Scheduled for Oral Argument on June 2, 2016

IN THE

United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

No. 15-1363 (and consolidated cases)

STATE OF WEST VIRGINIA, *et al.*,

Petitioners,

—v.—

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, *et al.*,

Respondents.

ON PETITION FOR REVIEW OF FINAL AGENCY ACTION OF THE
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
80 FED. REG. 64,662 (OCT. 23, 2015)

BRIEF OF *AMICI CURIAE* AMAZON.COM, INC., APPLE INC., GOOGLE INC., AND MICROSOFT CORP. IN SUPPORT OF RESPONDENTS

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RULE 26.1 CORPORATE DISCLOSURE STATEMENT

Pursuant to Federal Rule of Appellate Procedure 26.1 and 29(c), amicus curiae Amazon.com, Inc. discloses the following:

Amazon.com, Inc. has no parent corporation, and no publicly held corporation owns 10% or more of the stock of Amazon.com, Inc.

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Apple Inc. has no parent corporation, and no publicly held corporation owns 10% or more of the stock of Apple Inc.

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CERTIFICATE AS TO PARTIES, RULINGS, AND RELATED CASES

Counsel for Amazon.com, Inc., Apple Inc., Google Inc., and Microsoft Corp. (collectively, "Tech Amici") certifies the following:

A. Parties and Amici

All parties, intervenors, and amici appearing in this Court are listed in the Brief for the Respondents United States Environmental Protection Agency (EPA), which Administrator Regina A. McCarthy filed on March 28, 2016. EPA's brief references and supplements the list provided in the Brief for the Petitioners filed on February 19, 2016.

B. Ruling under Review

The decision on review is found at 80 Fed. Reg. 64,662 (October 23, 2015), and is entitled "Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units" (the "Clean Power Plan" or the "Plan").

C. Related Cases

This case was not previously before this Court or any other court. It has been consolidated with Nos. 15-1364, 15-1365, 15-1366, 15-1367, 15-1368, 15-1370, 15-1371, 15-1372, 15-1373, 15-1374, 15-1375, 15-1376, 15-1377, 15-1378, 15-1379, 15-1380, 15-1382, 15-1383, 15-1386, 15-1393, 15-1398, 15-1409, 15-1410, 15-1413, 15-1418, 15-1422, 15-1432, 15-1442, 15-1451, 15-1459, 15-1464, 15-

1470, 15-1472, 15-1474, 15-1475, 15-1477, 15-1483, 15-1488. There are no other related cases.

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STATEMENT REGARDING CONSENT TO FILE AND SEPARATE BRIEFING

Pursuant to Federal Rule of Appellate Procedure 29(a), Tech Amici certify that they have filed an Unopposed Motion for Leave to Participate as Amici Curiae concurrently with this motion. Tech Amici further certify that they have consulted with the parties, none of whom have opposed the filing of this amicus brief.

Pursuant to District of Columbia Circuit Rule 29(d), Tech Amici certify that this separate amicus brief is necessary because, as set forth in its Unopposed Motion for Leave to Participate as Amici Curiae, Tech Amici are uniquely positioned to provide the Court with the perspective of major purchasers of electricity who have committed to ensuring that a significant portion of their electricity purchases are from renewable sources of generation.

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GLOSSARY OF ABBREVIATIONS

Clean Power Plan or Plan	*Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 80 Fed. Reg. 64,662 (October 23, 2015)
CO_2	Carbon dioxide
EPA	United States Environmental Protection Agency

INTRODUCTION & SUMMARY OF ARGUMENT

Amazon.com, Inc., Apple Inc., Google Inc., and Microsoft Corp. (collectively "Tech Amici") are among the world's leading technology companies.

Tech Amici provide products and services that improve the lives of millions of people around the world, including computer operating systems and software, Internet search technology, devices, email and other online communications tools, cloud computing services, and online streaming of entertainment. These products and services would not be possible without ample, affordable and reliable sources of electricity. This electricity is used to power manufacturing facilities, logistics operations, retail stores, and large data centers that house the hardware and software needed to make modern computing work.

Tech Amici's operations across the United States have made them into some of the country's most significant consumers of electricity. In this role, Tech Amici are deeply committed to consuming power in an environmentally responsible way and doing their part to see that the nation's electrical supply is produced in a more sustainable fashion. Tech Amici have developed business practices to limit their environmental impact, including by ensuring that an ever-increasing portion of their electricity consumption comes from renewable sources.

This commitment reflects Tech Amici's belief that delaying action on climate change will be costly in economic and human terms, while accelerating the transition to a low-carbon economy will produce multiple benefits with regard to sustainable economic growth, public health, resilience to natural disasters, and the health of the global environment. It also reflects their firsthand experience that developing and using renewable electricity generation is affordable, reliable, and consistent with sound business practices. Renewable energy is less subject to price volatility than non-renewable energy; provides greater long-term cost certainty to its purchasers; and, in many parts of the United States, is available at prices comparable to or better than the current prices for other electricity options. Furthermore, Tech Amici's emphasis on renewable energy serves customers, reduces greenhouse emissions, and generally promotes environmental sustainability.

EPA's *Carbon Pollution Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units*, 80 Fed. Reg. 64,662 (October 23, 2015) ("Clean Power Plan" or "Plan") will advance these important purposes and help businesses of all sorts invest and benefit from clean energy. By limiting emissions of carbon dioxide ("CO_2") from existing fossil fuel-fired power plants, the Plan will help address climate change by reinforcing current trends that are

making renewable energy supplies more robust, more reliable, and more affordable. Tech Amici welcome these developments.

Tech Amici's shared experience as major electricity consumers committed to renewable energy also is consistent with a number of the assumptions on which the Clean Power Plan is based. Tech Amici's experience confirms that the level of renewable energy contemplated by the Plan is consistent with market trends, achievable in the time contemplated, and economically sustainable. Similarly, there are an increasing number of ways for energy consumers, power plants, and utilities to procure renewable energy. Tech Amici have been using various strategies to procure renewable energy (such as wind and solar generation), including developing their own facilities, and purchasing the output of renewable energy facilities from developers and utilities. Such strategies are also available to owners of power plants regulated under the Plan. With the Plan in place, growth in renewable energy will continue, as electricity generators and sellers will have even more reasons to work with significant purchasers like Tech Amici to develop new approaches that support renewable energy.

In short, the Clean Power Plan will help Tech Amici—and countless other companies—power their operations in ways consistent with their environmental commitments and business needs.

IDENTITY AND INTEREST OF AMICI CURIAE[1]

Tech Amici are among the most successful and innovative businesses in the United States, with a collective market capitalization of over $1.7 trillion and hundreds of thousands of employees located in every region of the country.

Amazon.com, Inc. ("Amazon") opened its virtual doors on the World Wide Web in July 1995. It seeks to be Earth's most customer-centric company. It is guided by four principles: customer obsession rather than competitor focus, passion for invention, commitment to operational excellence, and long-term thinking. Amazon's primary customer sets consist of consumers, sellers, developers, enterprises, and content creators. Amazon has a long-term commitment to achieve 100% renewable energy usage for the global infrastructure footprint of Amazon Web Services (AWS), Amazon's global cloud computing service.

Apple Inc. ("Apple") revolutionized personal technology with the introduction of the Macintosh in 1984. Today, Apple leads the world in innovation with iPhone, iPad, Mac, Apple Watch, and Apple TV. Apple's four software platforms—iOS, OS X, watchOS and tvOS—provide seamless experiences across

[1] Pursuant to Fed. R. App. P. 29(c)(5), Tech Amici state that no counsel for a party authored this brief in whole or in part, and no party or entity other than Tech Amici and their counsel made a monetary contribution intended to fund the preparation or submission of this brief.

all Apple devices and empower people with breakthrough services including the App Store, Apple Music, Apple Pay, and iCloud. The renewable power Apple generates or buys covers electricity use for 100% of its U.S. facilities and 93% of its worldwide facilities.

Google Inc. ("Google") is a leading Internet search engine and provides a wide range of other products and services—including email through its Gmail service, online video through YouTube, music and other entertainment through Google Play, cloud computing through the Google Cloud Platform and various social-networking tools—that empower people around the world to create, find, organize, and share information. Google has a goal to power its global operations with 100% renewable energy and to help achieve that, has committed to purchase over 2 gigawatts of renewable energy to date, making it the largest corporate purchaser of renewable energy in the world. Google has been carbon neutral since 2007.

Microsoft Corporation ("Microsoft") is the leading platform and productivity company for the mobile-first, cloud-first world, and its mission is to empower every person and every organization on the planet to achieve more. Microsoft operates, or has announced, cloud services from thirty regions across the world. Microsoft has been 100 percent carbon neutral since 2012 through

efficiency, renewable energy, and carbon-offset community projects. Microsoft has a long-term goal of running all of its global operations with 100 percent renewable energy.

EPA's Clean Power Plan endeavors to significantly reduce harmful emissions from fossil fuel-fired power plants and spur greater production of renewable energy. As environmentally responsible purchasers of electricity, Tech Amici have invested heavily in renewable energy. They are committed to a long-term goal of using renewable energy to meet the bulk of their power needs. The success of the Clean Power Plan is integral to helping Tech Amici meet that goal.

Moreover, as significant electricity purchasers with operations in every region of the country, as well as companies with substantial experience in sourcing renewable energy, Tech Amici are well positioned to offer a practical perspective on the issues raised by this case, including the important role of renewable energy in the Clean Power Plan. The Plan promises to promote greater use of increasingly affordable, stable sources of renewable energy that appeal to investors and customers alike. Tech Amici's experience suggests that the Clean Power Plan will provide considerable benefits to electricity purchasers and that the Plan will not only be good for the environment, it will be good for business. Tech Amici thus have a significant interest in the success of the Clean Power Plan, and they submit

this brief to highlight some additional reasons, beyond those given by the parties and other amici, why the Plan is appropriate and reasonable.

ARGUMENT

I. Using More Renewable Energy Mitigates Climate Change and Makes Good Business Sense.

Tech Amici are some of the most successful and innovative technology companies in the world, and they provide some of the most popular and well known online services across the globe. The technology industry in which they operate accounts for 7.1 percent of overall U.S. GDP[2] and is a major driver of new jobs and economic growth.

As their services have continued to improve and grow, Tech Amici have become significant purchasers of electric power in the United States. In 2015, Tech Amici collectively used over 10 million megawatt-hours of electricity, including at over 50 data centers in 12 states, and they expect this amount to grow as the number of data centers increases.[3] Reliable and affordable electricity is integral to

[2] Preston Grisham, *United States Industry Employs 6.5 Million in* 2014, COMPTIA (Feb. 10, 2015), https://www.comptia.org/about-us/newsroom/press-releases/2015/02/10/united-states-tech-industry-employs-6.5-million-in-2014.

[3] Tech Amici currently operate data centers in California, Georgia, Illinois, Iowa, North Carolina, Nevada, Oklahoma, Oregon, South Carolina, Texas, Virginia, and Washington. In addition, they have announced data centers in Alabama, Ohio and Tennessee.

the continued growth and operation of Tech Amici's data centers, manufacturing and operations facilities, stores, and offices throughout the country. At the same time, Tech Amici believe that climate change is a significant global challenge and that strong action from the business community is critical to meeting the serious threat posed by greenhouse gas emissions.

To that end, Tech Amici have committed to consuming energy in an environmentally responsible way and, specifically, to reducing the carbon footprint associated with their operations. Emissions associated with electricity consumption are a significant part of Tech Amici's carbon footprints, and each megawatt-hour of electricity use generated from renewable sources avoids emissions from fossil fuel-fired power plants. Tech Amici accordingly generated or purchased over 6 million megawatt-hours of renewable electricity in 2015. Tech Amici also have made substantial commitments to continue and, where applicable, expand their reliance on renewable energy in the future. For example, each company has committed to a long-term goal of using 100% renewable energy for its respective cloud services infrastructure.

Tech Amici's increased generation and use of renewable electricity generation is driven not only by their shared dedication to fighting climate change,

but also by their shared understanding that, for several reasons, renewable energy makes good business sense.

First, unlike fossil fuel-powered generation, renewable energy technologies such as wind and solar have low and stable marginal costs, and so permit energy consumers to hedge fuel price volatility and future increases in electricity rates. These benefits are reinforced through the direct development of renewable energy facilities and by procuring renewable energy through Power Purchase Agreements ("PPAs") and other long-term agreements. Such agreements typically lock in electricity prices for 10-20 years, providing cost certainty for Tech Amici's operations. Developing and purchasing electricity supplied by renewable energy facilities also allows energy consumers to diversify the sources of their electricity supply and accelerates innovation in regions where they operate.

Second, renewable energy generated on-site can foster resilience—the capacity for a system (city, business, etc.) to survive and thrive in the face of stresses and shocks. On-site renewable generation promotes resilience by diversifying the power supply serving the system, insulating the system from both long-term stresses—such as resource depletion and shortages and shifts in the economy—as well as instantaneous and unexpected interruptions in the electricity supply if there is a grid disruption. Many Tech Amici have installed renewable

generation at their facilities to supply their own consumption in a way that fosters this resiliency and facilitates the reliable electric supply on which they depend.[4]

Tech Amici have not found that increasing the presence of renewable generation in the grid compromises the reliability of their electric service. Tech Amici's assets, such as their data centers, operate twenty-four hours per day, seven days per week, three-hundred sixty-five days per year, and so vitally depend on a very reliable electricity supply. In Tech Amici's experience, the level of renewable integration expected as a result of the Clean Power Plan can and will be reliably managed by regional grid operators. For example, on December 20, 2015, the grid operator for most of the Texas electricity grid successfully integrated a record-setting instantaneous peak of more than 13,000 megawatts of wind power,

[4] For example, Apple's AC2 Campus will operate on 100% renewable energy in a way that provides Apple significant resiliency benefits. The energy used by the campus will be 100% renewable through a combination of 16 megawatts of onsite solar, 4 megawatts of onsite biogas fuel cells, and offsite solar generation from a Power Purchase Agreement with First Solar. The campus will operate as a micro grid, with battery storage, providing Apple with energy resilience against shocks such as earthquakes. Apple is also working with the local utility and with the California System Operator to address the impacts of potential renewable generation intermittency, where actual generation may vary from day-ahead predictions.

representing 44.71% of instantaneous generation, without reliability concerns.[5] Accordingly, and contrary to worries expressed about the Clean Power Plan, Tech Amici's increased use of renewable energy has not compromised the reliability critical to their operations. Pet'r Record-Based Issues Br. at 40-42.

Third, renewable electricity generation can be generated or purchased at or below the cost of fossil fuel-generated power sources. For example, analysis of the levelized PPA price of wind energy in the Southwest Power Pool—an organized electricity market spanning 14 states in which Tech Amici purchase significant volumes of wind energy—shows consistent price declines from 2010 to 2015.[6] Average levelized wind PPA prices in 2014 in "interior" states[7] with strong renewable resources were comparable to or lower than the average annual wholesale power prices in those states.[8] This data demonstrates that, in a growing number of energy markets, wind energy is on par with or less expensive than

[5] Electric Reliability Council of Texas, *Wind Integration Report* (Dec. 20, 2015), http://www.ercot.com/content/gridinfo/generation/windintegration/2015/12/ERCOT%20Wind%20Integration%20Report%2012-20-15.PDF.

[6] Lawrence Berkeley National Laboratory, *2014 Wind Technologies Market Report* 56 (Aug. 2014), https://emp.lbl.gov/sites/all/files/lbnl-188167.pdf.

[7] Analysis includes prices from Texas, Arizona, Oklahoma, Nebraska, Kansas, Missouri, Colorado, Iowa, Minnesota, North Dakota, South Dakota, Wyoming, and Montana.

[8] *2014 Wind Technologies Market Report* (*supra* note 6) at 59, 62.

traditional grid power, in part with the support of current production tax credits. Prices for solar power have also decreased substantially, including a 70% reduction in solar PPA prices between 2009 and 2014, driven in part by a 50% decline in deployment costs and with the support of current solar investment tax credits.[9] And these trends have continued. For example, in 2015, NV Energy announced it had signed a solar PPA for a record-low price of $0.0387 per kilowatt-hour.[10] The Department of Energy expects prices for both wind and solar to continue to decrease substantially in the coming years.[11]

Given these declining prices, Tech Amici expect to rely on renewable energy even more substantially in the future. Tech Amici also expect that a

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[9] Jon Weiner, Lawrence Berkeley National Laboratory, *Price of Solar Energy in the United States has Fallen to 5¢/kWh on Average* (Sept. 30, 2015), http://newscenter.lbl.gov/2015/09/30/price-of-solar-energy-in-the-united-states-has-fallen-to-5%C2%A2kwh-on-average/ (describing Mark Bolinger & Joachim Seel, Lawrence Berkeley National Laboratory, *Utility-Scale Solar 2014: An Empirical Analysis of Project Cost, Performance, and Pricing Trends in the United States* (Sept. 2015)).

[10] Herman K. Trabish, *NV Energy buys utility-scale solar at record low price under 4 cents/kWh,* UTILITY DIVE (July 9, 2015), http://www.utilitydive.com/news/nv-energy-buys-utility-scale-solar-at-record-low-price-under-4-centskwh/401989/.

[11] U.S. Department of Energy, *Photovoltaic System Pricing Trends: Historical, Recent, and Near-Term Projections* (Sept. 2014), http://www.nrel.gov/docs/fy14osti/62558.pdf; U.S. Department of Energy, *Wind Vision: A New Era of Wind Power in the United States* 149, 151 (Mar. 12, 2015), http://www.energy.gov/sites/prod/files/WindVision_Report_final.pdf.

widespread increase in the development and use of renewable energy generation—spurred, in part, by policies like those embodied in the Clean Power Plan—will create a virtuous cycle of accelerated innovation, further price declines, and additional deployment.

Fourth, customers and investors share Tech Amici's commitment to using renewable energy. Tech Amici have found that an increasing number of public and private sector customers request that technology providers use more clean energy, reduce greenhouse gas emissions, and promote sustainability.

A growing number of investors also have such requests. Investor coalitions representing trillions of dollars in investment capital target companies that engage in sustainable businesses.[12] Tech Amici have found that investors increasingly want to know what businesses are doing to use more clean energy, and often evaluate companies with reference to widely-cited sustainability ratings—such as CDP (formerly the "Carbon Disclosure Project"), the Dow Jones Sustainability Index, Newsweek's Green Rankings, and Corporate Knight's Most Sustainable Companies.

[12] Those coalitions include the 100 member Investor Network on Climate Risk, the 100 member Institutional Investors Group on Climate Change, the 300 member Interfaith Center on Corporate Responsibility, the 1300 signatories to the Principles for Responsible Investment, and the 822 institutional investor signatories to CDP.

In short, Tech Amici have found that increasing the use of renewable energy is good for the environment *and* good for business. To the extent the Clean Power Plan expands renewable energy sources and use, it does so within a national framework that provides flexibility to the states to ensure that existing fossil fuel-based generation and renewable energy facilities are used in an integrated manner, and at levels that allow businesses to realize the many benefits of renewable electricity.

II. Tech Amici Are Using a Variety of Straightforward and Effective Strategies to Increase Use of Renewable Generation—Strategies That Are Also Available to Owners of Regulated Power Plants Under the Clean Power Plan.

Tech Amici's experience supports EPA's conclusion that the shift towards cleaner sources of electricity generation is a viable and effective means of reducing emissions at fossil fuel-fired power plants. Resp't Initial Br. at 30-31 ("Power plants already have been using generation-shifting measures to reduce CO_2 … to meet corporate environmental objectives—confirming that generation-shifting is an 'adequately demonstrated' system.").

As EPA has explained, given the interconnected nature of the electricity grid, power plants can reduce their own emissions by reducing their generation in favor of, among other things, renewable energy. This is true even if the renewable energy is produced off-site or by a third party pursuant to a commercial

relationship. *See* 80 Fed. Reg. at 64,761-62; Resp't Initial Br. at 36-37. Tech Amici's experience in the electricity markets bears out this conclusion. Their experience demonstrates that a variety of straightforward strategies can be employed to increase use of renewable energy and, in turn, reduce CO_2 emissions from fossil fuel-fired power plants that would otherwise be supplying Tech Amici's operations. These strategies include:

- **Developing and owning renewable generation.** Individual entities such as Tech Amici develop, own, and operate renewable energy generation facilities that directly supply their operations. These facilities can be located on-site or off-site, and can directly shift generation (and emissions) from fossil fuel-fired sources associated with grid power. For example, Apple supplies its Maiden, North Carolina data center with renewable electricity from biogas fuel cells and two 20 megawatt solar arrays—the nation's largest renewable energy installation owned by an energy end-user. In late 2015, Apple finished another 17 megawatt solar array, capable of producing 39 million kilowatt-hours per year. These systems feed clean power directly into the Duke Energy electric grid that serves Apple's data center. Similarly, Google has a 1.7 megawatt solar installation on its Mountain View, California headquarters.

- **Purchasing the energy output of specific renewable generation facilities.** Tech Amici sign agreements (such as PPAs) with renewable energy developers to purchase all of the power generated by specific, third-party-owned facilities. These contracts often provide the basis for a renewable energy developer to secure financing. The generation from these facilities has increasingly supplanted fossil fuel-fired generation (and associated emissions) previously used to supply the power grids that power Tech Amici's operations. Google helped initiate this market in 2010, when it signed a 20-year PPA to purchase 114 megawatts of wind generation from the NextEra Energy Resources Story County II facility in Iowa. The market for corporate renewable energy PPAs has grown substantially and in 2015 there were over 3,000 megawatts of corporate PPAs

signed in the U.S.[13] Similarly, Amazon Solar Farm US East is an 80 megawatt solar farm in Accomack County, Virginia, developed in cooperation with Community Energy, Inc. This solar farm is expected to start generating approximately 170,000 megawatt-hours of solar power annually as early as October 2016. Amazon Wind Farm US East, developed in cooperation with Iberdrola Renewables, LLC, is the first utility scale wind farm in North Carolina. When complete in December 2016, the 208 megawatt wind farm is expected to generate approximately 670,000 megawatt hours of clean power annually. Apple has committed to a 25-year Power Purchase Agreement with First Solar to purchase output from a 130 megawatt wind facility in Monterey County, California—enough electricity to cover Apple's energy needs for all of its California operations. And, likewise, Microsoft has signed 20-year agreements to purchase 175 megawatts of wind energy in Illinois and 110 megawatts of wind energy in Texas.

- **Purchasing renewable energy through a utility or other third-party.** Some electric distribution utilities and power marketers operate programs that allow customers to ensure that a certain percentage of the electricity that they buy—up to 100 percent—is sourced from renewable energy facilities. Tech Amici, and companies like them, can also invest with states and utility partners to aid the development of new renewable energy projects that will service their facilities. Under these strategies, electricity consumers such as Tech Amici ensure that their generation demand is met by renewable power rather than by fossil fuel-fired electric generating units. For example, in North Carolina, Google worked with its utility provider Duke Energy to create a purchasing program available to large energy customers. Through this program, called the Green Source Rider, Google is now purchasing 61 megawatts of solar energy to supply its data center in the region. Similarly, Microsoft recently secured an agreement with a utility in Virginia to ensure the development of 20 megawatts of new solar generation. In Nevada, Apple co-developed a 20 megawatt solar array with NV Energy, the local utility: Apple designs, finances, and constructs the array, and NV Energy operates it. In support of this project, Apple worked with NV Energy and the utility

[13] Rocky Mountain Institute, *Business Renewables Center Newsletter* (Jan. 2016), http://www.rmi.org/business_renewables_center_newsletter_002_jan_2016.

commission to create a new green energy option in Nevada that is open to all commercial customers.[14]

In employing these strategies, Tech Amici have not been impeded by limitations on the availability of renewable energy in particular states. Tech Amici regularly procure renewable energy for their facilities in one state from new generation resources developed in another state—a process that does not depend on policies or laws in the state where the renewable energy facilities are located. This reality of the electric grid makes it possible for Tech Amici to locate operations in the optimal geographic location without regard to the amount of renewable generation available within a particular state, while at the same time encouraging the growth of renewables within each state. The Clean Power Plan appropriately reflects this operational reality. 80 Fed. Reg. at 64,950 (codified at 40 C.F.R. § 60.5800(a)) (establishing conditions under which a regulated power plant can take

[14] As another strategy, the purchase and retirement of "renewable energy credits" also enables companies to ensure that their electricity use corresponds to an equivalent amount of renewable generation delivered to the grid. Demand for renewable generation establishes a market price for credits, which in turn spurs additional generation from renewable energy facilities. In particular, such credits represent additional renewable generation—and, therefore, displaced fossil fuel-fired generation (and emissions)—when they are (1) issued as part of a state's renewable energy regulatory program or certified by a third-party entity; (2) tracked in a registry to ensure they are not counted more than once; and (3) retired so they cannot be used again. In the context of the Clean Power Plan, EPA has outlined a system of tradable Emission Reduction Credits that could be used in a similar way. 80 Fed. Reg. at 64,733-34; *id.* at 64,904-10.

credit for renewable electricity generated in another state); *see also* Resp't Initial Br. at 146-47.

The same techniques that Tech Amici have successfully used to help accelerate their sustainability goals could usefully be deployed by entities regulated under the Clean Power Plan. *See* 80 Fed. Reg. at 64,753, 64,804-06; Resp't Initial Br. at 142-44, 146-47. Indeed, the Plan will help spur further innovation in this space; it creates new incentives for all participants in the industry—from power plant operators, to utilities, to power consumers like Tech Amici—to collaborate in going even further with the strategies described above and in bringing to market new approaches that support and expand the use of renewable energy.

III. Trends Already Underway in the U.S. Electric Sector Affirm the Growth of Renewable Energy Generation Incorporated in the Clean Power Plan.

As significant consumers of electricity with operations throughout the country, Tech Amici have deep experience with the contemporary energy market. They closely monitor the availability and price of electricity in a range of energy markets, especially for renewable energy. Based on this experience, Tech Amici strongly endorse the Clean Power Plan's expectation that expanding renewable generation is a reasonable and achievable acceleration of ongoing trends.

Tech Amici have observed a number of consistent market trends resulting in significant changes to the electric sector. These trends include significant growth in the supply of renewable energy generation, caused by, among other things, a significant decrease in the cost of renewable generation. For example, in recent years, the deployment of new renewable generation capacity has exceeded the deployment of new fossil fuel generation capacity.[15] These trends are occurring across the country, including in states where Tech Amici have substantial operations, including California, Iowa, North Carolina, Oklahoma, Virginia, and Texas. Far from being a radical departure from market realities, the growth of renewable electricity incorporated into the Clean Power Plan will build on and accelerate those existing trends.

Indeed, an additional federal policy enacted since the promulgation of the Clean Power Plan and not incorporated into EPA's baseline assumptions, Resp't Initial Br. at 136, will further increase the amount of renewable energy developed by 2022. In January 2016, Congress enacted the Consolidated Appropriations Act of 2016, which, among other things, extends production tax credits available to wind generators that commence construction through 2019 and extends investment

[15] U.S. Energy Information Administration, *Wind adds the most electric generation capacity in 2015, followed by natural gas and solar* (Mar. 23, 2016), http://www.eia.gov/todayinenergy/detail.cfm?id=25492.

tax credits to solar generators that commence construction through 2021.[16] Modeling[17] shows that the extension of these tax credits will result in substantially more renewable generation by 2022. The deployment of renewable generation that will be driven by this policy was not incorporated into EPA assumptions of renewable generation in 2022.[18] Tech Amici have also worked with a variety of partners in support of efforts in at least 16 states to promote renewable energy generation and distribution, such as legislation creating tax incentives for utility-scale renewables in Virginia, partnerships with utilities on new power purchase agreements in North Carolina, and research and development into advanced energy storage technologies in California.

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[16] Consolidated Appropriations Act, 2016, Pub. L. 114-113, 129 Stat. 2242 §§ 301, 303 (2015), https://www.gpo.gov/fdsys/pkg/BILLS-114hr2029enr/pdf/BILLS-114hr2029enr.pdf.

[17] Econometric modeling may be used to determine the achievability of a system of emission reduction. *Sierra Club v. Costle*, 657 F.2d 298, 334-35 (D.C. Cir. 1981).

[18] *See* Triu Mai et. al, National Renewable Energy Laboratory, *Impacts of Federal Tax Credit Extensions on Renewable Deployment and Power Sector Emissions*, NREL/TP-6A20-65571 at 22 (Feb. 2016), http://www.nrel.gov/docs/fy16osti/65571.pdf ("We estimate that extending federal RE tax credits, as enacted in the Consolidated Appropriations Act of 2016, can boost RE deployment through the early 2020s ….More rapid RE growth—driven by the tax credits—can result in significant cumulative CO_2 emissions reductions").

For all of these reasons, Tech Amici's experience indicates that the Clean Power Plan reflects reasonable and attainable assumptions about the increasing availability of renewable generation in the nation's power sector.

CONCLUSION

Because the Clean Power Plan reflects reasonable expectations about the operations of the electricity market and the increasing use of renewable energy, Tech Amici submit this brief in support of the Plan.

Respectfully submitted,

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CIRCUIT RULE 32(a)(2) ATTESTATION

In accordance with D.C. Circuit Rule 32(a)(2), I hereby attest that all other parties on whose behalf this joint brief is submitted concur in the brief's content.

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CERTIFICATE OF COMPLIANCE

Pursuant to Fed. R. App. P. 32(a)(7)(C), I certify the following:

This brief complies with the type-volume limitation of Fed. R. App. P. 29(d) because it contains 4,647 words, excluding the parts of the brief exempted by Fed. R. App. P. 32(a)(7)(B)(iii).

This brief complies with the typeface requirements of Fed. R. App. P. 32(a)(5) and the type style requirements of Fed. R. App. P. 32(a)(6) because it has been prepared in a proportionally spaced typeface using Microsoft Word 2010 in Times New Roman 14-point font.

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CERTIFICATE OF SERVICE

I hereby certify that on April 1, 2016, I electronically filed the foregoing brief with the Clerk of the Court for the United States Court of Appeals for the District of Columbia Circuit by using the appellate CM/ECF system. The participants in this case are registered CM/ECF users and service will be accomplished by the appellate CM/ECF system.

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