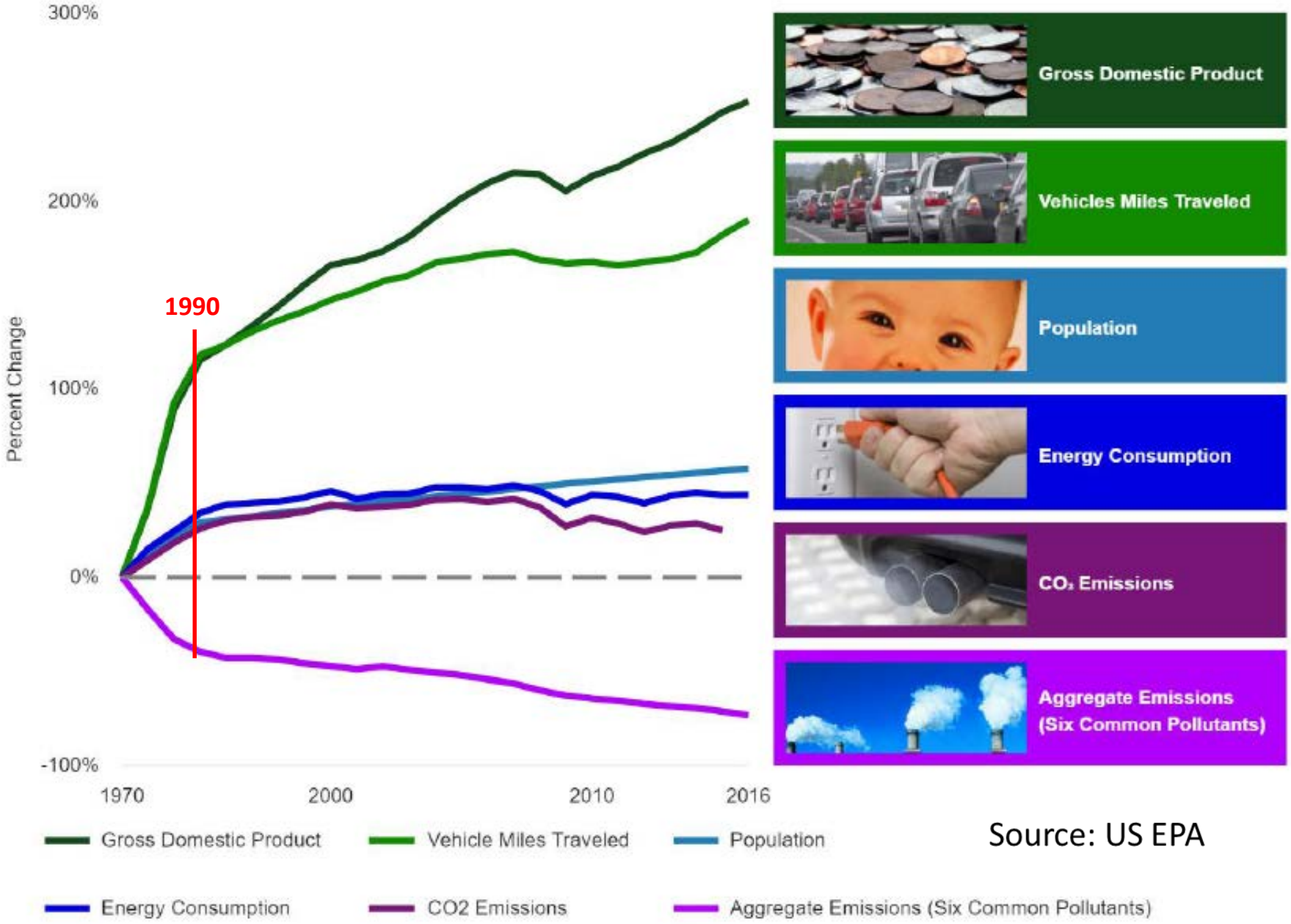
Trends in Air Quality
Patrick Cummins

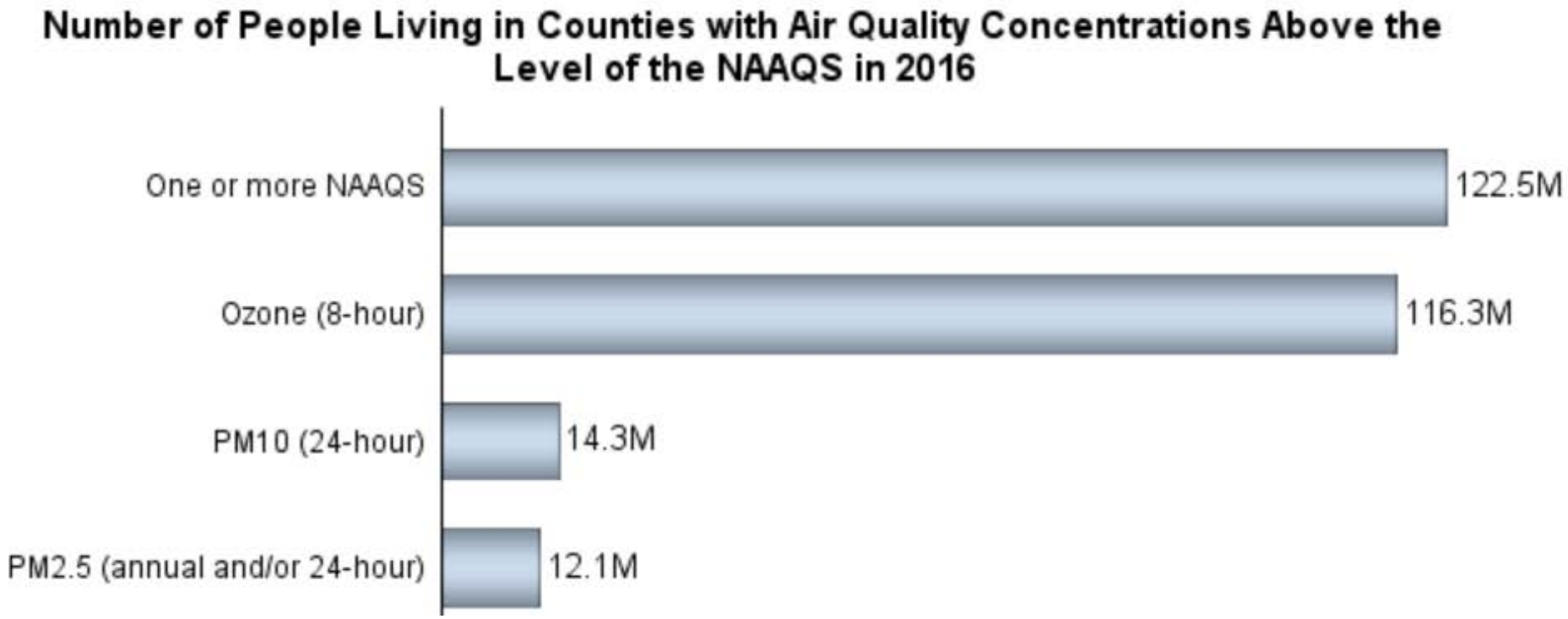
Rush Creek Wind Farm, Limon, Colorado

Comparison of Growth Areas and Declining Emissions

1970-2016



Source: US EPA



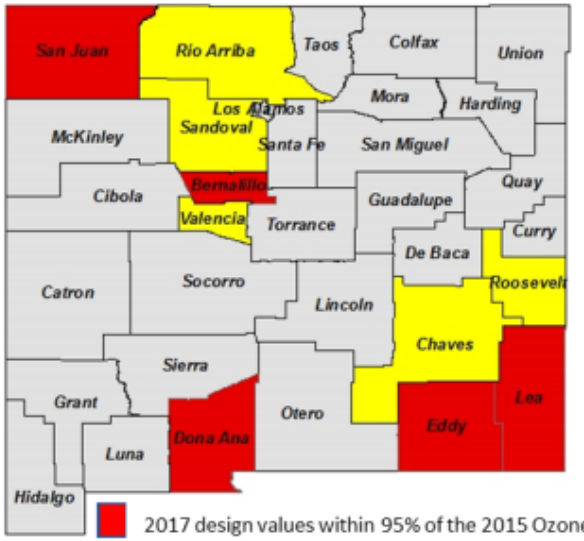
Source: US EPA

Ozone Attainment Initiative

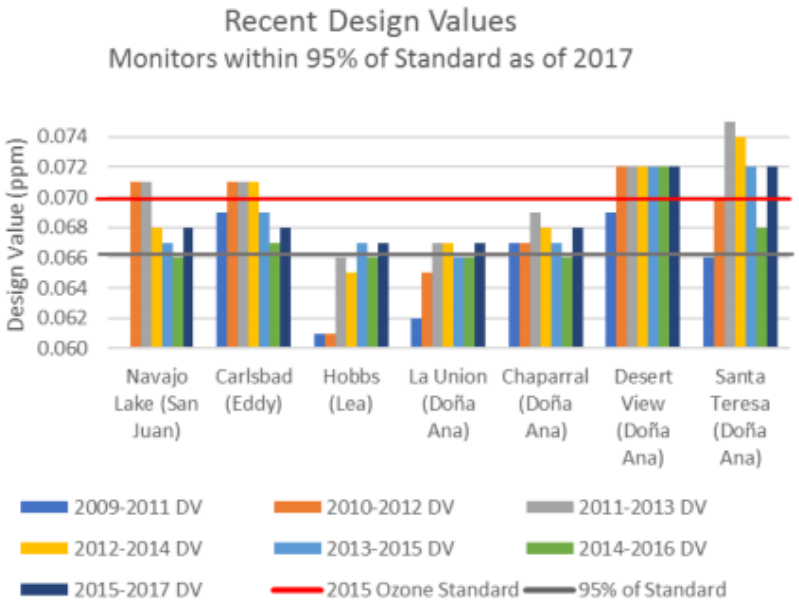
NMED-AQB has embarked on a new Ozone Attainment Initiative (OAI) for attainment and maintenance of national ambient air quality standards for ozone in areas for which design values exceed 95% of the standard. Pursuant to 74-2-5.3.A:

If the environmental improvement board or the local board determines that emissions from sources within its jurisdiction cause or contribute to ozone concentrations in excess of ninety-five percent of a national ambient air quality standard for ozone, it shall adopt a plan, including regulations, to control emissions of oxides of nitrogen and volatile organic compounds to provide for attainment and maintenance of the standard.

Ozone - Areas of Concern



*Albuquerque / Bernalillo County Department of Environmental Health is implementing parallel planning for sources located in Bernalillo County.



Proposed Timeline

Fall 2018 – Planning for public meetings in 9+ Counties and opportunity for initial comments

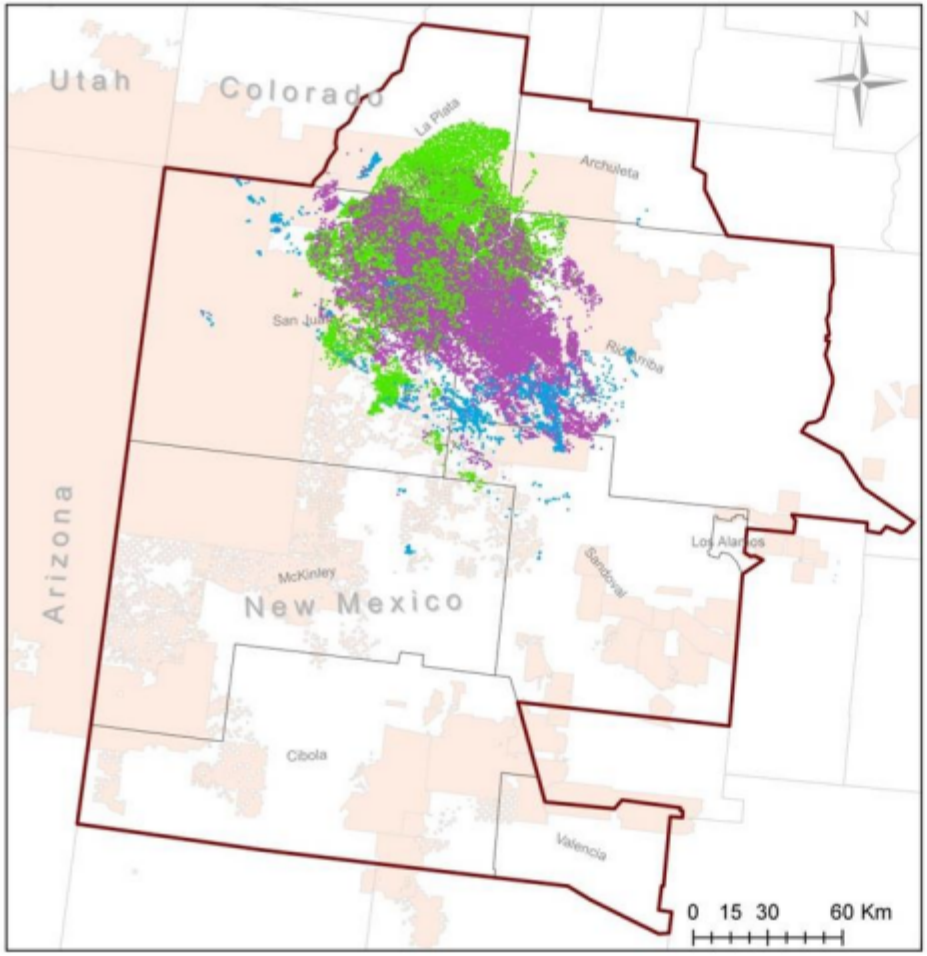
Winter/Spring 2019 – Research on and review of possible options for mandatory or voluntary controls, and additional public outreach

Summer 2019 – Gather input on researched options with opportunity for further public input

Fall 2019 – Analyze feedback and develop rules and other measures for inclusion in a draft ozone attainment plan

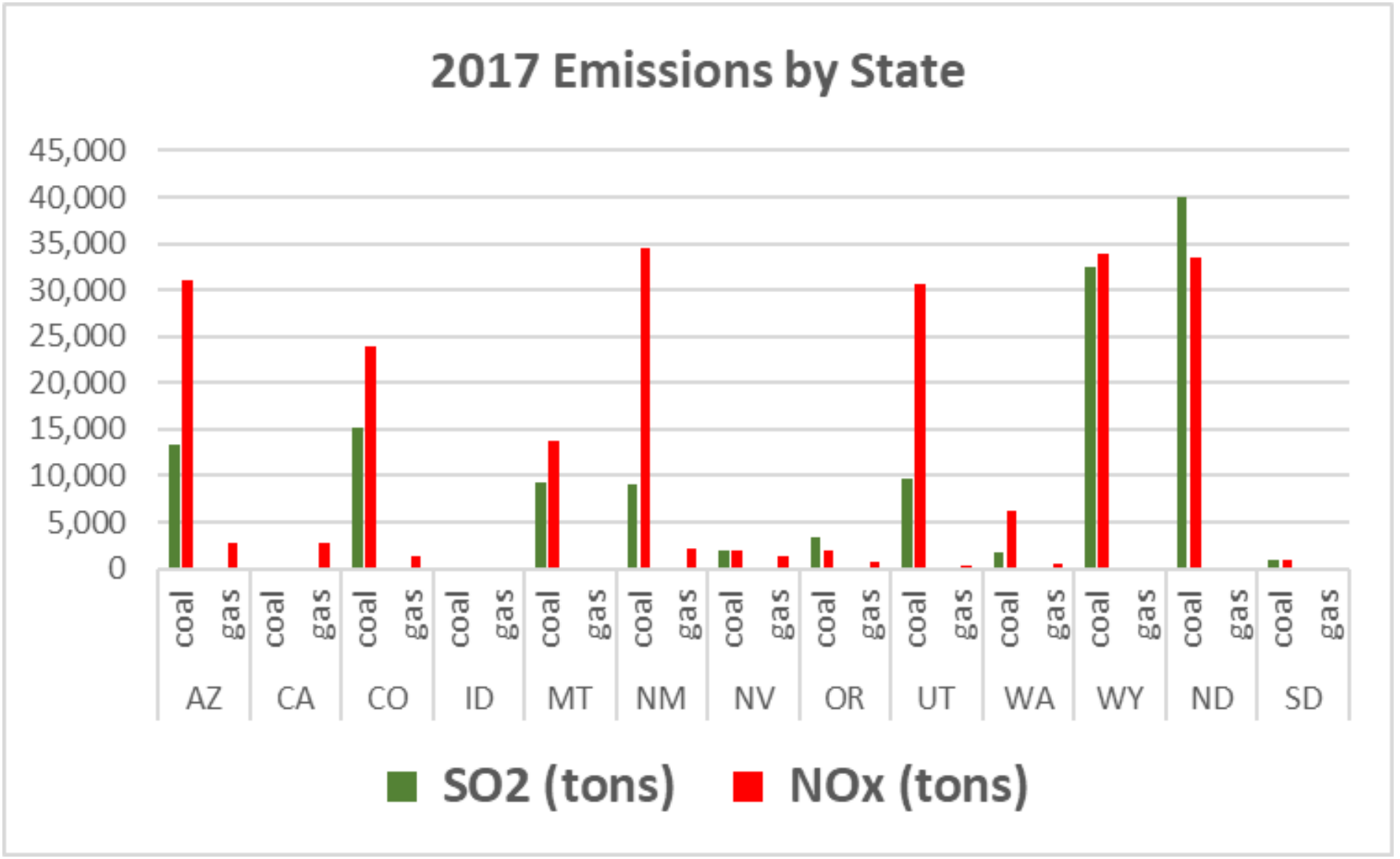
Winter/Spring/Summer 2020 – Draft plan with formal comment period
Summer 2020 – Hearing to adopt a plan

Greater San Juan Basin: 2014 Well Locations by Type



Reference: Parikh, R., J. Grant, A. Bar-Ilan. 2017 "Development of Baseline 2014 Emissions from Oil and Gas Activity in Greater San Juan Basin and Permian Basin". Ramboll Environ. November 2017.

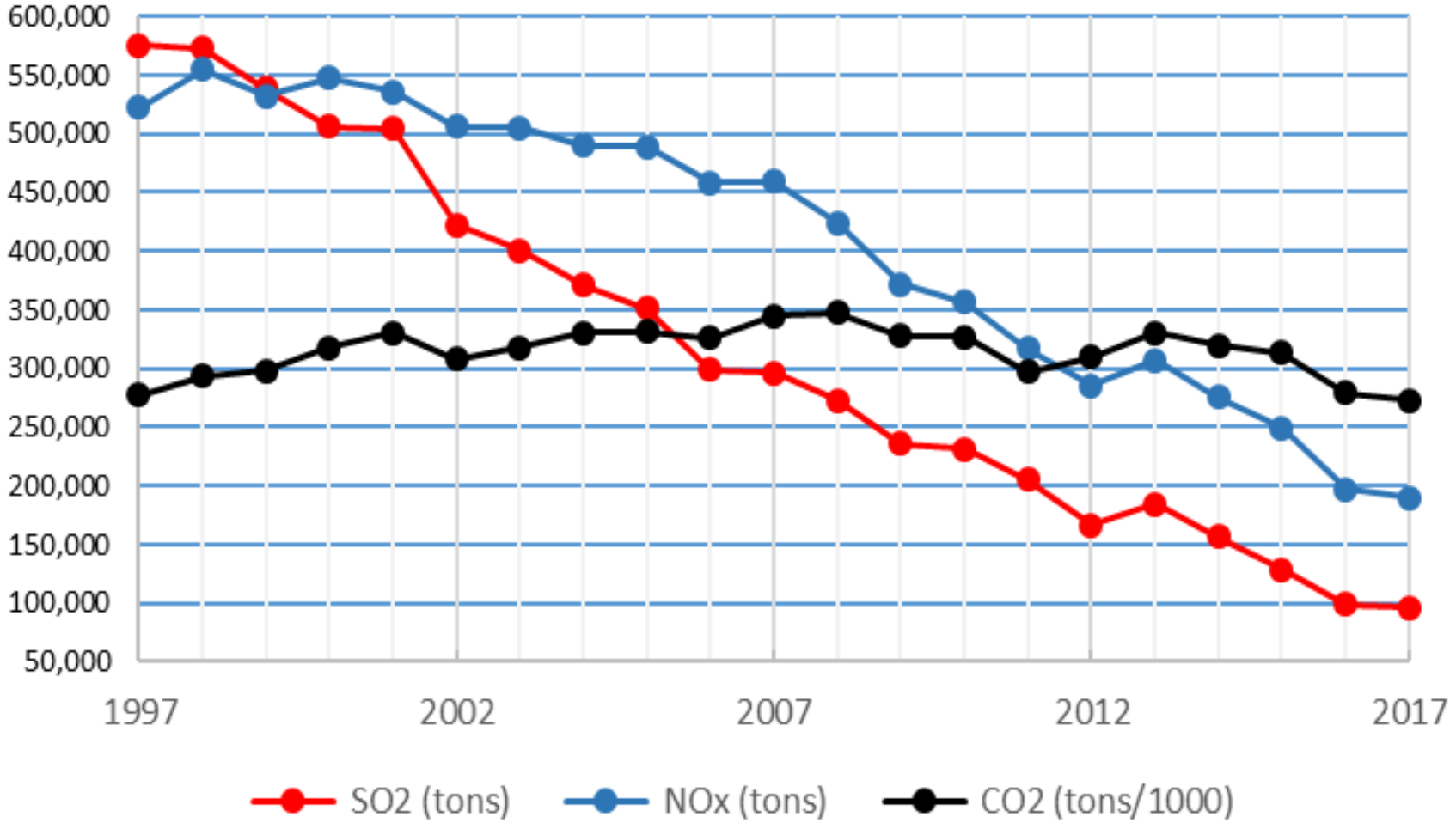
Western Power Sector Emissions



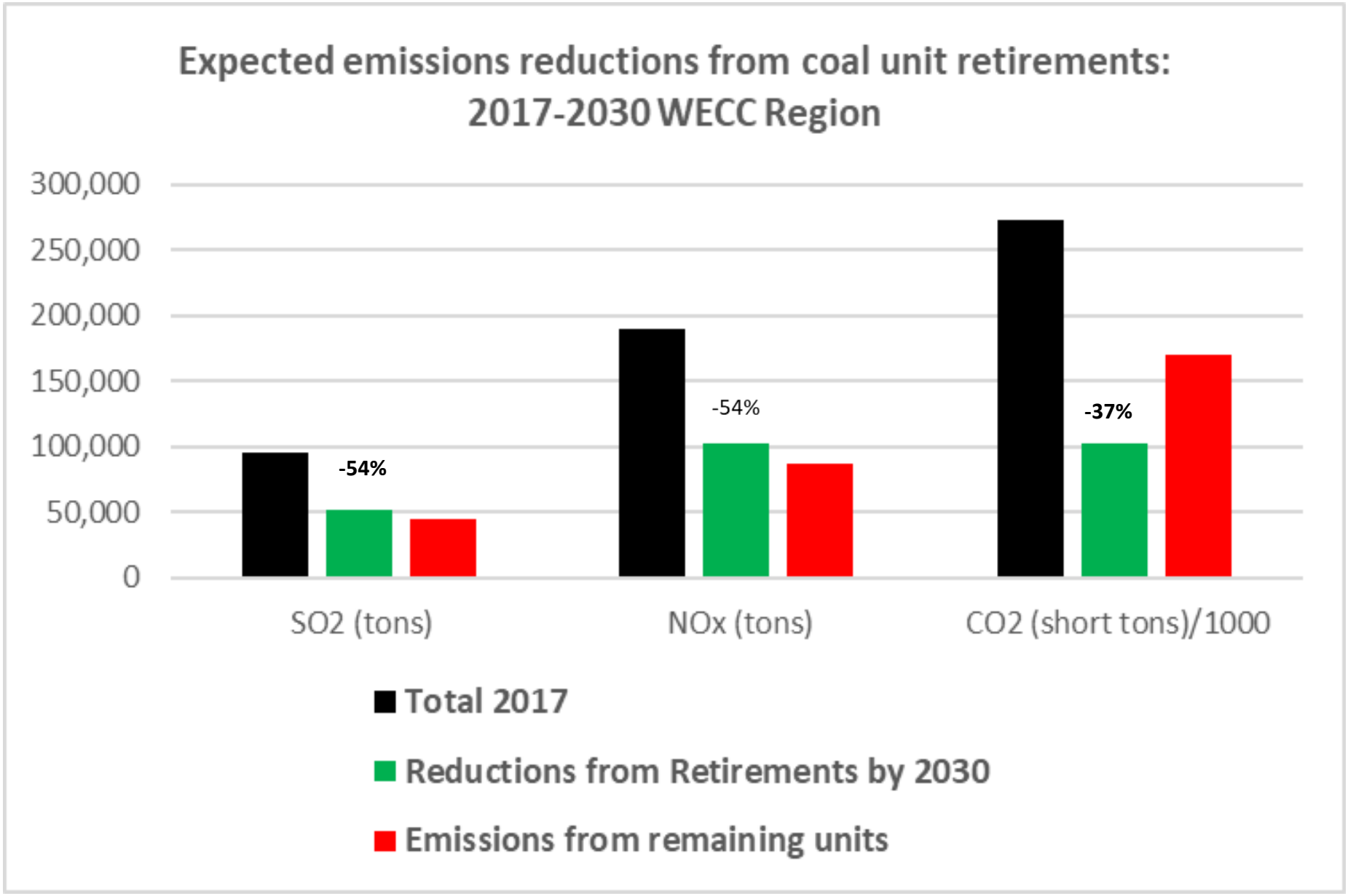
Source: EPA

Western US Power Sector Emissions 1997-2017

Source: US EPA (11 WECC states)



SO2: -83% **NOX: -64%** **CO2: -2%** **(-22% since 2008)**

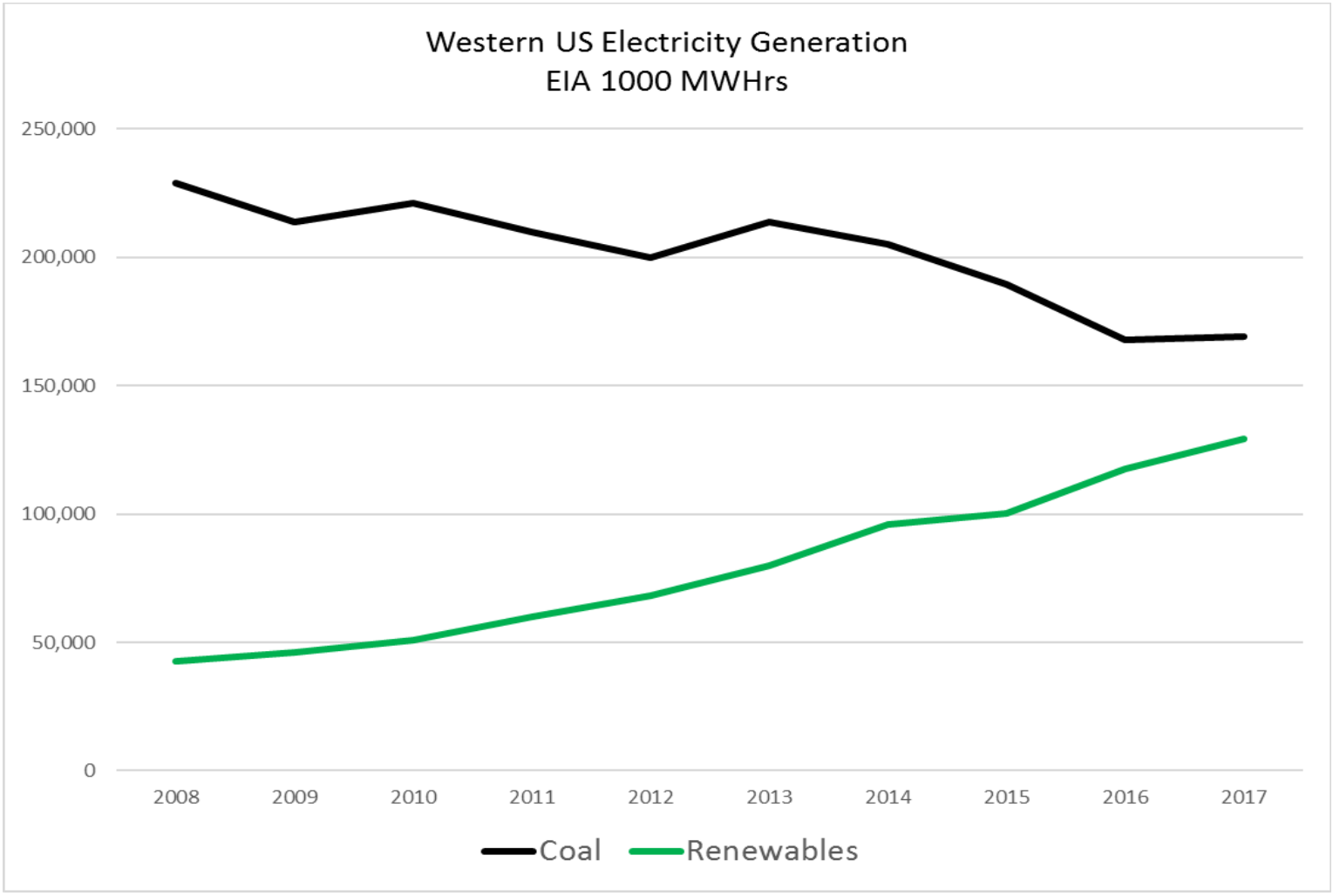


Source: EPA / CNEE

Electricity Generation Trends on the 11-State Western Grid

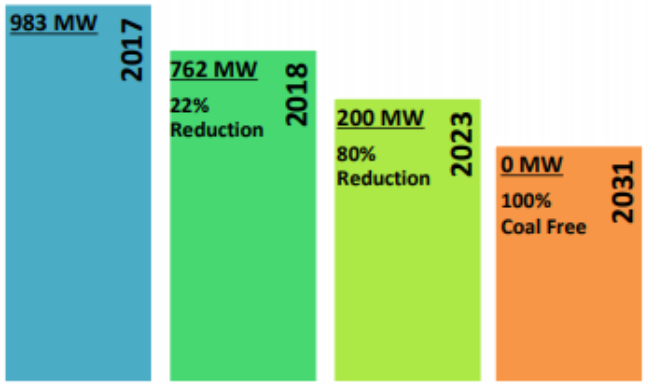
- No increase in total generation since 2008
- 2017 vs. 2008
  - Coal **-26%**
  - Nuclear **-18%**
  - Hydro + Natural Gas **-4%**
  - Renewables **+205% (3X)**

The decline in coal and nuclear generation in the West since 2008 has all been offset by growth in renewables

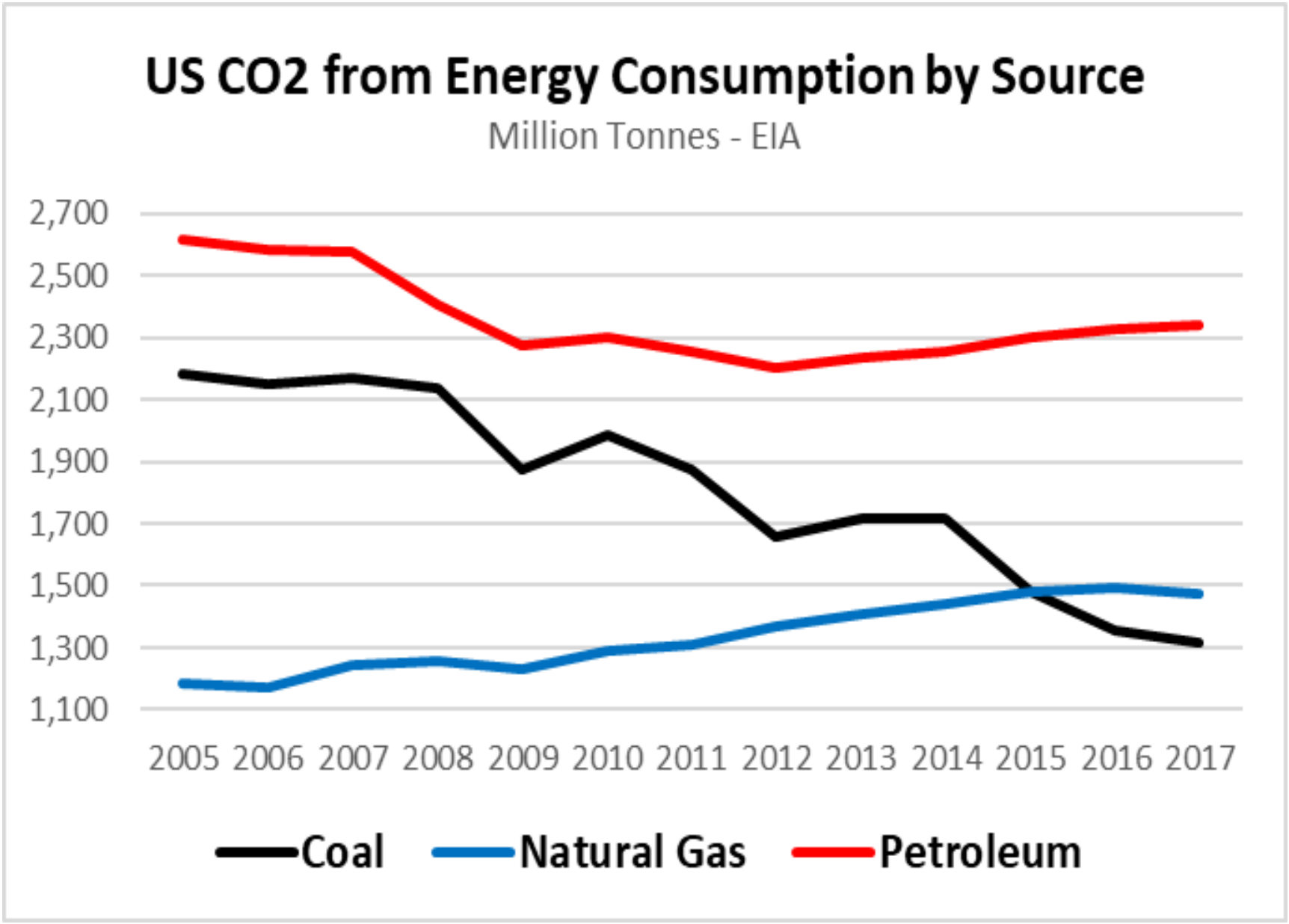

Western US Electricity Generation
EIA 1000 MWHrs
250,000
200,000
150,000
100,000
50,000
0
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Coal
Renewables

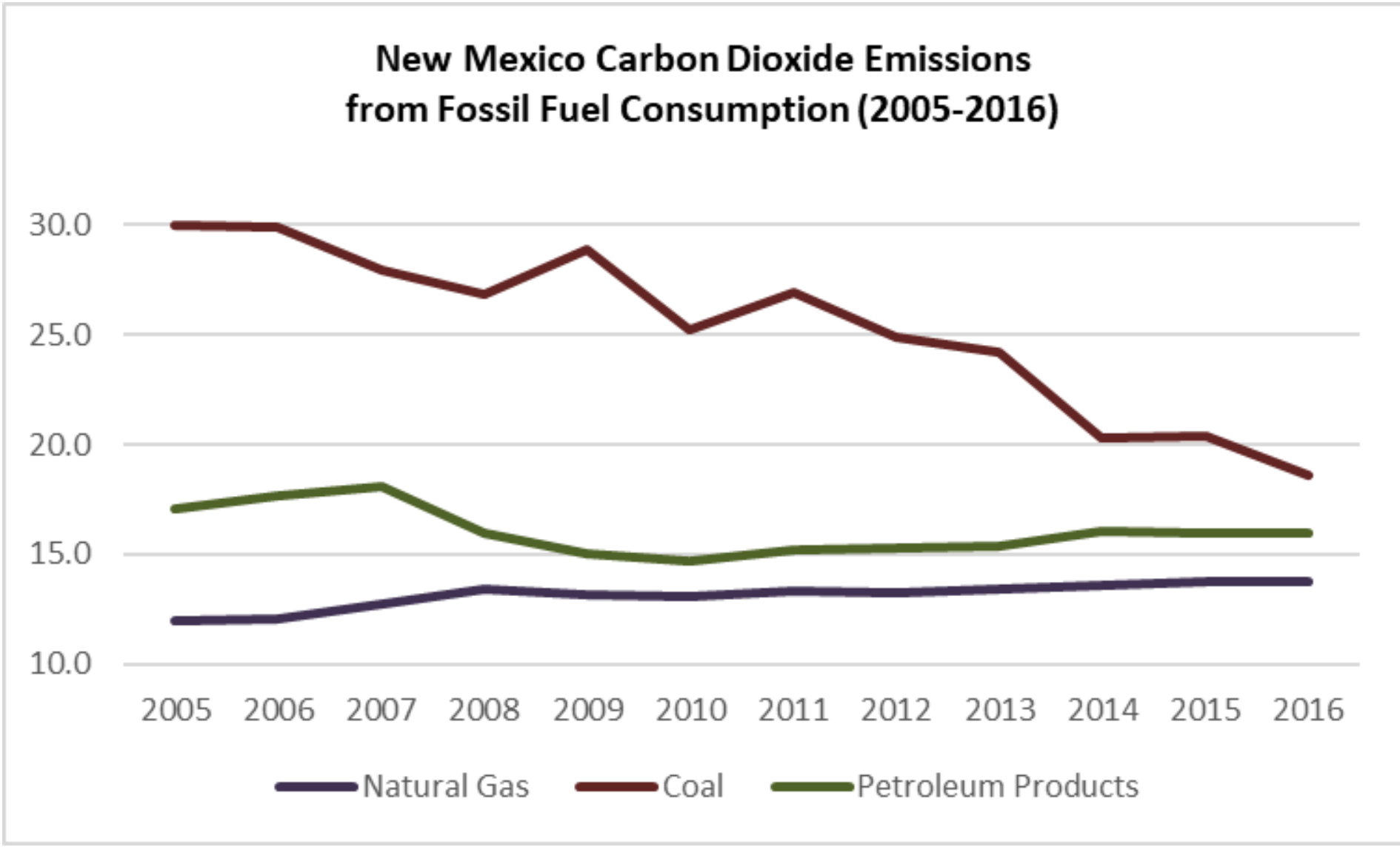
PLANS FOR COAL FREE GENERATION PORTFOLIO BY 2031

- Retirement of SJGS leads to 80% reduction in coal capacity by 2023; exit from Four Corners in 2031 completes transformation to a coal-free generation portfolio[1]
  - **2018:** Since the shutdown of Units 2 & 3, PNM anticipates an annual reduction in ***system-wide*** CO_2 emissions by approximately 40% over 2012 levels
  - **2030:** PNM expects to achieve an annual reduction of approximately 60 percent in CO_2 emissions over 2012 levels. PNM plans to exit all coal generation by 2031; and
  - **2040:** PNM's goal is to reduce annual CO_2 emissions in 2040 by a total of 87 percent from 2012 levels.



[1] PNMR Climate Change Report http://www.pnmresources.com/about-us/sustainability-portal/climate-change-report.aspx


US CO2 from Energy Consumption by Source
Million Tonnes - EIA
2,700
2,500
2,300
2,100
1,900
1,700
1,500
1,300
1,100
2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017
Coal
Natural Gas
Petroleum


New Mexico Carbon Dioxide Emissions
from Fossil Fuel Consumption (2005-2016)
30.0
25.0
20.0
15.0
10.0
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
Natural Gas
Coal
Petroleum Products

Source: EIA

RHODIUM GROUP

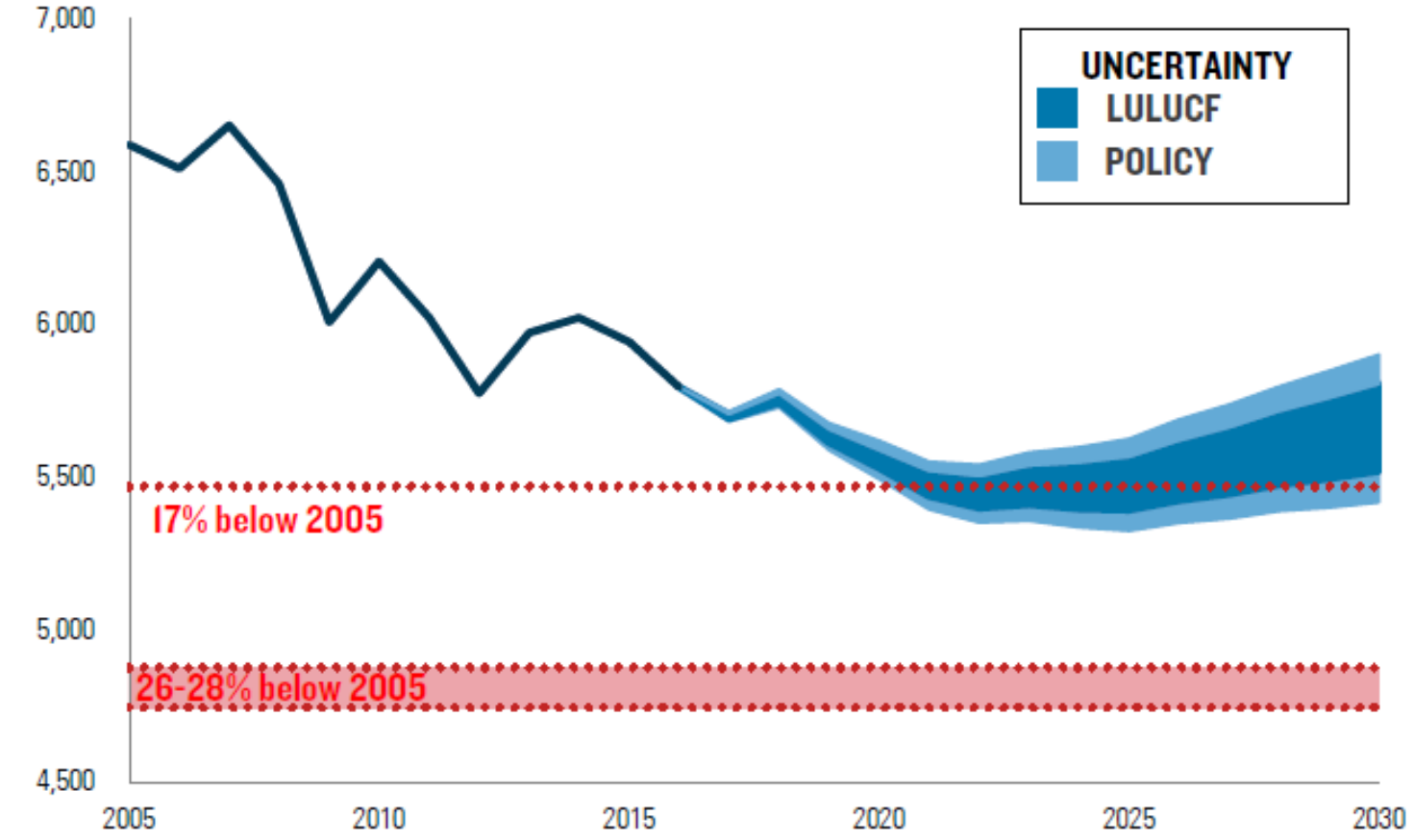
US CLIMATE SERVICE

Taking Stock 2018

JUNE 28, 2018

Figure I: Net US GHG emissions under current policy, Baseline scenario

MMt CO_2e



Source: EPA, Rhodium's US Climate Service

CENTER FOR THE NEW ENERGY ECONOMY

Thank you