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Environmental Protection Agency
EPA Docket Center (EPA/DC)
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Re: Comments of Google LLC on Repeal of Carbon Dioxide Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units

I. Introduction

Google LLC (“Google”)¹ appreciates this opportunity to comment on the Environmental Protection Agency’s (“EPA”) proposed rule to repeal the Clean Power Plan.² For the reasons discussed below, Google continues to believe that the Clean Power Plan³ aligns with overall electricity sector trends and the specific goals of our company.⁴ Google respectfully urges EPA to forgo repealing the Clean Power Plan. Instead, EPA should retain the Clean Power Plan’s legal structure *and* update the rule’s emission guidelines to reflect the decreased cost and greater availability of renewable generation across the United States. Such an approach would achieve an even greater reduction in greenhouse gas (“GHG”) emissions, while remaining cost-effective for affected generators and consumers.

Mitigating the threat of climate change is an urgent global priority that requires robust federal policy engagement and strong action from the business community. Google continues to believe that the Clean Power Plan will help address climate change by reinforcing current trends that are making clean energy supplies more robust, more reliable, and more affordable, while producing multiple benefits with regard to sustainable economic growth, public health, resilience to natural disasters, and the health of the global environment.

II. Comments

The Clean Power Plan contemplates an increase in the generation and use of renewable electricity in the United States. The “emission guidelines” provided in the Clean Power Plan are based on what EPA determined was the “Best System of Emission Reduction” (“BSER”). EPA found that the BSER included not only reductions achievable *at* affected power plants but also reductions achievable through the shifting of generation from higher-emitting to low- and zero-emitting resources—including from renewable generation resources. In this way, the BSER appropriately reflects the

¹ Google offers a leading Internet search engine and provides a wide range of other products and services that empower people around the world to create, find, organize, and share information. These products and services include email through the company’s Gmail service, online video through YouTube, music and other entertainment through Google Play, navigation services through Google Maps, cloud computing through the Google Cloud Platform, and various social-networking tools.

² Repeal of Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units, 83 Fed. Reg. 4620 (Feb. 1, 2018).

³ The Clean Power Plan was published in the *Federal Register*, *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 80 Fed. Reg. 64,662 (Oct. 23, 2015), and codified at 40 C.F.R. pt. 60, subpart UUUU, *Emission Guidelines for Greenhouse Gas Emissions and Compliance Times for Electric Utility Generating Units* (2017).

⁴ In the litigation challenging the Clean Power Plan, Google was joined by Apple, Amazon, and Microsoft in filing an amicus brief in support of respondent EPA before the U.S. Court of Appeals for the District of Columbia Circuit in Docket No. 15-1363 on April 1, 2016. Brief of Amici Curiae Amazon.com, Inc., Apple Inc., Google Inc., and Microsoft Corp. in Support of Respondents, *State of West Virginia v. U.S. Environmental Protection Agency*, No. 15-1363 (Apr. 1, 2016), available at https://www.edf.org/sites/default/files/content/2016.04.01_major_tech_companies_amicus_brief_for_epa.pdf.

interconnected nature of the electricity grid and the rapid, nationwide growth of renewable generation is an input to the grid.

Google's own experience as a corporate purchaser of electricity bears out the reasonableness and environmental effectiveness of the Clean Power Plan's formulation of the BSER. Purchasing renewable energy is a core component of Google's strategy to reduce the environmental impacts associated with the electricity it consumes while keeping energy costs as low as possible.

In 2017, Google purchased sufficient renewable energy to match all of the electricity that the company consumed world-wide, including at the company's data centers.⁵ Indeed, Google's total purchases of renewable energy exceeded the amount it consumed. Today, Google has contracts in place to purchase the output from over 3 gigawatts (GW) of renewable energy projects—making the company the world's largest corporate purchaser of renewable energy.⁶

Furthermore, consistent with the BSER assumptions in the Clean Power Plan, Google has been able to purchase substantial amounts of renewable generation from new facilities developed throughout the United States. Of the 3 GW of renewable generation purchased by Google to cover its global operations, 2.25 GW comes from 15 facilities in the United States, which have collectively resulted in \$2.1B of total investment to date. Google has found that its purchases of renewable energy are not only consistent with but promote economic growth. By purchasing large and increasing quantities of renewable electricity—and by insisting that all generation be “additional,” i.e., from newly constructed facilities developed specifically for Google that will supply electricity above and beyond what is required by existing regulations⁷—Google's purchases have resulted in the creation of 2,800 direct jobs during the construction phase of these projects and an estimated 520 additional ongoing jobs.⁸

Accordingly, Google's experience has shown that procuring and deploying renewable energy is not only environmentally effective but also a good business strategy. This experience demonstrates that there is a strong economic case for the Clean Power Plan and its emphasis on shifting the U.S. generation mix toward greater use of renewable resources:

- **Renewable energy costs are low and consistent.** Renewable energy technologies can allow for predictable and properly hedged electricity costs for large energy consumers like Google. Wind and solar resources have negligible and non-variable marginal costs, allowing customers to hedge volatility in fuel prices and electricity rates. Google has utilized long-term Power Purchase Agreements (“PPAs”), utility “green tariffs,” and direct supply arrangements to lock in the low costs of carbon-free electricity.
- **Continued innovation and increased deployment are driving further cost declines.** Renewable energy prices continue to fall, and in many parts of the country wind and solar are now fully competitive with (and in some

⁵ Urs Hölzle, “Meeting Our Match: Buying 100 Percent Renewable Energy,” Google (Apr. 4, 2018), <https://blog.google/topics/environment/meeting-our-match-buying-100-percent-renewable-energy/>.

⁶ *Id.*

⁷ Google, Achieving Our 100% Renewable Energy Purchasing Goal and Going Beyond at 6 (Dec. 2016), *available at* <https://static.googleusercontent.com/media/www.google.com/en//green/pdf/achieving-100-renewable-energy-purchasing-goal.pdf>.

⁸ Oxford Economics, Google Data Centers: Economic Impact and Community Benefit (Apr. 2018), *available at* <https://static.googleusercontent.com/media/www.google.com/en//about/datacenters/usstory/full-report/full-report.pdf>.

cases cheaper than) fossil fuel-generated power.⁹ Earlier this year, the U.S. Department of Energy reported that it anticipates that costs will decrease further in coming years.¹⁰

- **Customers and investors are demanding that businesses reduce the environmental impact of their power consumption.** Customers and investors of major companies like Google also are driving expanding use of renewable generation. Increasingly, public- and private-sector customers expect large businesses to use more clean energy, reduce GHG emissions, and promote sustainability. In addition, investors in publicly traded companies are increasingly evaluating climate change-related risks in choosing where to invest their money, and leadership in clean energy deployment can help to attract capital.¹¹
- **Renewable energy is a major employer and a driver of the Nation's economic growth.** Finally, wind and solar deployment—as well as the associated supply chains—have been among the fastest-growing sectors of the U.S. economy in recent years, with job growth rates significantly exceeding the growth rate of the overall labor force.¹² Earlier this year, the Bureau of Labor Statistics projected that solar photovoltaic installers and wind turbine service technicians will be the two fastest-growing occupations through 2026, and that both are likely to provide good wages.¹³ Continued development of wind and solar power will support existing jobs and promote job growth, often in rural areas with high-quality renewable resources.¹⁴

Retaining rather than repealing Clean Power Plan would continue to drive the trends identified above for a number of reasons. First, by appropriately defining the BSER to include the shifting of generation from fossil fuel-fired resources to renewable resources, the Clean Power Plan's emission guidelines establish robust incentives for the power sector to increase the use of renewables. Second, by retaining the Clean Power Plan, EPA would provide long-term regulatory certainty that would undergird and reinforce the growing investment in renewable resources—not only by corporate purchasers such as Google but by utilities themselves.

⁹ For example, in late 2017, Austin Energy signed a PPA for 150 MW of solar power, with a price projected at between \$21/MWh and \$27.25/MWh. Robert Walton, "Austin Energy Solar PPA Could Be Lowest-priced in US, Analysts Say," Utility Dive (Dec. 20, 2017), <https://www.utilitydive.com/news/austin-energy-solar-ppa-could-be-lowest-priced-in-us-analysts-say/513453/>. Additionally, the cost of both wind-plus-storage and solar-plus-storage—both of which allow for greater control over real-time variability—continues to fall. Robert Walton, "Xcel Energy's \$1.6B Wind Plan Advances with New Mexico Approval," Utility Dive (Mar. 22, 2018), <https://www.utilitydive.com/news/xcel-energys-16b-wind-plan-advances-with-new-mexico-approval/519796/>.

¹⁰ See U.S. Energy Information Administration, Annual Energy Outlook 2018 at 14, 94, 103-04 (Feb. 6, 2018), available at <https://www.eia.gov/outlooks/aeo/pdf/AEO2018.pdf>.

¹¹ For instance, numerous businesses, investors, and lenders are participating in the Financial Stability Board's Task Force on Climate-Related Financial Disclosures, which is developing voluntary and consistent climate-related financial risk disclosures for companies to use. See Task Force on Climate-Related Financial Disclosures, Our Mission, <https://www.fsb-tcfd.org/about/#> (last visited Apr. 23, 2018).

¹² In 2017, the U.S. Department of Energy noted that solar sector employment exceeded 260,000 workers, with a roughly 25% growth rate since 2015. The wind sector employed over 101,000 workers, a 32% increase since 2015. U.S. Dep't of Energy, U.S. Energy and Employment Report at 37-39 (Jan. 2017), available at https://www.energy.gov/sites/prod/files/2017/01/f34/2017%20US%20Energy%20and%20Jobs%20Report_0.pdf. The Bureau of Labor Statistics indicates that the country's total labor force grew by roughly 4% between January 2015 and December 2017. See, e.g., Bureau of Labor Statistics, Databases, Tables & Calculators by Subject <https://data.bls.gov/timeseries/LNS12000000> (last visited Mar. 28, 2018).

¹³ See Bureau of Labor Statistics, Occupational Outlook Handbook, Fastest Growing Occupations, <https://www.bls.gov/ooh/fastest-growing.htm> (last visited Mar. 28, 2018).

¹⁴ See Governors' Wind & Solar Energy Coalition, "Renewable Energy—A Major Economic Engine for Rural America" (Jan. 5, 2017), <http://governorswindenergycoalition.org/renewable-energy-a-major-economic-engine-for-rural-america/>.

Indeed, given the substantial reduction in costs and increase in deployment of renewable generation since the 2015 promulgation of the Clean Power Plan, Google urges EPA not only to retain the BSER methodology, but to update its inputs.¹⁵ In the final Clean Power Plan rule, EPA's methodology for calculating the potential contribution of new renewable generation relied significantly on the rate of additions of renewable capacity in the prior five years.¹⁶ Yet, according to analysis by the U.S. Energy Information Administration, renewable resources came online in 2015-2017 at a significantly higher rate than in previous years.¹⁷ And, with costs of renewable generation technologies continuing to decline, there is every reason to believe that this trend will continue to accelerate. Therefore, if EPA were to re-calculate the BSER with current data and projections, it could implement a Clean Power Plan that would yield an even greater amount of emission reductions while remaining cost-effective.

III. Conclusion

Google's experience suggests that the emission reduction systems identified in the Clean Power Plan are attainable and beneficial for businesses, communities, the electricity sector, and the environment. Google fully intends to continue its own initiatives to use more renewable energy through a variety of measures, including direct ownership, purchasing output through PPAs, and utility procurements. With companies like Google seeking to purchase increasing amounts of renewable electricity generated in the United States, the Clean Power Plan can provide a supportive policy framework to support further investment. The Clean Power Plan can continue to drive innovation and job growth, while spurring the modernization of the American electricity system and reducing carbon dioxide emissions and helping to mitigate the threat of global climate change.

Accordingly, Google respectfully urges EPA to retain rather than repeal the Clean Power Plan and its BSER methodology. Furthermore, we recommend that EPA update the Clean Power Plan to reflect the substantial decrease in the costs—and the associated growth—of renewable generation since the 2015 promulgation of the rule. Because of the advances in renewables, an updated Clean Power Plan could make an even more substantial, and still cost-effective, contribution to climate change mitigation.

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¹⁵ See, e.g., Bloomberg New Energy Finance, Sustainable Energy in America: 2018 Factbook Executive Summary at 2 (Feb. 15, 2018), available at <http://www.bcse.org/wp-content/uploads/2018-Sustainable-Energy-in-America-Factbook-Executive-Summary.pdf> (finding that, between 2016 and 2017, renewable generation grew by 14%, increasing its share of the total electricity mix in the United States from 15% to 18%).

¹⁶ Clean Power Plan, *supra* note 3, 80 Fed. Reg. at 64,807-08.

¹⁷ U.S. Energy Information Administration, "Nearly Half of Utility-Scale Additions Installed in 2017 Came from Renewables" (Jan. 10, 2018), <https://www.eia.gov/todayinenergy/detail.php?id=34472>.