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CONGRESSIONAL TESTIMONY

The Economic Impact of the Clean Power Plan

**Testimony before the
Committee on Science, Space, and
Technology**

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Chairman Smith and Members of the Committee, thank you for inviting me to testify. My name is Kevin Dayaratna. I am the Senior Statistician and Research Programmer at The Heritage Foundation. The views I express in this testimony are my own and should not be construed as representing any official position of The Heritage Foundation.

For years, it has been a primary goal of the Obama Administration to fundamentally expand regulations across the energy sector of the economy. The Administration's primary justification for doing so is to limit carbon-dioxide emissions as they believe such emissions contribute to global warming.¹

Over the course of my work at The Heritage Foundation, I have rigorously used the National Energy Modeling System (NEMS), having conducted a variety of simulations looking at similar policy proposals ranging from a nationwide carbon tax to shutting down the coal industry. The Energy Information Administration's (EIA's) analysis of the Clean Power Plan (CPP), based on their use of NEMS, suggests that the Plan will have economic impact similar to that of these proposals.² These policies will almost surely do far more harm than good by stifling the American economy, killing jobs, and having negligible environmental benefits.

Impact of the Clean Power Plan on the Economy

There is broad economic agreement that any governmental policies to limit carbon-dioxide emissions will have detrimental economic impact throughout the nation. This fact has not only been discussed by myself and colleagues at The Heritage Foundation, but also by those within the EIA as well as other policy experts in Washington.³ Below, for example, are nationwide impacts on manufacturing employment of the four primary policy simulations run by the EIA in their report, "An Analysis of the Clean Power Plan," with respect to current policy:⁴

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1. Barack Obama, "Press Conference by the President," White House, November 3, 2010, <http://www.whitehouse.gov/the-press-office/2010/11/03/press-conference-president> (accessed September 5, 2014).
 2. Energy Information Administration, "EIA's Analysis of the Impacts of the Clean Power Plan," May 2015, <http://www.eia.gov/analysis/requests/powerplants/cleanplan/> (accessed June 22, 2015).
 3. Kevin D. Dayaratna, Nicolas D. Loris, and David W. Kreutzer, "The Obama Administration's Climate Agenda Will Hit Manufacturing Hard: A State-by-State Analysis," Heritage Foundation Backgrounder No. 2990, February 17, 2015, <http://www.heritage.org/research/reports/2015/02/the-obama-administrations-climate-agenda-will-hit-manufacturing-hard-a-state-by-state-analysis>; Kevin D. Dayaratna, Nicolas D. Loris, and David W. Kreutzer, "The Obama Administration's Climate Agenda: Underestimated Costs and Exaggerated Benefits," Heritage Foundation Backgrounder No. 2975, November 13, 2014, <http://www.heritage.org/research/reports/2014/11/the-obama-administrations-climate-agenda-underestimated-costs-and-exaggerated-benefits>; Nicholas D. Loris, Kevin Dayaratna, and David W. Kreutzer, "EPA Power Plant Regulations: A Backdoor Energy Tax," Heritage Foundation Backgrounder No. 2863, December 5, 2013, <http://www.heritage.org/research/reports/2013/12/epa-power-plant-regulations-a-backdoor-energy-tax>; David W. Kreutzer, Nicholas D. Loris, and Kevin Dayaratna, "Cost of a Climate Policy: The Economic Impact of Obama's Climate Action Plan," Heritage Foundation Issue Brief No. 3978, June 27, 2013, <http://www.heritage.org/research/reports/2013/06/climate-policy-economic-impact-and-cost-of-obama-s-climate-action-plan>; David W. Kreutzer and Kevin Dayaratna, "Boxer-Sanders Carbon Tax: Economic Impact," Heritage Foundation Issue Brief No. 3905, April 11, 2013, <http://www.heritage.org/research/reports/2013/04/boxer-sanders-carbon-tax-economic-impact>; Energy Information Administration, "EIA's Analysis of the Impacts of the Clean Power Plan"; and "Cap and Trade: Comparing Cost Estimates," Heritage Foundation Event, September 21, 2009, <http://www.heritage.org/events/2009/09/cap-and-trade-comparing-cost-estimates>.
 4. Results were downloaded from the U.S. Energy Information Agency's AEO table browser, <http://www.eia.gov/oiaf/aeo/tablebrowser/> (accessed June 19, 2015). CPP is the Base Policy, CPPEXT is their Policy Extension, CPPNUC is the Policy with New Nuclear, and CPPBIO195 is The Policy with Biomass CO2 as described in Energy Information Administration, "EIA's Analysis of the Impacts of the Clean Power Plan."

TABLE 1

Impact of CPP on Manufacturing Employment

Year	Clean Power Plan (CPP)	CPP Policy Extension	CPP Policy with New Nuclear	CPP Policy with Biomass CO2
2015	286	305	75	322
2016	2138	4158	2427	1912
2017	-6459	-11611	-4860	-6241
2018	-14155	-23810	-10702	-15341
2019	-13896	-20525	-12545	-12449
2020	8654	7610	7210	16662
2021	-70290	-68976	-65860	-68389
2022	-139813	-122008	-138573	-148435
2023	-136369	-111925	-140888	-150503
2024	-139986	-115816	-143368	-152080
2025	-140675	-128810	-139507	-150357
2026	-130968	-126581	-122157	-140440
2027	-117788	-110955	-106585	-122978
2028	-105695	-98972	-93891	-108804
2029	-98091	-90553	-87465	-99990
2030	-89137	-81328	-80171	-91528
2031	-80353	-76943	-70037	-81396
2032	-67469	-71557	-59403	-70850
2033	-54054	-63915	-45533	-61074
2034	-45254	-59247	-34110	-50250
2035	-42477	-58933	-28484	-46761
2036	-38531	-55550	-24520	-43862
2037	-34021	-54977	-22591	-41813
2038	-31057	-56072	-21809	-39718
2039	-30831	-52736	-19817	-37067
2040	-26193	-49930	-14829	-34037

Source: Author's calculations based on: U.S. Energy Information Administration, "Analysis of the Impacts of the Clean Power Plan: Macroeconomic," <http://www.eia.gov/oiaf/aeo/tablebrowser/> (accessed June 22, 2015).

Below are the projections of the CPP on overall employment as well as the country's gross domestic product (GDP):

TABLE 2

Impact of CPP on Overall Employment

Year	Clean Power Plan (CPP)	CPP Policy Extension	CPP Policy with New Nuclear	CPP Policy with Biomass CO2
2015	-1206	351	213	-641
2016	-16663	-26886	-13702	-16388
2017	-25772	-42481	-22476	-26703
2018	-25482	-44403	-27465	-28061
2019	4410	41489	-3067	1725
2020	-57755	-39261	-46097	-84366
2021	-282913	-183823	-264496	-350708
2022	-234329	-139465	-206054	-324371
2023	-189423	-114548	-165253	-258331
2024	-211365	-211166	-189392	-264084
2025	-378602	-452668	-330384	-390458
2026	-453460	-537445	-399994	-423004
2027	-479034	-536194	-427948	-425873
2028	-422989	-426819	-423660	-339371
2029	-277939	-264175	-314606	-192703
2030	-78506	-83221	-121551	9964
2031	140549	64148	107666	210083
2032	293762	187958	295578	345978
2033	375579	269927	408599	441223
2034	387955	281433	449509	439117
2035	329147	210174	404159	408356
2036	254502	113861	313233	305390
2037	179932	33920	222305	194901
2038	147323	1251	163421	111572
2039	110611	-15183	122604	58762
2040	90821	26032	127472	91934

Source: Author's calculations based on: U.S. Energy Information Administration, "Analysis of the Impacts of the Clean Power Plan: Macroeconomic," <http://www.eia.gov/oiaf/aeo/tablebrowser/> (accessed June 22, 2015).

TABLE 3

Impact of CPP on GDP

FIGURES IN 2009 CHAIN WEIGHTED U.S. DOLLARS

Year	Clean Power Plan (CPP)	CPP Policy Extension	CPP Policy with New Nuclear	CPP Policy with Biomass CO2
2015	-\$226,562,000	-\$3,906,000	-\$31,250,000	-\$224,609,000
2016	-\$3,052,735,000	-\$4,857,422,000	-\$2,546,875,000	-\$3,001,954,000
2017	-\$4,068,360,000	-\$7,039,063,000	-\$3,580,078,000	-\$4,035,157,000
2018	-\$3,375,000,000	-\$5,656,250,000	-\$4,134,766,000	-\$3,210,937,000
2019	-\$2,232,422,000	-\$7,986,329,000	-\$2,347,657,000	-\$3,605,469,000
2020	-\$61,351,563,000	-\$68,333,985,000	-\$57,271,485,000	-\$69,414,063,000
2021	-\$116,789,062,000	-\$104,718,750,000	-\$110,716,796,000	-\$130,425,781,000
2022	-\$106,982,422,000	-\$95,548,828,000	-\$99,708,985,000	-\$122,193,359,000
2023	-\$117,937,500,000	-\$102,208,984,000	-\$113,904,296,000	-\$131,744,140,000
2024	-\$134,919,922,000	-\$129,205,078,000	-\$133,191,407,000	-\$145,988,281,000
2025	-\$147,900,391,000	-\$152,810,547,000	-\$143,474,610,000	-\$151,742,188,000
2026	-\$131,402,344,000	-\$140,197,266,000	-\$124,250,000,000	-\$132,585,937,000
2027	-\$119,218,750,000	-\$126,933,594,000	-\$111,230,469,000	-\$116,541,015,000
2028	-\$101,009,766,000	-\$102,050,781,000	-\$101,613,281,000	-\$91,500,000,000
2029	-\$69,599,609,000	-\$68,685,547,000	-\$72,375,000,000	-\$59,783,203,000
2030	-\$28,572,266,000	-\$38,830,078,000	-\$32,189,453,000	-\$18,908,203,000
2031	\$4,818,359,000	-\$24,000,000,000	\$5,240,234,000	\$12,169,922,000
2032	\$25,599,609,000	-\$6,478,516,000	\$33,091,797,000	\$35,785,156,000
2033	\$42,017,578,000	\$7,806,640,000	\$52,261,719,000	\$46,839,843,000
2034	\$45,316,406,000	\$3,943,359,000	\$59,785,156,000	\$45,500,000,000
2035	\$32,140,625,000	-\$17,144,531,000	\$48,419,922,000	\$41,345,703,000
2036	\$15,488,281,000	-\$36,867,188,000	\$32,669,921,000	\$20,746,093,000
2037	\$6,117,187,000	-\$49,640,625,000	\$20,839,844,000	\$5,699,219,000
2038	\$1,623,047,000	-\$58,640,625,000	\$10,347,656,000	-\$12,435,547,000
2039	-\$7,621,093,000	-\$68,392,578,000	\$701,172,000	-\$20,111,328,000
2040	-\$12,064,453,000	-\$66,421,874,000	\$1,589,844,000	-\$16,769,531,000

Source: Author's calculations based on: U.S. Energy Information Administration, "Analysis of the Impacts of the Clean Power Plan: Macroeconomic," <http://www.eia.gov/oiarf/aeo/tablebrowser/> (accessed June 22, 2015).

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There are a few important things to note here. First, we see a precipitous decline in employment in the subsequent decade. Although some of the policy situations note a slight uptick in employment after 2030, overall employment never truly recovers and neither do GDP nor household income.

Additionally, in their report, the EIA notes that these changes to GDP are "equivalent to changes of a few tenths of one percent from the baseline given the magnitude of GDP and disposable income accumulated over the 2015–2040 period."⁵ Although this percentage is seemingly small, it does represent a significant impact on the economy, as illustrated by the impact of the plan on a family of four:

5. Energy Information Administration, "EIA's Analysis of the Impacts of the Clean Power Plan," p. 63.

TABLE 4

Impact of CPP on Annual Income for a Family of Four

FIGURES IN 2009 CHAIN WEIGHTED U.S. DOLLARS

Year	Clean Power Plan (CPP)	CPP Policy Extension	CPP Policy with New Nuclear	CPP Policy with Biomass CO2
2015	-\$2.82	-\$0.05	-\$0.39	-\$2.79
2016	-\$37.69	-\$59.97	-\$31.45	-\$37.06
2017	-\$49.85	-\$86.24	-\$43.86	-\$49.44
2018	-\$41.04	-\$68.77	-\$50.27	-\$39.04
2019	-\$26.94	-\$96.36	-\$28.33	-\$43.50
2020	-\$734.69	-\$818.31	-\$685.83	-\$831.24
2021	-\$1,388.09	-\$1,244.63	-\$1,315.92	-\$1,550.17
2022	-\$1,262.11	-\$1,127.22	-\$1,176.30	-\$1,441.56
2023	-\$1,381.15	-\$1,196.96	-\$1,333.92	-\$1,542.84
2024	-\$1,568.59	-\$1,502.15	-\$1,548.49	-\$1,697.27
2025	-\$1,707.23	-\$1,763.90	-\$1,656.14	-\$1,751.57
2026	-\$1,506.12	-\$1,606.93	-\$1,424.14	-\$1,519.69
2027	-\$1,357.02	-\$1,444.84	-\$1,266.09	-\$1,326.54
2028	-\$1,141.93	-\$1,153.70	-\$1,148.76	-\$1,034.42
2029	-\$781.57	-\$771.31	-\$812.74	-\$671.34
2030	-\$318.75	-\$433.18	-\$359.10	-\$210.94
2031	\$53.41	-\$266.02	\$58.08	\$134.89
2032	\$281.98	-\$71.36	\$364.51	\$394.17
2033	\$460.00	\$85.47	\$572.15	\$512.79
2034	\$493.16	\$42.91	\$650.62	\$495.16
2035	\$347.74	-\$185.49	\$523.87	\$447.33
2036	\$166.62	-\$396.60	\$351.45	\$223.18
2037	\$65.44	-\$531.03	\$222.93	\$60.97
2038	\$17.27	-\$623.87	\$110.09	-\$132.30
2039	-\$80.64	-\$723.70	\$7.42	-\$212.81
2040	-\$126.98	-\$699.11	\$16.73	-\$176.50

Source: Author's calculations based on: U.S. Energy Information Administration, "Analysis of the Impacts of the Clean Power Plan: Macroeconomic," <http://www.eia.gov/oiaf/aeo/tablebrowser/> (accessed June 22, 2015).

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These calculations clearly illustrate the detrimental impact that the CPP will have on the American households. In 2025 for example, the average family of four will lose nearly \$2,000 in income.

Electricity Prices

The EIA's analysis of the CPP suggests that residential electricity prices will increase as a result of the policy. The table below illustrates comparisons of annual household electricity expenditures based on the EIA's four primary simulations regarding the CPP compared to their reference case:⁶

6. Results were downloaded from the U.S. Energy Information Agency's AEO table browser, <http://www.eia.gov/oiaf/aeo/tablebrowser/> (accessed June 19, 2015).

TABLE 5

Impact of CPP and Three Other Variants on Electricity Expenditures

FIGURES IN 2009 CHAIN WEIGHTED U.S. DOLLARS

Year	Clean Power Plan (CPP)	CPP Policy Extension	CPP Policy with New Nuclear	CPP Policy with Biomass CO2
2015	\$0.07	-\$0.66	-\$0.20	-\$0.25
2016	-\$4.34	-\$6.38	-\$4.22	-\$4.72
2017	-\$4.04	-\$7.67	-\$3.92	-\$4.98
2018	-\$3.83	-\$4.82	-\$5.62	-\$2.84
2019	-\$2.97	-\$4.53	-\$1.77	-\$0.14
2020	-\$52.02	-\$51.91	-\$47.09	-\$59.20
2021	-\$80.23	-\$69.47	-\$73.27	-\$90.13
2022	-\$71.96	-\$54.66	-\$66.43	-\$79.13
2023	-\$64.01	-\$45.35	-\$63.32	-\$72.33
2024	-\$61.31	-\$59.93	-\$64.61	-\$72.48
2025	-\$44.78	-\$44.52	-\$43.53	-\$53.31
2026	-\$34.55	-\$33.54	-\$32.38	-\$40.33
2027	-\$26.19	-\$23.46	-\$24.82	-\$32.85
2028	-\$19.16	-\$13.92	-\$20.95	-\$26.92
2029	-\$19.52	-\$13.09	-\$18.82	-\$26.73
2030	-\$22.68	-\$22.98	-\$22.04	-\$26.64
2031	-\$22.84	-\$33.11	-\$22.81	-\$27.79
2032	-\$16.75	-\$33.64	-\$20.34	-\$25.66
2033	-\$14.67	-\$38.00	-\$16.97	-\$22.20
2034	-\$16.12	-\$43.57	-\$14.09	-\$19.93
2035	-\$13.74	-\$43.96	-\$12.62	-\$18.92
2036	-\$12.27	-\$48.91	-\$11.59	-\$17.85
2037	-\$7.89	-\$54.97	-\$6.75	-\$13.00
2038	-\$6.90	-\$46.82	-\$1.76	-\$9.51
2039	-\$7.28	-\$44.79	-\$1.95	-\$8.06
2040	-\$4.95	-\$48.52	\$1.17	-\$10.37

Source: Author's calculations based on: U.S. Energy Information Administration, "Analysis of the Impacts of the Clean Power Plan," Table "Residential Sector Key Indicators and Consumption" and Table "Electricity Supply, Disposition, Prices, and Emissions," <http://www.eia.gov/oiaf/aeo/tablebrowser/> (accessed June 22, 2015)."

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These increases result from the fact that the CPP will stifle the use of the least expensive forms of energy and force Americans toward using more expensive, less efficient alternatives. They indicate that the CPP would significantly impact household electricity prices across the residential sector, not just households that consume a significant amount of electricity. These higher electricity prices will have to be paid for with the already lost income described in the previous section.

Questionable Justification with Limited Environmental Benefit

There is no doubt that the regulations contained within the CPP will be burdensome to the American economy. The primary justification that the Obama Administration has used for instituting these regulations has been the social cost of carbon (SCC). As we have illustrated in our research at The Heritage Foundation, the models used to estimate the SCC are “flawed beyond use for policymaking,” with extreme sensitivity to reasonable changes to assumptions.⁷ Even if all carbon-dioxide emissions were brought to (literally) zero in the United States, global temperatures would change by less than 0.2 degrees Celsius. Completely eliminating all carbon-dioxide emissions in all industrialized countries across the globe would fail to reduce global temperatures by more than half of a degree Celsius.⁸ With significant economic damage and limited benefit, there is no reason for policymakers to institute these types of regulations.

Conclusion

The Clean Power Plan institutes a series of burdensome regulations that provide little environmental benefits but significantly damage the American economy. Allowing free markets to determine prices and choices in the energy sector of the American economy, not the dictates of bureaucrats in Washington, will provide us with more affordable energy and a clean, healthy environment.⁹

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7. Kevin D. Dayaratna and David W. Kreutzer, “Unfounded FUND: Yet Another EPA Model Not Ready for the Big Game,” Heritage Foundation Backgrounder No. 2897, April 29, 2014, <http://www.heritage.org/research/reports/2014/04/unfounded-fund-yet-another-epa-model-not-ready-for-the-big-game>; Kevin D. Dayaratna and David W. Kreutzer, “Loaded DICE: An EPA Model Not Ready for the Big Game,” Heritage Foundation Backgrounder No. 2860, November 21, 2013, <http://www.heritage.org/research/reports/2013/11/loaded-dice-an-epa-model-not-ready-for-the-big-game>; and Kevin D. Dayaratna, and David Kreutzer, “Environment: Social Cost of Carbon Statistical Modeling Is Smoke and Mirrors,” *Natural Gas & Electricity*, Vol. 30, No. 12 (2014), pp. 7–11.
 8. Patrick J. Michaels and Paul C. “Chip” Knappenberger, “Current Wisdom: We Calculate, You Decide: A Handy-Dandy Carbon Tax Temperature-Savings Calculator,” Cato Institute, July 23, 2013, <http://www.cato.org/blog/current-wisdom-we-calculate-you-decide-handy-dandy-carbon-tax-temperaturesavings-calculator> (accessed September 11, 2014).
 9. Nicolas D. Loris, “Free Markets Supply Affordable Energy and a Clean Environment,” Heritage Foundation Backgrounder No. 2966, October 31, 2014, <http://www.heritage.org/research/reports/2014/10/free-markets-supply-affordable-energy-and-a-clean-environment>.