



IMPORTANT PROXY VOTING MATERIAL

MEMO IN SUPPORT OF SHAREHOLDER PROPOSAL #9 REQUESTING DOMINION TO DESCRIBE HOW IT IS ADAPTING BUSINESS MODEL

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SUMMARY: Profound changes in the electric utility industry are underway. Factors including the imperative to act in response to climate change; plummeting costs of renewable, distributed energy technology; and escalating coal liability have come together to move the U.S. electric power sector towards “grid parity”, the point at which distributed renewable energy (renewable power generated at the point of use) equals or falls below the cost of utility power. New entrants are entering the electricity generation, delivery and management market place, bringing a greater competitive threat than has existed previously. Utilities’ customers have more options, including the ability to generate and store energy on their own property, reducing the need for utility services, and opening the door to a future where utilities either drastically transform their business, or risk being eliminated from the U.S. energy sector.

Dominion’s current and planned actions do not reflect recognition of these transformative market changes, nor an effort to adapt its business to capitalize on the market shifts. Dominion is not investing in centralized renewable energy and energy efficiency with appropriate scale. Dominion ranked near last among the 32 largest U.S. investor-owned electric utilities’ clean energy deployment, according to a 2014 report by Ceres and Clean Edge.¹

Given Dominion’s lack of reporting on trends outside the company toward de-carbonization and the major disruptions predicted in how climate change will alter electricity use and production, and given the lack of action taken by the company on energy efficiency and renewable energy, investors have no assurance that the company is prepared to succeed given the changing market fundamentals that it finds itself amidst.

RESOLVED CLAUSE:

“BE IT RESOLVED: Shareholders request that a committee of the Board of Directors oversee a study of the potential future threats and opportunities presented by climate change driven technology changes in the electric utility industry, and prepare a report to shareholders that includes the company’s plan to meet these challenges, protect shareholder value, and reduce the company’s substantial carbon emissions. The report to shareholders should be prepared at reasonable cost and omit proprietary information and be completed by September 1st, 2016.”

Please see Appendix A for the full resolution.

RATIONALE FOR YES VOTE

¹ Ceres and Clean Edge titled “Benchmarking Utility Clean Energy Deployment: 2014. (note: this study utilizes 2012 year data; energy data typically lags 2-3 years)

1. Investors are increasingly concerned about climate change risks and impacts. Given that the electric utility sector is the largest emitter of greenhouse gas emissions, much of this concern is focused on utilities.²
2. The rapidly declining cost of climate change driven technology such as solar power, or solar plus energy storage, presents a formidable competitive threat to Dominion in the absence of integrating such technologies into the company's business plan. Wall Street analysts predict the power sector will be significantly transformed by 2030, and utilities must be on the forefront of change to compete.
3. Corporate demand for electricity service is changing
4. Dominion has not publicly reported on changing trends in the power sector, so investors have little indication as how it plans to respond to disruptive trends and insufficient information to evaluate its forward looking prospects.
5. Dominion is ranked near last on renewable energy adoption compared to peers, and renewable energy represents a negligible proportion of its energy mix.

1. Investors are increasingly concerned about climate change risks and impacts. Given that the electric utility sector is the largest emitter of greenhouse gas emissions much of this concern is focused on utilities.

Global focus on climate change continues to increase, not least among members of the investment community, who are measuring the carbon footprint of their portfolios and in many cases taking steps to reduce their exposure to carbon risk. Recognizing investor concern, organizations such as CDP (formerly the Carbon Disclosure Project) and Ceres rate the performance of electric utilities on their progress in reducing greenhouse gas emissions, and incorporating renewable energy and energy efficiency into their operations. CDP's annual climate survey to companies is sent on behalf of 822 investor signatories representing US\$95 trillion in assets.

Investors understand that utility performance on these issues could have a material effect on companies and therefore on investment outcomes. Dominion Resources has not responded to CDP's climate survey and has not provided the kind of information that investors need to understand the company's plan for the transition to a lower carbon energy system. As the global discussion of climate change builds, investors understand that electric utilities (as the sector with the most greenhouse gas emissions) will come under more and more pressure to change. Dominion does not have a clearly articulated strategy that aligns with the broad de-carbonization that is required to limit warming to 2 degrees as most recently affirmed by 198 global governments in the Paris Agreement on Climate Change.

2. The declining cost of solar power and energy storage technologies presents a formidable competitive threat to Dominion in the absence of integrating such technologies into the company's business plan. Wall Street banks and analysts predict the utility business will be significantly transformed by 2030, and companies on the forefront of change will be best positioned to compete.

Research from Barclay's, Goldman Sachs, UBS, and Deutsche Bank foretell a striking transformation in the U.S. electricity sector, in which utilities selling energy generated at large, coal burning power plants

² RobecoSam: "Investing in Response to Climate Change: RobecoSam's Toolkit"
http://www.robecosam.com/images/Investing_in_response_to_climate_change.pdf

must transition into utilities that dispatch many sources of distributed power, or power that is generated near the site where it is consumed. Falling renewable and solar infrastructure costs are quickly moving these technologies toward “grid parity”, the point at which renewable energy is less expensive than utility coal power.

- In 2014, Barclays downgraded bonds for the entire U.S. electric utility sector due to the rapidly declining costs of solar power and energy storage technologies.³
- Goldman Sachs’ analysts report “Decreased reliability from an aging distribution infrastructure, a broadening desire to reduce the carbon footprint, and perhaps most importantly, the reduction of solar panel and battery costs could also work together to make grid independence a reality for many customers one day.”⁴
- UBS projects solar systems and batteries will cause a huge disruption in the energy industry, noting, “Large-scale power stations could be on a path to extinction.” “Not all of them will have disappeared by 2025, but we would be bold enough to say that most of those plants retiring in the future will not be replaced.”⁵
- Deutsche Bank predicts total solar photovoltaic power costs will reach parity with average electricity prices (grid parity) in 36 U.S. states as soon as 2017. Currently 20 states are at grid parity, and Green Tech Media predicts 42 states will reach that milestone by 2020.⁶

Corporate consultant Ernst and Young describes how companies best poised to face “the challenge of transformation in the utilities sector” will move from “defense to offense,” and notes a malaise in the utility sector that has resulted in slow adaptation:⁷

For decades, the electric power sector — whether regulated or deregulated, wholesale or retail — operated on a simple premise: we have the power, and when our customers need it, we will provide it. Within this context, even with limited or no load growth, the electric power sector had been counting on long-term earnings growth, and therefore, shareholder value creation via the so-called virtuous cycle: capital investment (or rate base growth) leading to satisfied customers, in turn leading to accommodating regulators. Now, in 2014, US power markets are in the early stages of a transformation driven by the adoption of distributed energy.

In the face of entrenchment, Ernst & Young (EY) warns:

The threat distributed energy resources (DER) poses to incumbents is significant, and attempting to deny the situation with status quo forecasts or blocking the inevitable outcome by penalizing

³ Aneiro “*Barclays Downgrades Electric Utility Bonds, Sees Viable Solar Competition*”, Barron’s May 2014: <http://blogs.barrons.com/incomeinvesting/2014/05/23/barclays-downgrades-electric-utility-bonds-sees-viable-solar-competition/>

⁴ Lacey “*Wall Street Firms Step Up Warnings About Distributed Energy’s Threat to Utilities*”, Greentech Media May 2014: <http://www.greentechmedia.com/articles/read/wall-street-firms-keep-warning-of-distributed-energy-threat>
⁵ Parkinson: “*UBS Analysts: ‘Large-Scale Power Stations Could Be on a Path to Extinction’*”, Greentech Media, August 2014: <https://www.greentechmedia.com/articles/read/ubs-time-to-join-the-solar-ev-storage-revolution>
⁶ Honeyman, “*U.S. Residential Solar Economic Outlook 2016-2020: Grid Parity, Rate Design and Net Metering Risk*”, Greentech Media Research, February 2016: <http://www.greentechmedia.com/research/report/us-residential-solar-economic-outlook-2016-2020>

⁷: From defense to offense Distributed energy and the challenge of transformation in the utilities sector, Ernst&Young, 2014: [http://www.ey.com/Publication/vwLUAssets/EY_-_From_defense_to_offense/\\$FILE/EY-From-defense-to-offense.pdf](http://www.ey.com/Publication/vwLUAssets/EY_-_From_defense_to_offense/$FILE/EY-From-defense-to-offense.pdf)

customers who adopt DER is futile. It's time for the [power] sector to move over to the offensive by developing DER- friendly strategies and business models that focus on creating customer as well as shareholder value.

Ernst and Young further advises:

Utilities should adopt a business model that can adapt to changing conditions – one that captures and provides value in connection with distributed energy.

Utilities have no choice but to adapt or become extinct like so many businesses in other industries that failed to transform; those dinosaurs became the stuff where of business school case studies are made.

This research is just a sample demonstrating extensive consensus within the financial community regarding the risk climate change driven technology poses to the traditional utility business model. It underscores the importance of Dominion taking proactive steps to modify its business model to integrate non-carbon-emitting distributed technologies.

3. Corporate demand for electricity service is changing

A new movement among corporations is circumventing utilities entirely by signing power purchase agreements for large-scale off site renewables, which could represent a major threat to utilities by eliminating the business of their commercial customers. According to the Rocky Mountain Institute, in November 2015 this represented 2 GW of power, up from 1.2 GW for all of 2014.

Corporate commitments to renewables have grown dramatically in recent years. Over 53 major corporations globally have committed to source 100% of their power from renewable sources in the next two decades.⁸ The US Environmental Protection Agency (EPA) maintains a list of companies that qualify as 100% green power users, combined green power use of these 763 organizations amounts more than 15.9 billion kilowatt-hours of green power annually.⁹

As these trends will accelerate, Dominion and other electric utilities will be under more pressure to evolve.

4. Dominion has not publicly reported on changing trends in the power sector, so investors have little indication as how it plans to respond to disruptive trends and insufficient information to evaluate its forward looking prospects.

The company claims that its 2015 Integrated Resource Plan (IRP) discusses the issues requested in the Proposal, stating that the models that are used to derive energy demand necessarily account for factors such as technological advancements and market conditions. However, beyond these assurances there is no actual discussion in the IRP of a range of factors that are altering the landscape for electric utilities and their customers. Dominion's IRP does not discuss trends in renewable and energy efficiency, new market entrants that are preparing to provide competing renewable energy to the Company's current customers, the increasing competition in the provision of energy services and choice available to consumers, legislative initiatives in the state of Virginia, nor the global focus on the challenge of climate change.

⁸ <http://www.theclimategroup.org/what-we-do/programs/re100/>

⁹ <http://www3.epa.gov/greenpower/toplists/partner100.htm>

Dominion Resources appears to ignore or discount that any entity except the Company could provide the services the company now provides. For example, the company's peak load forecasts for the summers of 2016 through 2030 do not include conservation/efficiency adjustments, according to the 2015 IRP. Where conservation and efficiency adjustments are measured, the company appears to assume that the only source of reductions in electricity demand via efficiency that could affect the company's load projections is the company's programs.

The Proposal challenges the company to look at broader trends and actions taken by residential and commercial customers that may be taken independent of a Dominion Resources program. As energy efficiency technologies provided by third parties improve and become more available and affordable, how will Dominion Resources respond?

Similar to the focus only on company offerings in the context of energy efficiency or conservation, it appears that the company has overlooked the strong possibility that distributed generation of renewable energy by residential or commercial customers may reduce electricity demand.

The strong possibility of customer defection from Dominion Resources services is one of the sources of investor concern and thus a reason for the Proposal. In the IRP the company addresses the issue of distributed generation of renewable energy causing technical challenges for the electrical grid, for the electricity transmission system. But the IRP does not address the growing possibility that distributed generation of renewable energy may reduce the electricity demand that company can serve. It does not appear such analysis has been done, or if done it has not been published, assessing loss of business due to customers turning to efficiency and renewable energy to a greater extent. In fact, there have been many cities and communities, both in the US and abroad, that (due to the issue of climate change and rising sea levels) have voted to terminate their agreement with the existing utility, and procure all their electricity from a renewable generator. This behavior, once initiated, tends to spread to other communities. Dominion does not appear to be considering the possibility of this occurring and the effect this would have on their customer base, or taking steps to avoid it. This is a source of concern to investors.

The company's IRP appears to ignore legislation that has moved forward in Virginia that would allow renewable energy companies, solar and wind, to provide electricity using Power Purchase Agreements (PPAs), and encourage private sector distributed generation. Technological advances and concerns about climate change are driving a massive disruption in how electricity is produced and used, yet the company does not address this.

While the company describes the programs it has underway to promote energy efficiency and renewable energy within its own system, the company has failed to publicly grapple with the profound changes underway in the production and use of electricity:

- The company does not directly address the impact of current customer efficiency measures and customer sourcing of renewable energy from new entrants into the market or customer generation of renewable energy
- A November 2015 report from the respected business consulting firm Accenture outlines five global trends that are driving toward a tipping point for the electric utility sector including:
 - Technological advances that are making renewable energy more available and affordable to consumers and business
 - Weather related challenges of climate change to electric utility operations

- Policy and regulatory initiatives to reduce energy demand and foster growth in low-carbon sources of electricity
 - Customers are increasingly reducing their demand for electricity, and asking for and switching to low carbon energy sources
 - There are new entrants and growing competition for electric utilities – companies that can provide electricity to business and residential customers at the expense of the incumbent electric utility.
- The company does not acknowledge legislative attempts in Virginia that would provide more options and competition for Dominion Resources by authorizing electricity consumers to use Power Purchase Agreements to source renewable electricity independent of Dominion Resources.
 - Among the proposals in the Virginia Assembly in 2016 was one that would allow greater access to financing for residential and condominium projects that would help homeowners make energy efficiency improvements or access renewable energy.
 - A study published by NOAA and the University of Colorado in January 2016 found that renewable energy could provide most of the nation’s electricity at costs comparable to today’s costs by 2030.
 - Goldman Sachs released a report in December of 2015, “The Low Carbon Economy”, that forecasts “Between 2015 and 2020, solar and onshore wind will likely add more to the global energy supply than US shale oil production did from 2010 to 2015.”
 - BlackRock, one of the world’s largest asset management firms, published an article on its website in January of 2016 describing the profound shift in global energy systems underway, accelerated by the Paris Climate Change Agreement, and highlighting the need for investors to understand and act upon these trends. Investors are increasingly allocating capital to companies that conduct business in an environmentally responsible manner. The piece includes an important warning for investors, namely that companies in high greenhouse gas emitting sectors are not immune from disruption.

In spite of all of these signals from policymakers, global leaders, market participants and academia, Dominion does not directly address the profound changes underway for the electric utility industry.

5. Dominion is ranked near last on renewable energy adoption compared to peers, and renewable energy represents a negligible proportion of its energy mix.

Though Dominion’s IRP lists some potential renewable energy projects, the level of renewable energy in Virginia – one of the primary states in Dominion’s territory—is very low compared to neighboring states. Based on 2014 data, installed renewable energy in Virginia was 14 MW, only 3% of the average installed renewable energy in the neighboring states of Maryland, North Carolina, West Virginia and Tennessee (537 MW average as of 2014). This is despite the fact that Virginia averages a higher population than those states. Even if many of the renewable options in the IRP were to be implemented (which is not recommended by Dominion Resources), the level of installed renewables in Virginia would *still* be far below neighboring states, the East Coast, and the national average.

Not only is Dominion contributing to the states where it operates falling behind, it trails peer utilities on renewable energy and energy efficiency adoption. Dominion was ranked as one of the lowest U.S. utilities on clean energy deployment, coming in at 30th of 32 on renewable energy sales, 31st of 32 on annual energy efficiency, was ranked last on incremental energy efficiency.¹⁰

Dominion's disappointing renewable energy adoption is emphasized in contrast to the sheer volume of renewable energy its utility peers are installing. For example, in contrast with Dominion's plans to install 432 MW, Southern Company has added more than 3,800 MW of renewable energy since 2012.¹¹¹² Further, Southern Company has done this in Southeastern and Midwestern states that lack policy support for such procurement. Even Southern Company's most polluting subsidiary, Alabama Power, plans to add 500 megawatts of renewables by 2021.¹³¹⁴

In addition to building out renewable energy generation, utilities are also getting involved in *becoming purveyors of distributed generation themselves*.¹⁵ As Southern Company's CEO Tom Fanning put it, "If distributed generation is eroding your growth, own distributed generation!" In this way Great Plains Energy -- a smaller utility located in Missouri -- has teamed with solar company Sungevity on a small project and anticipates greater solar investments, telling the press that "We believe in solar. We believe in its environmental benefits, and we believe over the long term it's a cost-effective source of power."¹⁶ Great Plains further stated that, "In the future, we would like to work with companies like Sungevity and look at putting solar on rooftops as an economic and feasible way to diversify where energy comes from on the grid and just from a reliability standpoint, distributing generation at different points around our service territory, . . . We'd like to see solar become a bigger part of people's energy future in our service territory, and so this is really just the beginning."¹⁷

Investors are concerned that Dominion does not seem to be keeping pace with peers, or addressing the reason for the discrepancy.

¹⁰ *Benchmarking Clean Energy Deployment*, Ceres 2014 <http://www.ceres.org/resources/reports/benchmarking-utility-clean-energy-deployment-2014>

¹¹ Though 3800 MW is a noteworthy volume, in contrast to Southern Company's 50,000 MW size this level of renewable energy represents a small fraction of their total energy mix. <http://www.southerncompany.com/about-us/facts-figures/home.cshtml>

¹² "Southern Company subsidiary and Turner Renewable Energy acquire Calipatria Solar Facility in California", Southern Company 2016: <http://www.southerncompany.com/news/2016-02-15-spc-Calipatria.cshtml>.

¹³ Pillion, "PSC approves Alabama Power's renewable energy project request, with modifications", Al.com, 2015: http://www.al.com/news/index.ssf/2015/09/psc_approves_alabama_powers_re.html

¹⁴ "Emissions by Business Division", 2015 Carbon Disclosure Report, Southern Company, http://www.southerncompany.com/what-doing/pdf/Carbon_Disclosure_Report_2015.pdf p. 3

¹⁵ Pyper, "Utilities See Distributed Generation as a Challenge- and Owning it as a Solution", Utilitydive, February 2016: <http://www.greentechmedia.com/articles/read/utilities-see-distributed-generation-as-a-challenge-and-owning-it-as-the-so>

¹⁶ Alonzo. "Building KC: KCP&L sees sunny forecast for solar's potential", Kansas City Business Journal, November 2015: <http://www.bizjournals.com/kansascity/print-edition/2015/11/20/building-kc-kcp-l-sees-sunny-forecast-for-solar-s.html>

¹⁷ Alonzo. "KCP&L: Solar proposal is 'just the beginning'", Kansas City Business Journal, November 2015: <http://www.bizjournals.com/kansascity/news/2015/11/18/great-plains-energy-solar-plans.html>

Appendix 1

Whereas:

Electric Utilities are facing unprecedented changes to their business model due to climate change driven growth in low-carbon sources of electric power, and increased energy efficiency which is reducing demand for electricity. These trends are accelerating and our company's response has not been commensurate with the pace of the changes.

Distributed generation, including residential rooftop solar paired with energy storage, is expanding rapidly as costs decrease and companies such as Solar City and First Solar build their businesses. More energy efficient manufacturing, heating, cooling and lighting systems are reducing electricity demand.

To control costs by hedging against energy price volatility and in response to climate change, corporations such as Apple, Google, Wal-Mart, and IKEA are aggressively increasing their investments in energy efficiency and their production and use of renewable energy, thereby reducing the electricity they are purchasing from electric utilities. Fifty major companies globally have committed to using 100 percent renewable energy, because of concerns about climate change and for financial reasons.

Non-utility companies are entering the market of providing energy efficiency services. Google recently purchased Nest, which provides products and services to reduce residential electricity use. Comcast now provides an EcoSaver service to help customers save money on energy bills. General Electric has created a new company Current, to provide products and services in energy efficiency, renewable generation and storage to large customers like hospitals, universities, retail stores and cities.

According to PricewaterhouseCoopers "In defining future business models, utilities need to understand and challenge their company's purpose and positioning in tomorrow's markets. In the past, operating an integrated utility from generation through customer supply was well understood. Now, unbundling opportunities are extending deeper into the value chain and enabling greater participation by specialists. As a result, electric companies will need to rethink not just their roles and business models, but also their service and product offerings and approaches to customer engagement."

Shareholders of Dominion Resources are concerned about the accelerating impact climate change driven technology including distributed energy generation and energy efficiency could have on our company's revenue. They are also concerned that our company's generating facilities – both current and planned – may not be able to be used to full capacity in the future due to decreased demand. This has the potential to significantly adversely affect shareholder value.

Shareholders are also concerned that business opportunities for our company – both in distributed generation and in energy efficiency – face increasing competition from major national corporations.

Resolved: Shareholders request that a committee of the Board of Directors oversee a study of the potential future threats and opportunities presented by climate change driven technology changes in the electric utility industry, and prepare a report to shareholders that includes the company's plan to meet these challenges, protect shareholder value, and reduce the company's substantial carbon emissions. The report to shareholders should be prepared at reasonable cost and omit proprietary information and be completed by September 1st, 2016.

