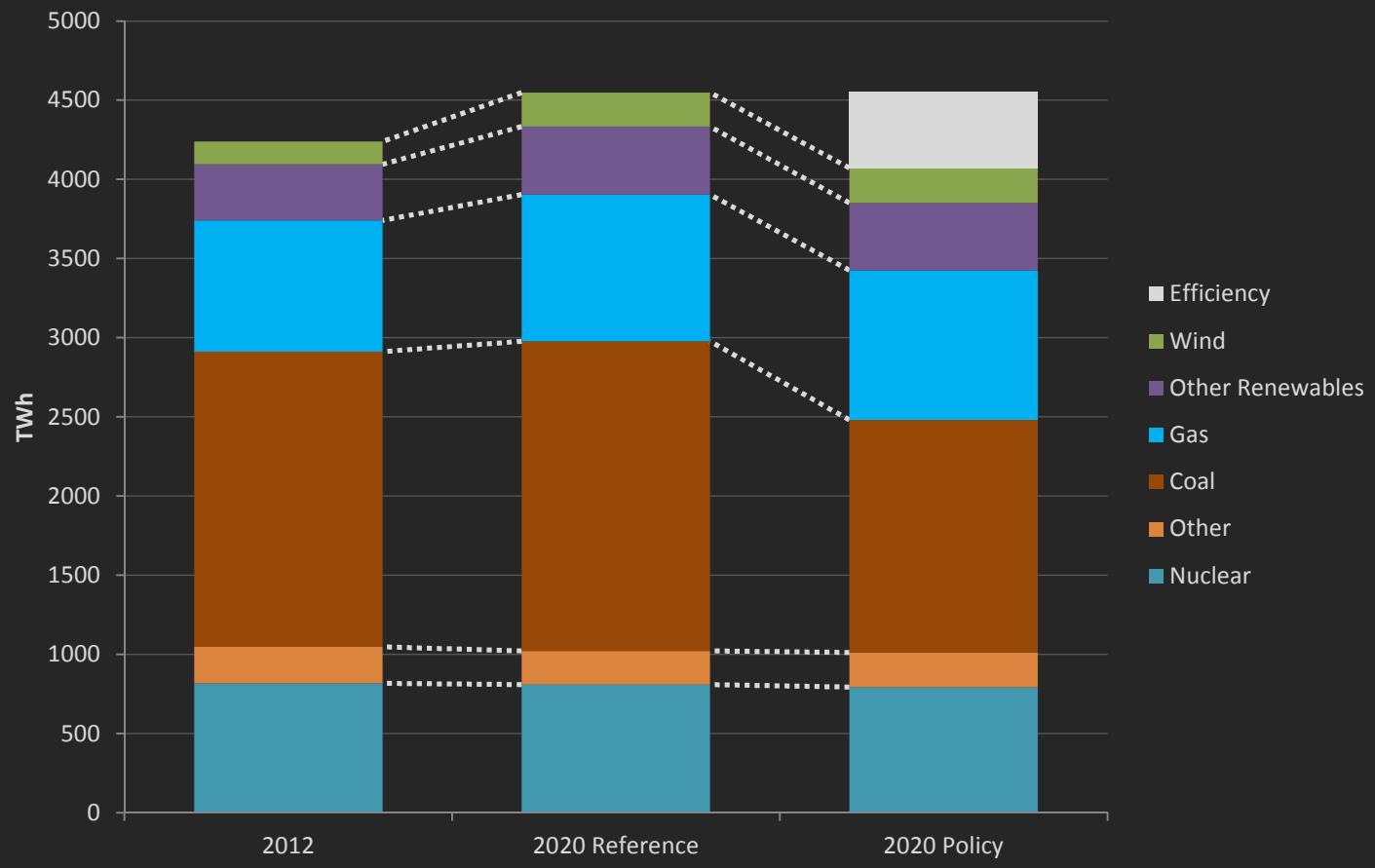


LESS CARBON

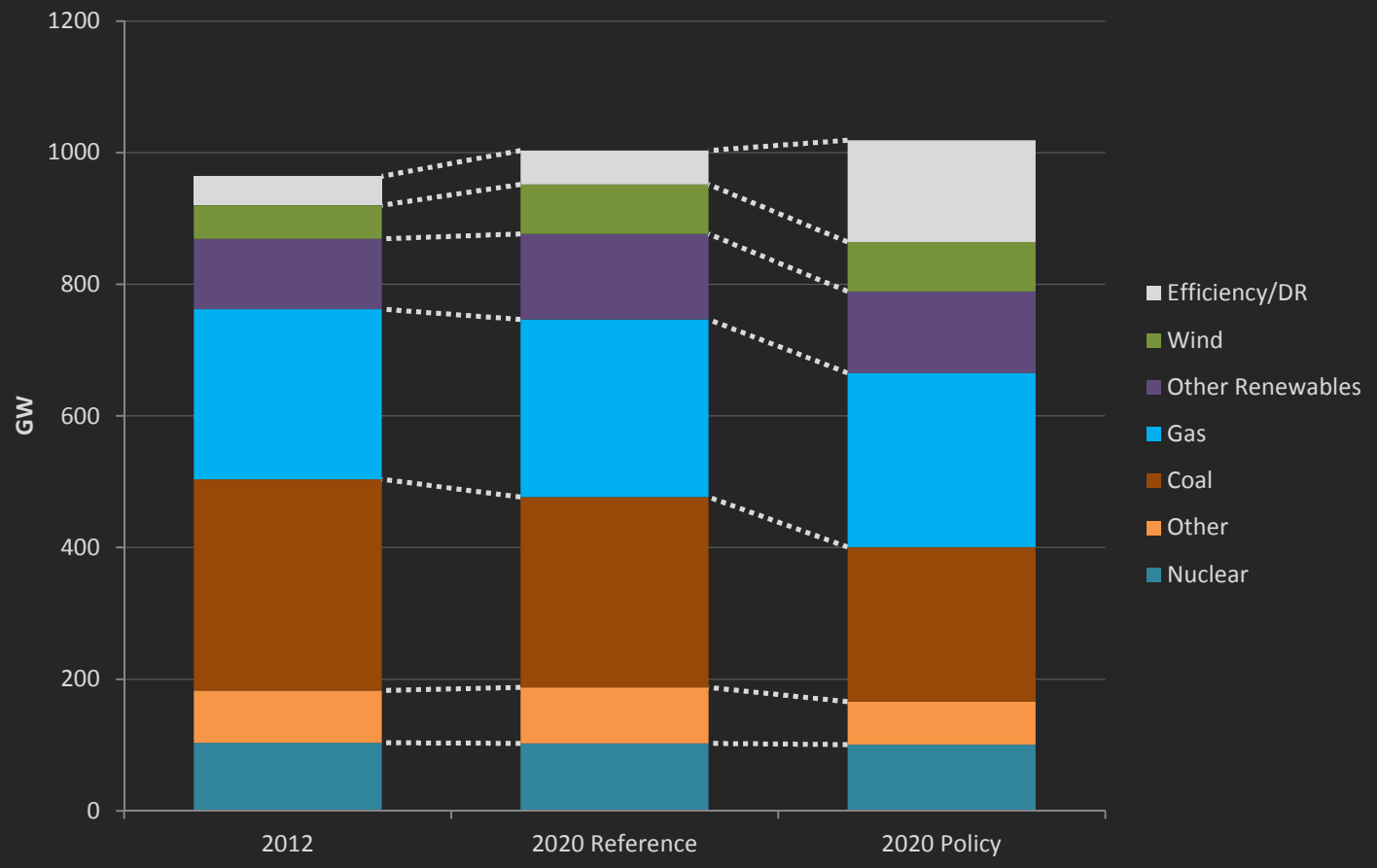


Source for historical CO_2 emissions data: EIA.

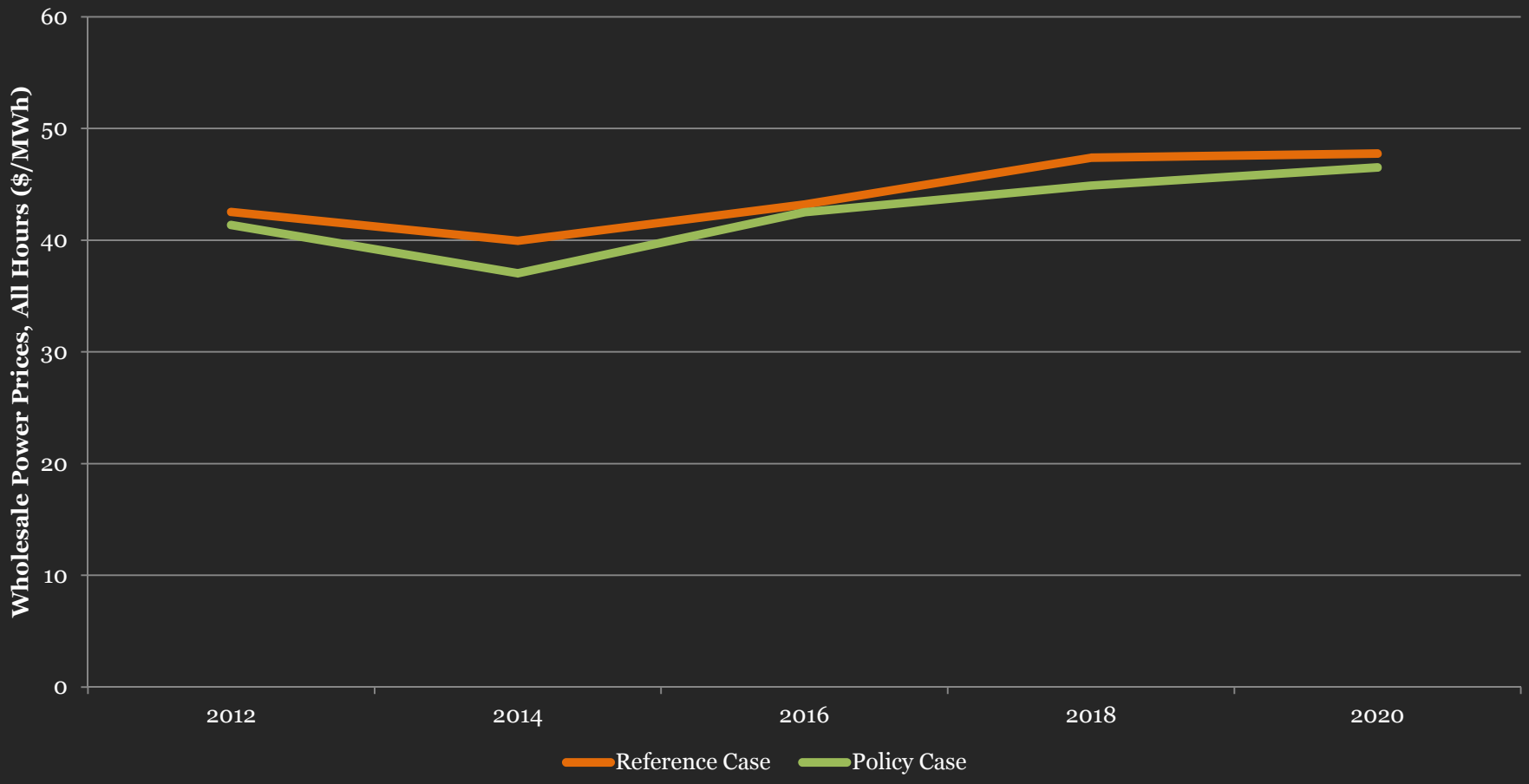
PROJECTED GENERATION CHANGES IN THE U.S. POWER SECTOR



PROJECTED CAPACITY CHANGES IN THE U.S. POWER SECTOR



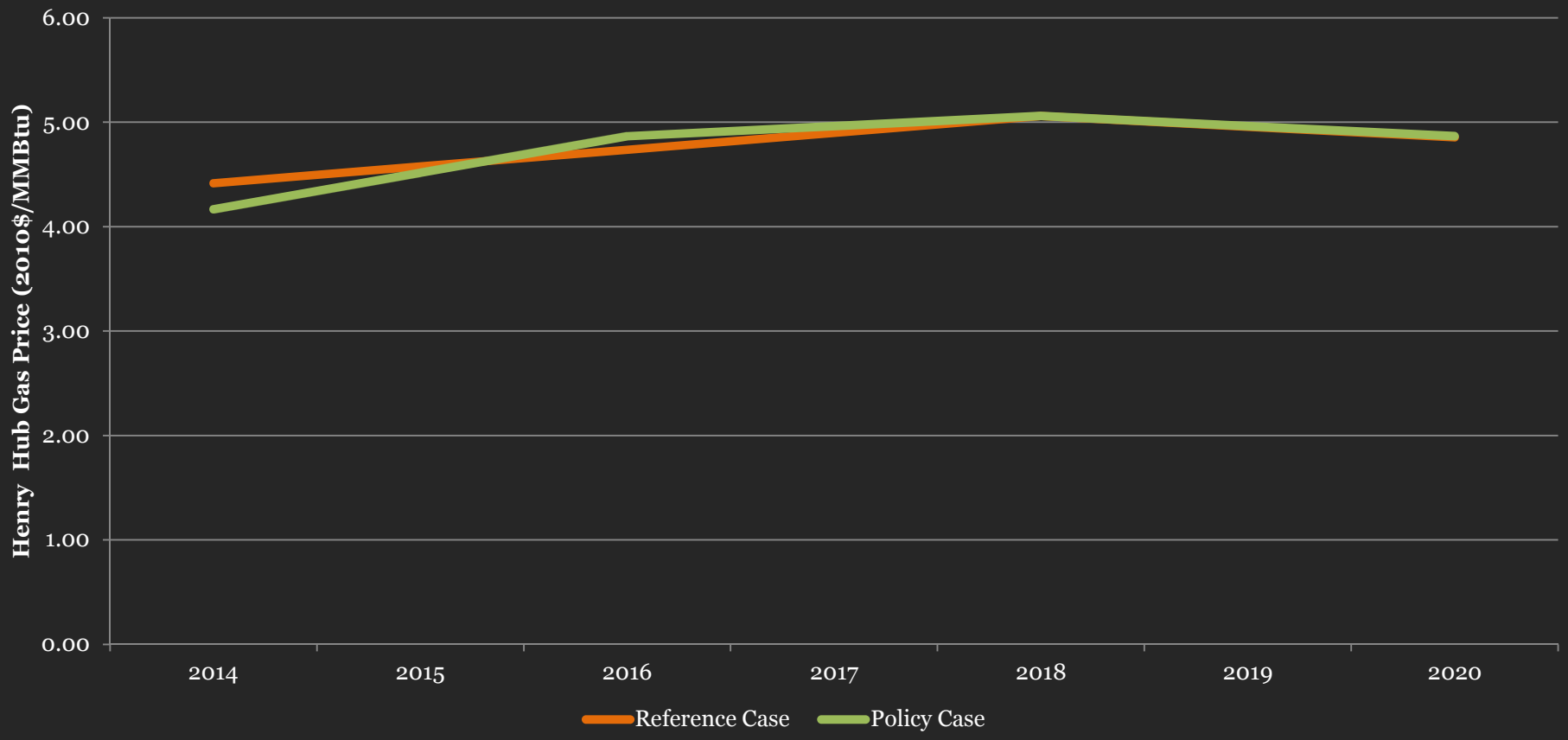
COMPARATIVE WHOLESALE POWER PRICES
FIVE-REGION AVERAGE (2010$/MWh)



Note: Generation-weighted average of PJM, Southeast (excluding Florida), MISO, NYISO, ISO-NE, accounting for 60% of national generation

COMPARATIVE HENRY HUB GAS PRICES

NATIONAL AVERAGE (2010$/MMBtu)



Note: For the purposes of this assessment, natural gas prices are a projection of IPM based on assumed natural gas supply fundamentals and the power sector gas demand resulting from NRDC specified assumptions. Natural gas supply curves for the forecast years were developed based on the amount of resource available and the E&P finding and development costs (fixed and variable costs for exploration, development and O&M costs) associated with the different types of gas resources across the U.S. and Canada, accounting for LNG exports and imports.

MORE JOBS

Smart carbon standards encourage states to adopt policies that can drive over $90 billion in investments toward energy efficiency by 2020, while reducing spending on fuel and power plants. Similarly, states will have an incentive to strengthen and implement their renewable portfolio standards, also driving billions of dollars in investment. This expenditure shift will net over 200,000 jobs by 2020.

MORE JOBS

Figure 1: Total Net Jobs Added by State in 2020 from Carbon Standard

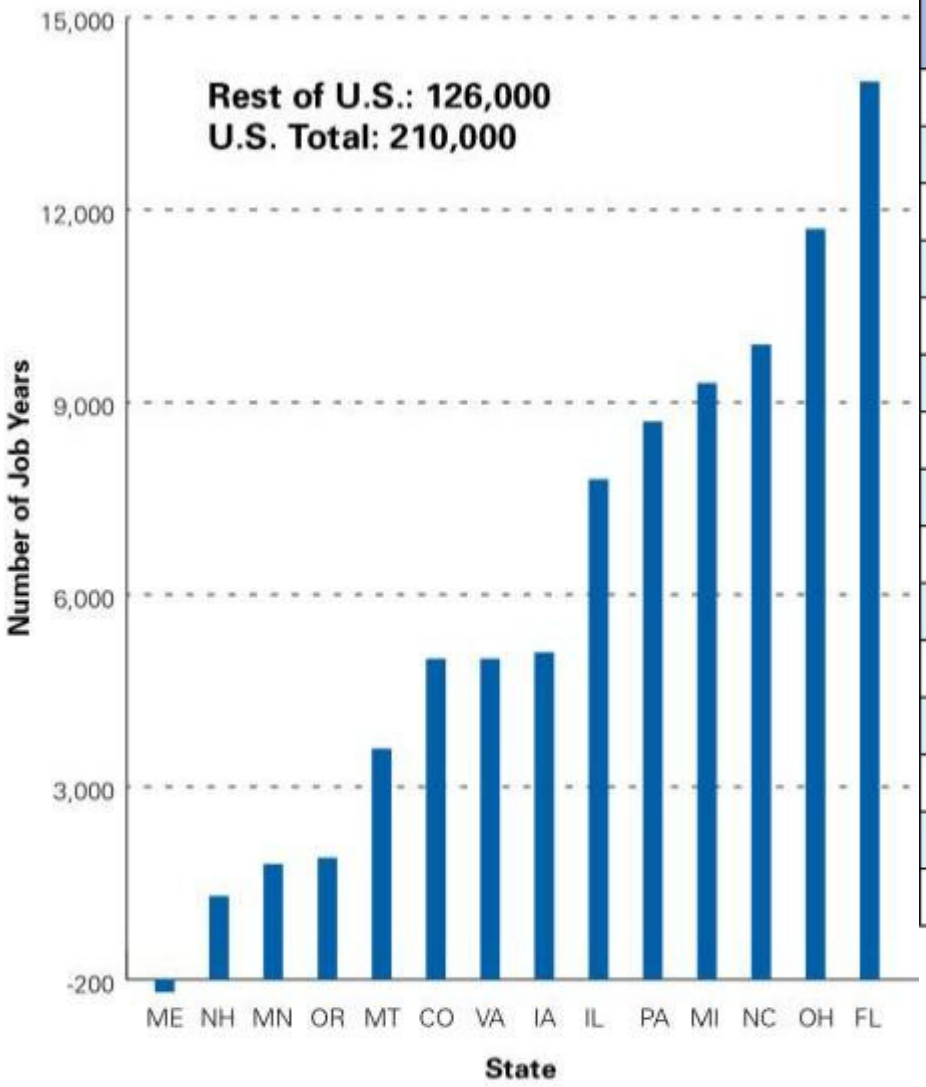


Table 1: Changes in Net Job Years and Utility Bills in the U.S. and by State from Carbon Standard in 2020* (Policy Case Relative to Business-as-Usual)

	Total net change in job-years	Change in average monthly utility bill
U.S.	**210,000**	–$0.90
Colorado	**5,000**	$1.82
Florida	**14,000**	-$0.31
Illinois	**7,800**	-$2.47
Iowa	**5,100**	$1.06
Maine	**–200**	–$3.19
Michigan	**9,300**	–$0.84
Minnesota	**1,800**	$6.02
Montana	**3,600**	–$1.25
New Hampshire	**1,300**	–$3.61
North Carolina	**9,900**	–$2.73
Ohio	**12,000**	–$1.03
Oregon	**1,900**	–$0.65
Pennsylvania	**8,700**	–$0.29
Virginia	**5,000**	–$4.35

* Estimates do not include savings beyond 2020 from efficiency measures or positive productivity impacts from reduced climate change.

MORE JOBS

Table 2: Changes in Energy-Sector Employment from Carbon Standard in 2020 (Policy Case Relative to Business-as-Usual)*

Job changes by energy source/generation (direct jobs)	
Energy efficiency	**236,000**
Coal-fired power plants	**20,000**
Gas-fired power plants	**–1,900****
Zero-emitting sources (nuclear, wind, solar photovoltaic)	**–600*****

* Estimates do not include positive productivity impacts from reduced climate change.

** Employment is higher relative to 2012 levels under both the policy and reference cases, with 4,500 more jobs versus 6,400 over 2012.

*** In the policy case relative to business-as-usual, nuclear jobs decrease by 700, wind increase by 100, and there is no difference in solar.

HEALTHIER COMMUNITIES

CARBON LIMITS WILL CUT OTHER POLLUTANTS AND…

save as many as 3,600 lives

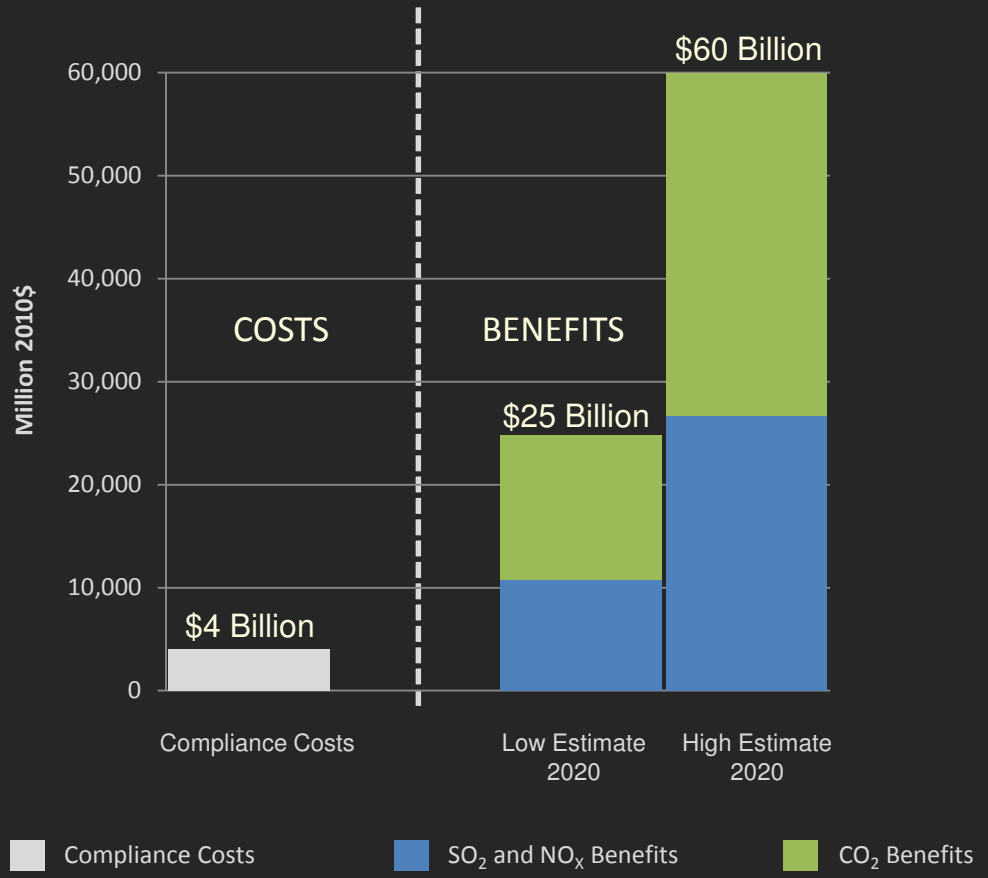
prevent over 23,000 asthma attacks

avoid over 2,300 emergency room visits and hospital admissions

prevent nearly 1.2 million restricted activity and work loss days

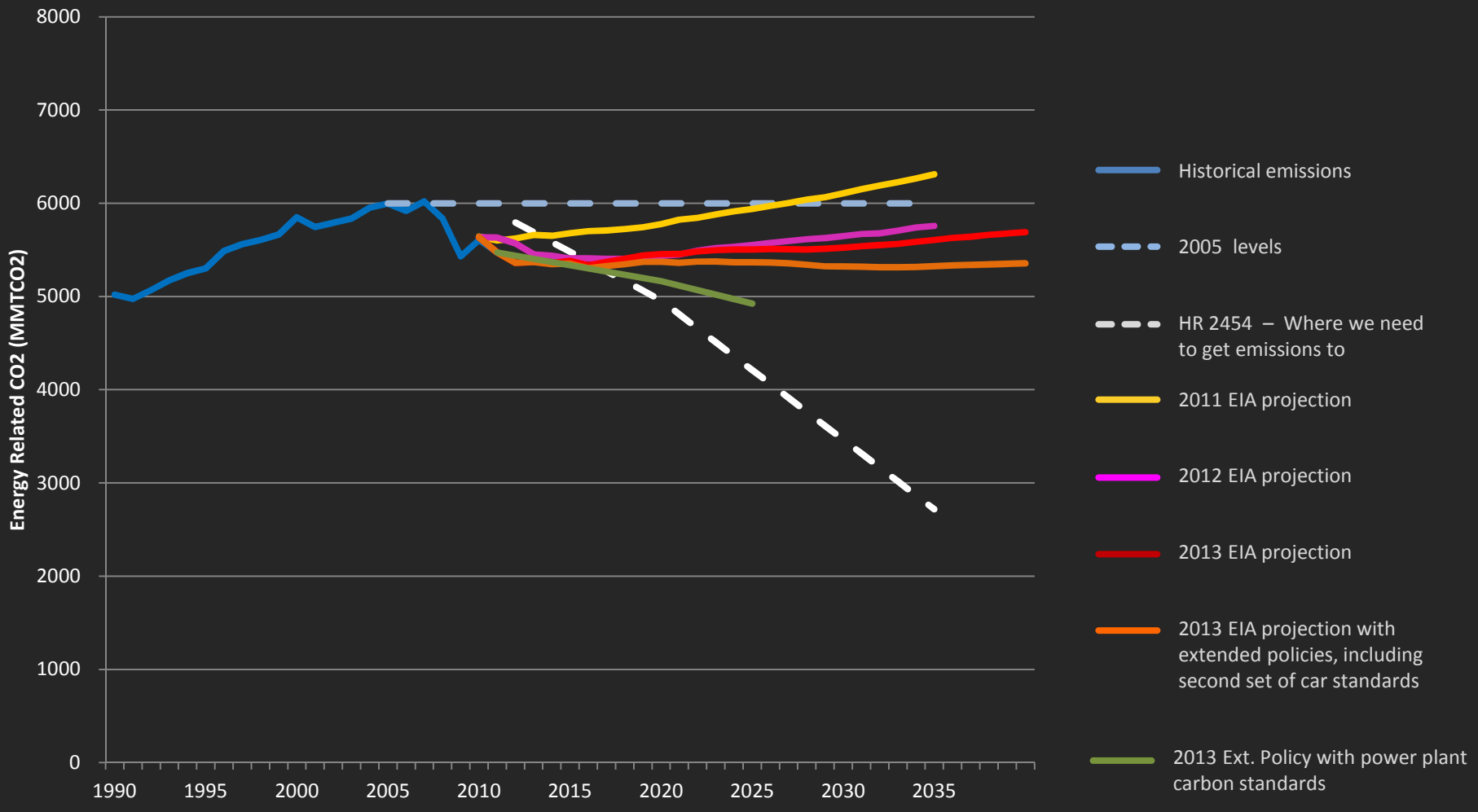
AVOIDING UP TO $26 BILLION IN HEALTH DAMAGES FOR AMERICANS IN 2020 ALONE

LARGE BENEFITS, LOW COSTS



STRONG STANDARDS MEAN HUGE EMISSIONS REDUCTIONS

Car and Power Plant Standards Get Us Four-Fifths of the Way to President's 2020 Target (17% below 2005 levels by 2020 Reduction)



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FOR MORE INFORMATION AND ADDITIONAL MATERIALS, PLEASE VISIT:
http://www.nrdc.org/air/pollution-standards/