MEMORANDUM
DTE Energy Company Shareholder Resolution 2015
Assess Deployment of Distributed Low-Carbon Distributed Generation
Filed by New York State Comptroller’s Office

DTE Energy Company
Symbol: DTE

Vote "For"

Resolved: With board oversight, assess how DTE Energy is adapting (or could adapt) its business model to enable increased deployment of distributed low-carbon electricity generation resources as a means to reduce societal greenhouse gas emissions and protect shareholder value, and report to shareholders (at reasonable cost and omitting proprietary information) by September 1st, 2015.

Summary of arguments in favor of resolution on proxy ballot

1. Traditional electric utility business models are at risk from the growth of customer-sited distributed generation.
   a. Barclays downgraded the entire US electric utility sector due to risks to the sector's traditional business model from the growth of distributed generation.
   b. The Edison Electric Institute warned of the risk to traditional utility business models from the increasing popularity and resulting growth in installation of distributed generation capacity.
   c. Most utility executives believe the current utility business model will change.

2. Utilities that invest in distributed generation limit risk and may benefit from new opportunities in this growing industry.
   a. Some utilities already invest in distributed low-carbon distributed generation.
   b. Solar electric markets are growing in those states where the installed cost of solar electric generation is at or near the average retail price of electricity.
   c. 89 percent of utility executives see distributed energy resources as a business opportunity.

3. Policies to mitigate climate change adopted at the national level and in many states promote the installation of low-carbon distributed energy generation.
   a. The proposed EPA Clean Power Plan mandates that states achieve average carbon emissions reductions of 30% by 2030.
   b. To prevent the worst effects of climate change, the US must reduce carbon emissions ~80% by 2050.
c. The US and China have entered a bilateral carbon emissions reduction agreement.

4. Failure to accommodate distributed low-carbon energy could expose DTE to consumer and competitor backlash.
   a. Polls show that climate change and renewable energy are important issues for the majority of Americans.
   b. Policies that discourage distributed generation have been met with consumer hostility and legal challenges.

1. Traditional electric utility business models are at risk from the growth of customer-sited distributed generation.

Regulated electric utilities traditionally make large investments in centralized fossil fuel-based power generation and rely on increasing energy demand to recoup these long-term investments. Public utility commissions (PUCs) allow the utilities to set electricity prices that guarantee cost recovery plus profit. This business model is now at risk due to the rapidly decreasing cost of solar photovoltaic (PV) and battery storage technology. As customers switch to solar power providers for a portion of their energy needs, or leave the grid entirely (using batteries and or other back up systems), the utility may need to raise prices for remaining customers to recoup its long-term investments and cover grid maintenance. These higher rates can create additional pressure to switch to solar, potentially starting a “defection spiral.”

In May, 2014, Barclays downgraded bonds for the entire US utilities sector, stating: “We see near-term risks to credit from regulators and utilities falling behind the solar + storage adoption curve and long-term risks from a comprehensive re-imagining of the role utilities play in providing electric power.”

A 2013 Edison Electric Institute report warned of risk from distributed generation technology: “While tariff restructuring can be used to mitigate lost revenues, the longer-term threat of fully exiting from the grid (or customers solely using the electric grid for backup purposes) raises the potential for irreparable damages to revenues and growth prospects. This suggests that an old-line industry with 30-year cost recovery of investment is vulnerable to cost-recovery threats from disruptive forces.”

Only 18% of executives polled recently think their utility will still be a traditional

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1 http://cleantechnica.com/2014/04/16/solars-dramatic-cost-fall-may-herald-energy-price-deflation/
4 The Solar Vortex: Credit Implications of Electric Grid Defection
vertically integrated regulated utility in 20 years.  

2. **Utilities that invest in distributed generation limit risk and may benefit from new opportunities in this growing industry.**

"Utilities that proactively engage with their customers to accommodate distributed generation - and even participate in the market themselves - limit their risk and stand to benefit the most" – Dexter Gauntlett, senior research analyst with Navigant Research.

Rooftop solar has positive net benefit for the grid. A 2013 study commissioned by Arizona Public Service identified the following advantages of distributed solar: decreased need for supply-side generation, reduced transmission loss, price mitigation, grid security, economic development, avoided ancillary service costs, and avoided capacity reserve costs.  

One option for utilities is to capture some of the value of the solar industry by investment, acquisition or partnerships. In 2013, Edison International (parent of Southern California Edison) acquired Chicago-based SoCore Energy. SoCore boasts the largest solar array in Michigan (a 977 kW system atop an Ikea store located in the DTE service area of Canton, Michigan). A failure by DTE to address the growing demand for solar distributed generation could leave the door open for competitors to siphon additional market share.

In states at or near solar grid parity (meaning the total price of solar power is equal to or less than the total price of utility-supplied electricity) many customers can save money immediately through solar leasing. Third-party solar providers such as SolarCity let customers lock in long-term rates with no up-front costs, often saving customers money starting with the first monthly bill.

California, for example, which is predicted to reach solar grid parity in 2017, has more than 245,000 rooftop solar projects. Solar companies, not utilities, are primarily capitalizing on this growth. Michigan will likely see growing demand in the coming years as solar + storage technology is expected to reach grid parity in 2020.

A 2015 survey found 89% of utility executives see distributed energy resources (DERs) as an opportunity, and 31% see DERs as the biggest growth opportunity in

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9 [http://www.solarcity.com](http://www.solarcity.com) . “Solar power can actually cost less than you pay now with lower, predictable rates. The savings can add up to thousands! There’s no up-front cost…”
10 The Solar Vortex: Credit Implications of Electric Grid Defection, Bloomberg article.
11 [http://www.californiasolarstatistics.ca.gov/](http://www.californiasolarstatistics.ca.gov/)
12 The Solar Vortex: Credit Implications of Electric Grid Defection
In a widely watched development, the state of New York’s Reforming the Energy Vision (Rev) initiative aims to encourage utilities to become Distribution System Platforms (DSPs) in order to facilitate deployment and integration of distributed energy resources.\(^\text{14}\)

DTE Energy has so far only offered 7 MW of solar PV to customers (through incentives) and has a plan for an additional 8 MW of PV deployment.\(^\text{15}\) DTE has a total electric system capacity of 11,084 MW.\(^\text{16}\) (For comparison, 8 MW can be provided by just four large wind turbines.)

3. Policies to mitigate climate change adopted at the national level and in many states promote the installation of low-carbon distributed energy generation.

According to the Intergovernmental Panel on Climate Change (IPCC), the US must cut its carbon emissions 80% by 2050 in order to prevent the worst effects of climate change.\(^\text{17}\) A recent PwC analysis estimated that at current rates of emissions and economic growth, total carbon emissions sufficient to warm the planet by 2 degrees Celsius will be reached by 2034.\(^\text{18}\) With the time-frame just under 20 years away, the report warns that ‘climate risks are now business risks’.

In June 2014, the EPA released a proposal for its Clean Power Plan, which would reduce electric power carbon emissions nationwide. Under the plan, Michigan would be required to cut its emissions rate 36% by 2030.\(^\text{19}\) One of the four key “building blocks” of the plan is increased renewable energy generation.

In November 2014, the US and China reached a historic climate change agreement entailing a US carbon emissions reduction of 26-28% by 2025. In December 2015, world leaders will negotiate a global climate agreement.

In 2008 Michigan enacted a state renewable portfolio standard (RPS). By 2015 all utilities were required to generate 10% of their electricity from renewable sources. DTE was additionally required to provide 600 MW of renewable energy by 2015.

\(^{13}\) http://grist.org/climate-energy/utility-bosses-see-change-coming-look-to-clean-and-distributed-energy/
\(^{15}\) DTE solar energy web page, web link is too long to include
\(^{16}\) DTE Energy website
\(^{18}\) http://pwc.sosense.org/ipcc-carbon-emissions-budget-will-be-blown-in-just-over-20-years-says-pwc/
\(^{19}\) http://www.midwestenergynews.com/2014/07/01/will-epa-carbon-rules-push-michigan-harder-on-clean-energy/
DTE appears to be investing mainly in utility-scale wind projects. These projects, while beneficial, do not address many of the defection-spiral risks associated with distributed solar generation. There have since been multiple proposals to raise the RPS, some seeking a standard as high as 30% by 2035, and Michigan’s governor recently called for at least 19% renewable energy by 2025.

4. Failure to accommodate distributed low-carbon energy could expose DTE to consumer and competitor backlash.

Environmental concern may increase the demand for distributed low carbon energy, which allows consumers and businesses to directly and tangibly reduce their greenhouse gases and other harmful emissions, while reducing the volatility and often the total amount of their electric bills. In a 2015 survey, 77% of respondents said climate change is either a “somewhat serious” or “very serious” issue for the United States. A Gallop poll in 2013 found 3 in 4 Americans want the country to pursue more solar energy, and less than one-third of respondents support ramping up coal production.

In Boulder, Colorado, demand for clean energy has prompted the city to explore a city takeover of electric service, a move that would erase $30 million in Xcel Energy profit. In Colorado, Xcel generates 56% of its electricity from coal. Approximately 76% of DTE’s annual electricity production is from fossil fuel, “primarily coal.”

Attempts to impose solar connection fees or similar price barriers to distributed generation have been met with hostility. In Arizona, solar customers protested a leased solar panels tax. Solar providers SolarCity and Sunrun, sued the Arizona Department of Revenue over the proposed tax. SolarCity also recently sued the Salt River Project (SRP) utility in Arizona over a $50 per month connection fee for solar

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23 1) http://www.solarcity.com/commercial/commercial-solar-projects/walmart
2) http://www.mckinsey.com/insights/energy_resources_materials/the_disruptive_potential_of_solar_power
28 DTE Energy Website (link is too long to paste here)
systems, and 500 people attended the SRP meeting about the fee, most to protest.\textsuperscript{30} In North Carolina, Duke Energy’s proposal to lower net metering payments sparked protests led by Greenpeace.\textsuperscript{31}

**Conclusion**

Global climate change and distributed low-carbon generation are existential threats to the current utility business model. Currently, DTE is exposed to several risks from distributed low-carbon generation, including: a defection spiral, solar provider competition, legal challenges, regulatory pressure to significantly boost low carbon generation, and consumer criticism. Investors need to know how DTE is planning to adapt to these challenges.

\textsuperscript{30}https://www.greentechmedia.com/articles/read/solarcity-files-lawsuit-against-salt-river-project-for-antitrust-violations

\textsuperscript{31}http://www.charlotteobserver.com/2014/01/27/4643236/solar-energy-protest-today-at.html#.VNPl42R4p3w