

## **POLICY MEMO: CLIMATE AND ENERGY INNOVATION**

### **Issue**

The U.S. national debt stands at almost [\\$31.5 trillion](#). Climate disasters are set to create federal revenue loss of around [\\$2 trillion](#) a year. We must tackle climate change to reduce these harmful and costly effects as much as we can. Recent polls have found that U.S. citizens want some form of policy changes relating to climate change. [61](#) percent agreed that our legislative branch needs to focus on climate change actions and needs to focus more on addressing global warming. Mitigation responses, like a bill that would increase clean electricity and reduce how much carbon we use, is supported by [55](#) percent of Americans and fees on carbon to help combat climate change is supported by [52](#) percent of Americans.

### **Policy Solution**

Net-zero emissions by 2050 requires a massive reduction in greenhouse gas emissions. Immediate action is needed, but we must be mindful of the economic cost and impact on the federal debt. We recommend:

- Implementing a [cap-and-trade](#) system in which the government will set an emissions cap for companies. Through incentivizing companies by creating permits, or allowances, for units of emission, companies can generate revenue by cutting back on their emissions and auctioning off their unused permits. By using multi-year [compliance periods](#) and annual “partial surrender” obligations, it reduces price volatility that would otherwise discourage investing in carbon-reducing and carbon-replacing energy. Allowances would generate an estimated [\\$2-\\$3bn](#) per year. Sales will help further reduce greenhouse gas emissions by pushing for economic growth achievements through a variety of programs, like increasing support for innovating low-carbon technologies. Cap-and-trade and a carbon tax, while similar, have distinct differences. While a carbon tax can often be faster to implement, a cap-and-trade system allows for a better understanding of how emissions will be reduced. In this way you can quantify the set number of emissions allowed and then can use this to determine how this will affect climate change.
- Electrification of transportation. With a transition to electric vehicle electrification, the average grid would see more than [50% savings](#) of CO<sub>2</sub> emissions. And by converting the electricity grid to 100% renewables, the estimated total installed cost is approximately [\\$2.8 trillion](#) for the nation’s existing loads. The investments in existing transportation of \$274bn of [economic stimulus investment produces \\$1.2 trillion](#) added to the national GDP, \$231 bn in additional tax revenue, 10.7m jobs created (in job-years), and \$19bn in annual savings.

A national [cap-and-trade system](#) will generate revenue to finance vehicle electrification and other mitigation efforts. A cap-and-trade system is a relatively cost-effective way of reducing greenhouse gas. Thirteen states with cap and trade systems have seen an average [18%](#) reduction in CO<sub>2</sub> emissions. It has been estimated that economic damages associated with each ton of carbon will grow to [\\$46](#) dollars per ton by 2025. In order to limit the degrees in which the planet is warming, a universal carbon price of [\\$50-100](#) by the end of 2023 will need to be set. Money made from the cap-and-trade system will help fund the efforts electrifying existing public transportation. Furthermore, electrifying public transportation will also limit the emissions of CO<sub>2</sub> by [21.5 million metric tons](#) annually. The electrification of existing public transportation will also immediately create [960,000 jobs](#), creating opportunities for new jobs in the future. With the creation of these jobs, the national GDP will increase exponentially. As such, in applying these efforts together, companies will be incentivized to reduce their impacts to climate change and public transportation will reduce its negative impact on climate change while creating environmentally friendly jobs.