

# VITAL CLEAN AIR STANDARDS AND HISTORIC INVESTMENTS

## Delivering climate and health benefits and supporting jobs

By 2055, the 11 important actions<sup>1</sup> we assess together with select impacts of the IRA, will cumulatively:

- Reduce more than **28 billion metric tons of climate pollution** – nearly 5 times the emissions from the entire U.S. today
- Prevent almost **190,000 premature deaths**
- Avoid nearly **50 million missed school and workdays**
- Deliver net benefits between **\$3.6 and \$4.3 trillion**

### BACKGROUND

Over the last 4 years, the United States has put in place foundational climate and clean air standards and historic investments in manufacturing of clean vehicles and clean energy. Communities across the country have benefited. These actions are reducing climate and health harming pollution, saving lives across the nation. They are also helping catalyze enormous investments that are growing jobs and ensuring American manufacturers lead the global race to build these solutions and that American consumers have access to clean technologies that save them money.

Reversing course on these investments and clean air standards would put this American leadership and job growth at risk and increase costs for Americans – including energy costs and the costs of extreme weather events like fires and floods that have harmed people in communities across the country. It would also expose Americans to more harmful pollution that causes sickness and early death.

The stakes for climate, public health, and job growth are significant. This report analyzes the vital emissions reductions, avoided health endpoints, and monetized benefits of the important clean air related standards and select Inflation Reduction Act

<sup>1</sup> EPA Mercury and Air Toxics Standards for Power Plants; EPA New Gas and Existing Coal GHG Standards; EPA Good Neighbor Plan for 2015 Ozone; EPA Heavy-Duty NOx standards for MY27 and later vehicles; EPA Light-Duty GHG Standards, MY23-26; EPA Heavy-Duty GHG Standards, MY27-32; EPA Light/Medium-Duty Multipollutant Standards, MY27-32; Preemption Waiver on Advanced Clean Trucks; EPA Methane Standards for New and Existing Oil and Gas Sources; EPA Methane Waste Emission Charge; and Particulate Matter NAAQS.

(IRA) incentives that address air pollution from power plants, highway vehicles, oil and gas production, industrial plants, and other sources.

### POLLUTION BENEFITS

The 11 actions and the select IRA provisions can be separated into three sectors: Transportation, Power, and Oil & Gas. These actions will dramatically reduce climate pollution and improve air quality, improving public health. The agencies, largely EPA, projected the emissions impacts of their actions. This analysis combines those estimates to project cumulative impacts. The timeframes of analysis differ for the agency actions. We did not estimate impacts for years outside of their timeframes. For years between the first and last years of analysis, we estimated using similar methods to EPA. We also made adjustments to ensure there was not double counting of emissions reductions.

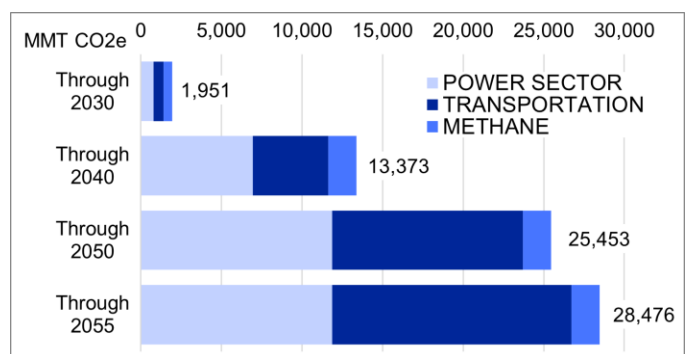


Figure 1: Cumulative Carbon Pollution Reductions from Important Clean Air Actions (Source: EPA [100-GWP AR5])

As shown in the figure, these actions will significantly reduce climate pollution – **13.4 billion metric tons** by 2040 and more than **28 billion metric tons** by 2055. This is equivalent to nearly 5 times the emissions from the entire U.S. today or taking over 250 million cars off the road for twenty years

Additionally, these actions will substantially reduce pollutants that cause health harms. Collectively, by 2055, these actions are projected to reduce:

- **248,000 tons** of fine particulate matter (PM<sub>2.5</sub>)
- **11.8 million tons** of nitrogen oxides (NO<sub>x</sub>)
- **2.9 million tons** of sulfur dioxide (SO<sub>2</sub>)
- **21 million tons** of volatile organic compounds (VOCs)

## HEALTH BENEFITS

To quantify the health benefits from the actions, we looked at projected changes in primary PM<sub>2.5</sub>, PM<sub>2.5</sub> precursor (NO<sub>x</sub> and SO<sub>2</sub>), and ozone precursor (NO<sub>x</sub> and VOC) emissions. Consistent with EPA methods, EDF used the cumulative changes in emissions by sector (on-road vehicles, electricity generating units, refinery, industrial, etc.) and multiplied the emission changes with the sector specific [national incidence-per-ton factors](#) for each health outcome (e.g., premature mortality). This resulted in changes in health outcomes for each emission source for each rule. The EPA methodology includes a high and low value. Presented here is the high value.

Using this methodology, we estimate that, collectively the actions will prevent:

- **188,000** premature deaths
- **320,000** hospital and ER visits
- **135 million** asthma attacks
- **49 million** lost workdays and school absences

Table 1 shows these health impacts separated out by sector.

Sector	Premature deaths	Hospital & ER visits	Cases of asthma symptoms (million)	Lost work / school days (million)
Power	95,000	150,000	58	21
Transportation	88,000	160,000	72	26
Methane	3,200	8,000	4.3	1.6
PM <sub>2.5</sub> NAAQS in only 2032 <sup>2</sup>	1,300	1,100	0.19	0.02
<b>TOTAL</b>	<b>188,000</b>	<b>320,000</b>	<b>135</b>	<b>49</b>

Table 1: Cumulative Avoided Health Outcomes from Important Clean Air Actions

<sup>2</sup> EPA only modeled the emissions impact in 2032. As a result, this is the only year of health outcomes included in our analysis. Since the NAAQS applies for many more years, this is vastly underestimating the health impact of this action. We also assumed all other PM<sub>2.5</sub> reductions from the other actions in 2032 would contribute entirely to the needed reductions for the PM NAAQS. This is unlikely to be true since NAAQS apply locally where all places need to be below a level and the reductions from power plants or vehicles may not have perfect overlap with the areas with PM<sub>2.5</sub> levels above the limit.

## MONETIZED BENEFITS OF AGENCY ACTIONS

In their extensive assessment of regulatory actions, agencies quantify the costs and benefits, including compliance costs, health benefits, climate benefits, and fuel and maintenance savings. As shown in Table 2, the important regulatory actions assessed here will deliver **between \$3.6 and \$4.3 trillion** in benefits to the U.S. by 2055, including at least \$1 trillion in health benefits and \$2.4 trillion in climate benefits. The estimate for the benefits is present value and uses either a 2% or 3% discount rate depending on what value was used by the agency in their analysis. The total monetary benefits to our nation, when including the impacts of the IRA investment, will be far greater. As shown in [recent analysis](#) by WSP, the IRA has helped to attract enormous EV manufacturing investments to the US, with \$130 billion of announced investment since the IRA was passed in August 2022.

Sector	Years	Health Benefits	Climate Benefits	Net Benefits
Power	2023-2047	\$377	\$324	\$662
Transportation	2023-2055	\$575	\$1,970	\$2,894
Methane	2024-2038	\$8	\$127	\$113
PM <sub>2.5</sub> NAAQS	2032-2051	\$637	-	\$629
<b>TOTAL</b>		<b>\$961 to \$1,598</b>	<b>\$ 2,421</b>	<b>\$3,668 to \$4,297</b>

Table 2: Monetized Benefits of Major Clean Air Actions (BILLION 2022\$)

For additional information, see [Methodology and Detailed Results](#).

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