ENERGY INNOVATION
POLICY & TECHNOLOGY LLC

www.energyinnovation.org
policy@energyinnovation.org
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THE COSTS OF DELAY

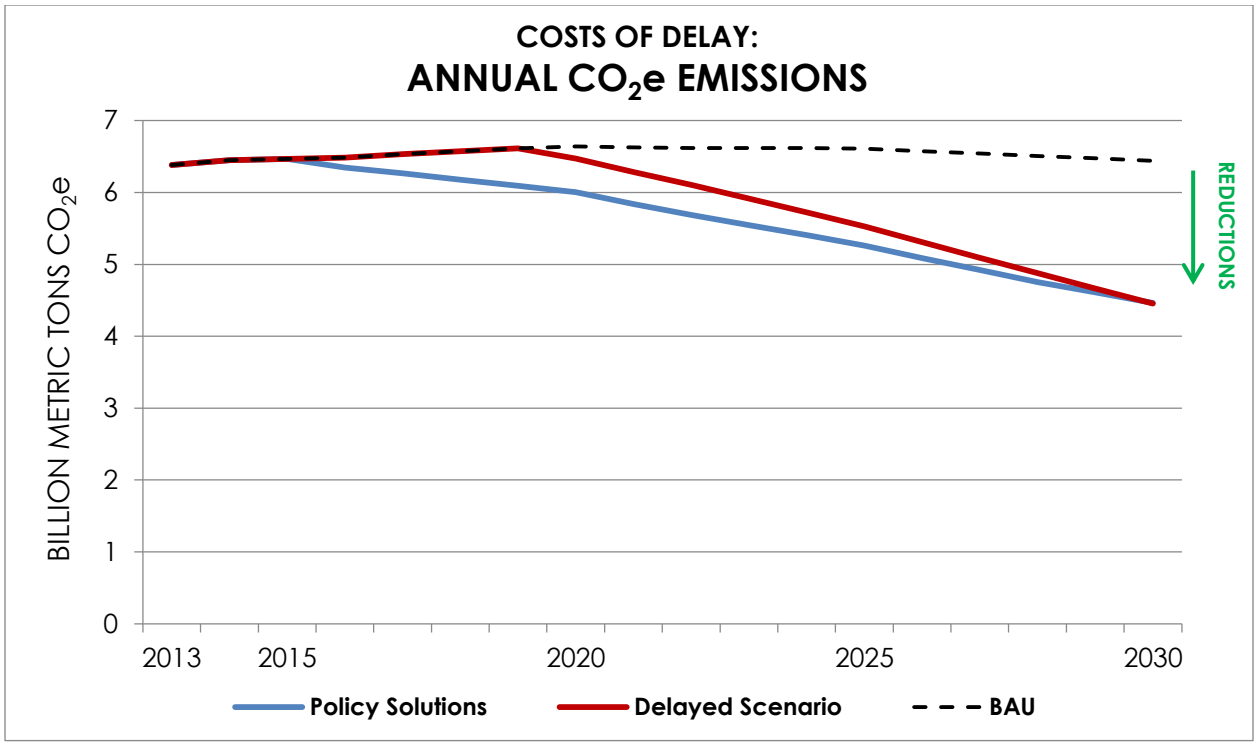
WAITING UNTIL 2020 COULD COST NEARLY $400 BILLION

It pays to adopt smart energy policy sooner rather than later. Energy Innovation's recommended Policy Solutions package to meet America's 2025 decarbonization targets begins in 2016 and ramps in gradually through 2030. Fuel savings overtake increased capital costs in aggregate by 2020, resulting in about $840 billion of cumulative savings between 2016 and 2030. This impressive savings number underscores the power of efficiency—policies stimulating efficiency save money as projects on the ground begin to pay back. Over time, more and more projects generate savings, so the largest annual savings happen in the later years of the analysis, with $122 billion in economy-wide savings in 2030 alone.[1]

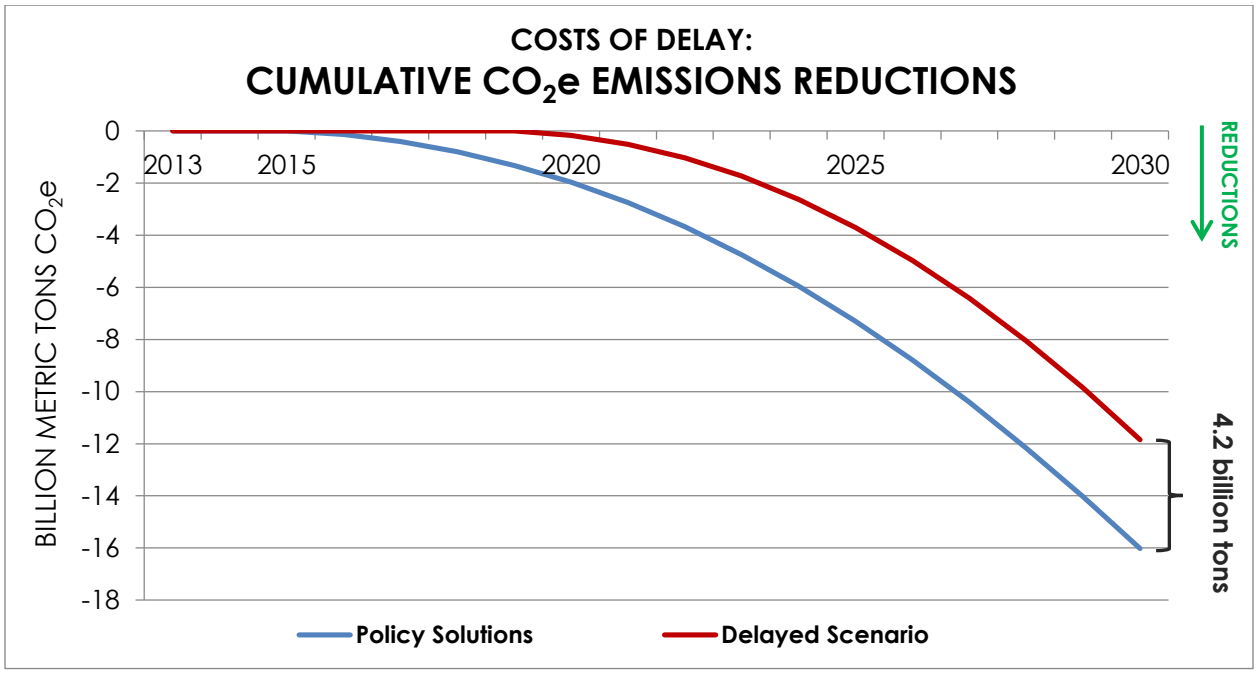
If policymakers wait just four years (until 2020) to take action and want to achieve the same emissions reductions by 2030, they risk $394 billion in additional costs. This is because many policies take time to affect the fleet of vehicles, buildings, power plants, and factories on the ground. For example, carbon reductions from a fuel economy standard are only realized over time, as drivers trade in their old vehicles for new, more efficient ones. Waiting just a few years to adopt these kinds of standards delays vehicle fleet turn over, and consumers must spend more money on gasoline. If the aim is to reduce emissions from a large economy, it pays to start early to take advantage of natural capital stock turnover and the increased productivity of an efficient system.

Energy Innovation's set of Policy Solutions uses the top 15 policies to cut emissions 31 percent below business as usual by 2030.[2] Policy Solutions begins gradually in 2016 and predictably continues to strengthen through 2030. If policies are deferred until 2020, the yearly emissions reductions and costs must go up to reach the same annual emissions in 2030.

[1] These savings are calculated using inflation-adjusted 2012 dollars and a 3 percent discount rate.
[2] Learn more in *Energy Policy Solutions: How to Take Control of America's Energy Future*.



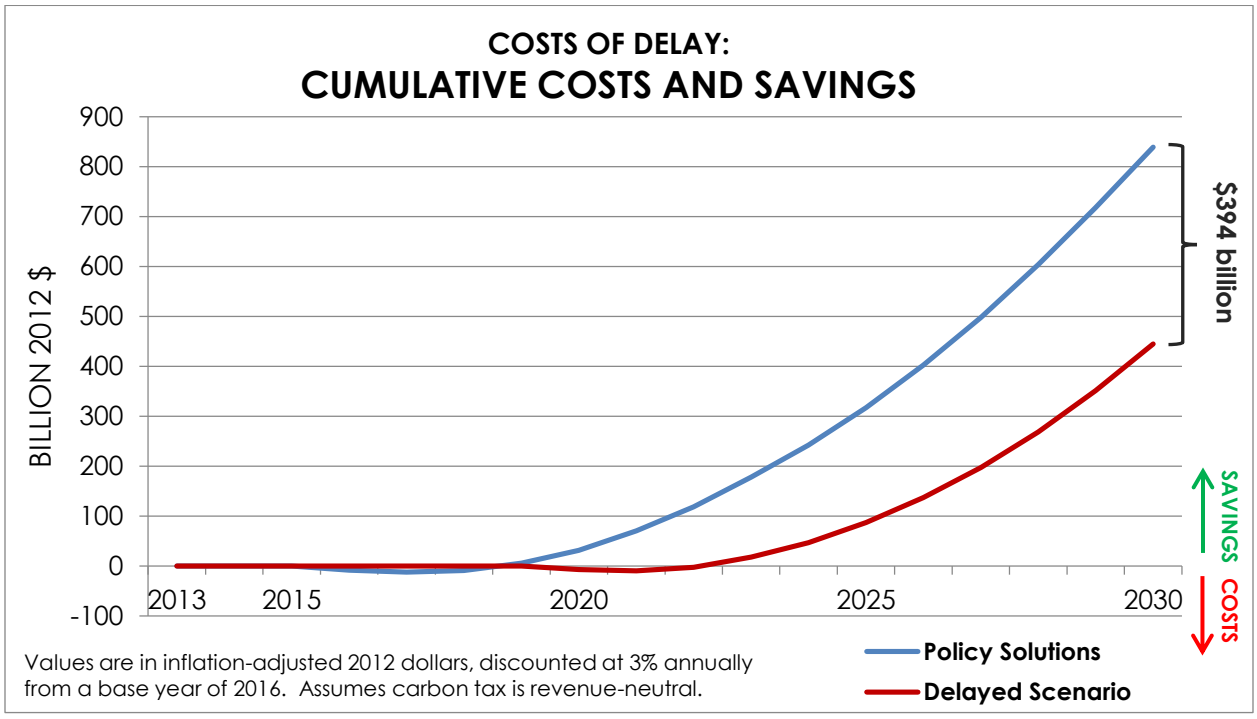
Because carbon dioxide lasts for thousands of years in the atmosphere, cumulative emissions are more important than annual emissions. Even though the Delayed package reaches the same annual emissions as the Policy Solutions package in 2030, it achieves less than three quarters of the total abatement of greenhouse gases over the 15 year period.



The Delayed scenario, which begins in 2020, has two adjustments to meet the same 2030 emissions cuts as the Policy Solutions package. First, 2.2 gigawatts of additional coal power plants are retired each year

to reach the same cumulative coal retirements as the Policy Solutions package by 2030. Second, the carbon tax reaches $60 per ton in 2030 (up from $50 per ton in the Policy Solutions package). The resulting effect on CO_2e emissions is shown in the chart above. The Delayed scenario starts later, but reduces emissions faster than the Policy Solutions package in the 2020s, reaching the same level of emissions in 2030. The Cumulative Savings chart above compares the direct costs and savings of the Delayed scenario with Policy Solutions.

In addition to the higher pollution in the Delayed package, it also costs more than the Policy Solutions package—both on an annual basis (after it begins in 2020) and also on a total (cumulative) cost basis between now and 2030. There is a clear reason for this higher cost. It pays to take advantage of natural retirement cycles for cars, buildings, and equipment; it's more costly to try to accelerate retirements of older equipment. Moreover, Americans would save less money on fuel over time in a less efficient economy. And because delaying policies means forgoing several years of improved efficiency and emissions reductions, other policies must be set more aggressively to achieve the same emissions reductions in 2030.



The Policy Solutions package saves money starting in 2019, and by 2030 the cumulative savings total about $839 billion. These are direct savings due to consumers, industry, and government spending less money on fuel and benefiting from declining costs of electricity from increased use of renewables. These savings numbers do not include any monetized public health benefits or other social benefits.

On the other hand, in the Delayed scenario, savings don't turn positive until 2023, and by 2030 reach about $445 billion. So, by delaying implementation by just four years, $394 billion in cumulative savings is lost by 2030. That's more than $1,100 in the pocket of every man, woman, and child in America.

Acting now to adopt smart energy and emissions policies can help this country take control of our emissions and keep serious money in our pockets.