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**MASTER OF SUSTAINABLE  
REAL ESTATE DEVELOPMENT**

## **The Road to Energy Efficiency in New Orleans: Opportunities for Change**

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The purpose of this directed research paper is to identify how New Orleans can make significant changes to its political and physical landscape in order to create an environment that fosters building sustainability, especially in terms of energy consumption. This paper includes a brief discussion of how changes currently are being made in the United States, how those changes relate to New Orleans, what options New Orleans has in order to pursue a more sustainable energy environment, and, finally, a case study examining the proposed Entergy power plant in New Orleans East.

When President Trump took office, the nation knew that at the very least he would try to change many things about the political landscape in the United States. Over the course of his campaign, he stated how he could “make America great again”. One of the many things he promised to change was how The United States viewed and dealt with climate change. On June 1, 2017 it was reported that President Trump would pull out of the 2015 Paris climate agreement, an accord in which countries around the world pledged to cut their fossil fuel emissions. “The news came just days after he attended the G7 Summit in Italy, where the six other member countries—Germany, Italy, Canada, France, Japan, and the United Kingdom—reaffirmed their commitment to the 2015 climate pact. As part of the accord, the U.S. had agreed to cut its emissions between 26 and 28 percent below 2005 levels by 2025”.<sup>1</sup> This news was expected at the time, but what was not expected was the subsequent reaction from cities and states across the United States. Cities began to pledge that they would remain consistent with the Paris agreement by continuing to cut

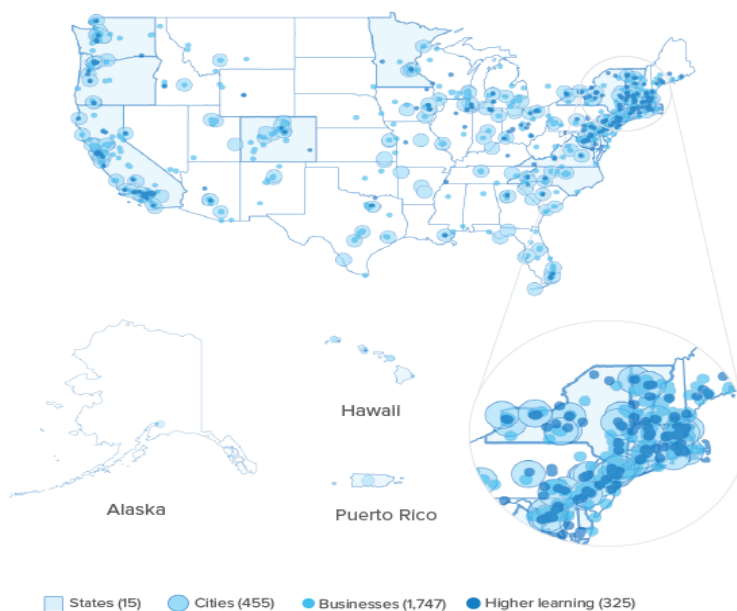
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<sup>1</sup> “A Running List of How Trump Is Changing the Environment.” National Geographic. April 06, 2018. Accessed April 20, 2018. <https://news.nationalgeographic.com/2017/03/how-trump-is-changing-science-environment/>.

carbon emissions through whatever means necessary. “The group, called America's Pledge, said that many states, cities and private entities in the U.S. would continue to pursue efforts to reduce carbon emissions, including promoting renewable sources of energy. The group consists of 20 U.S. states and more than 50 major cities”.<sup>2</sup> Figure 1 shows the states, cities, and entities that have agreed to adopt the greenhouse gas reduction targets and support the Paris Climate Agreement.

Figure 1.

#### Networks Supporting the Paris Agreement Across the United States



Source: [www.americaspledgeonclimate.com](http://www.americaspledgeonclimate.com)

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<sup>2</sup> Greenwood, Max. “20 States, 50 Cities Sign Pledge to Abide by Paris Agreement Even if US Withdraws.” The Hill. November 11, 2017. Accessed April 20, 2018. <http://thehill.com/policy/energy-environment/359910-20-states-50-cities-sign-pledge-to-abide-by-paris-agreement-even-if>

<sup>3</sup> *Networks Supporting the Paris Agreement Across the United States*. December 6, 2017. America's Pledge, United States.

The World Resources Institute took a deeper look into how these municipalities and companies plan to continue with the agreement to reduce emissions. In terms of electricity generation, “twenty-nine states, representing more than half (56 percent) of retail electricity sales in the country, have mandatory renewable portfolio standards, with nine others setting voluntary renewable energy goals”.<sup>4</sup> In terms of building and industrial energy use, “more than 400 companies, representing more than 13 percent of total U.S. commercial building space, and almost 2,600 industrial facilities have voluntarily committed to reduce their energy use through the U.S. Department of Energy’s Better Buildings/Better Plants program”.<sup>5</sup> This program understands that “the industrial sector accounts for more than 30% of all U.S. energy consumption, resulting in an annual energy bill of about \$200 billion”.<sup>6</sup> Over the course of its existence since 2009, the program has partnered with various water utilities and manufacturers to make strides against energy consumption. Typically, the partners agree to a goal of reducing energy intensity by 25 percent within 10 years across their U.S. operations. “In 2015, Better Plants partners made significant strides in energy efficiency, reporting estimated cumulative energy savings of

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<sup>4</sup> “By the Numbers: America’s Pledge Shows How US Is Taking Climate Action Without Trump.” Shifting to Renewable Energy Can Save U.S. Consumers Money | World Resources Institute. Accessed April 20, 2018. <http://www.wri.org/blog/2017/11/numbers-americas-pledge-shows-us-moving-forward-climate-action>

<sup>5</sup> “By the Numbers: America’s Pledge Shows How US Is Taking Climate Action Without Trump.” Shifting to Renewable Energy Can Save U.S. Consumers Money | World Resources Institute. Accessed April 20, 2018. <http://www.wri.org/blog/2017/11/numbers-americas-pledge-shows-us-moving-forward-climate-action>

<sup>6</sup> United States. Department of Energy. Better Plants Program. *Better Plants Fall 2016 Progress Update*. Fall 2016 Accessed April 20, 2018. <https://betterbuildingssolutioncenter.energy.gov/sites/default/files/attachments/2016%20Better%20Plants%20Progress%20Update.pdf>

600 trillion British thermal units (TBtu) and \$3.1 billion in energy costs”.<sup>7</sup> This is clearly a significant step towards a more energy sustainable environment. If anything, this proves that entities already have the means to save significant amounts of money through voluntary action. As long as supporters are given the proper tools needed to succeed in energy savings, there is potential to reduce carbon emissions and reduce energy costs.

The efforts that have been taken in order to reduce carbon emissions as a result of this pledge come in a variety of different sectors. America’s Pledge aims to reduce emissions via a variety of sectors including electricity generation, transportation, building and industrial energy use, methane emissions, hydro-fluorocarbon emissions, land use and forestry, and others. However, this paper will focus on the commercial sector to explore the energy consumption of the built environment and investigate opportunities for change. In 2015 the Journal of Earth Science and Climatic Change published a paper titled “Building Energy Consumption and Carbon Dioxide Emissions: Threat to Climate Change”. This paper explores how our buildings use of energy adds to the emissions that are affecting our climate.

“Climate change has become an undoubted environmental challenge in [the] last couple of decades in every continent and all sectors across the world. It occurs due to increase in temperature of atmosphere by burning of fossil fuels and releasing of greenhouse gases. These days, vast quantities of fossil fuels have been used for energy source to power the economy of a country. This scenario significantly contributes to a large percentage of carbon dioxide emissions. By comparing with

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<sup>7</sup> United States. Department of Energy. Better Plants Program. *Better Plants Fall 2016 Progress Update*. Fall 2016 Accessed April 20, 2018.

other economic sectors, it was reported in the literature that the consumption of energy in buildings accounts for about one third of the total consumption and is responsible for an equal portion of carbon dioxide emissions in both developed and developing countries”.<sup>8</sup>

This illuminates the urgency for change in the carbon emissions produced by the commercial building sector. Buildings pose an unequal burden as compared to the rest of the urban environment we live in, in terms of energy consumption. This claim is backed by the Department of Energy who also claims that commercial buildings alone use 40 percent of the total energy consumption, which equates to approximately \$20 billion of potential savings.<sup>9</sup>

According to the World Resources Institute “falling clean technology prices, emerging innovations, and actions by states, cities and businesses have helped reduce U.S. net greenhouse gas emissions by 11.5 percent between 2005 and 2015, while the economy grew by 15 percent over that period. This has allowed states, businesses and cities to take on steeper emissions-reduction targets and accelerated renewable energy commitments”.<sup>10</sup> Since companies and cities are reducing emissions by means of low cost improvements, these entities are saving money over the long run while also reducing emissions. These

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<sup>8</sup> SB, Riffat. “Building Energy Consumption and Carbon Dioxide Emissions: Threat to Climate Change.” OMICS International. January 12, 2015. Accessed May 20, 2018. <https://www.omicsonline.org/open-access/building-energy-consumption-and-carbon-dioxide-emissions-threat-to-climate-change-2157-7617-S3-001.php?aid=53007>

<sup>9</sup> Adam Guzzo of the Department of Energy at the Tulane Commercial Building Benchmarking Symposium reported this statistic.

<sup>10</sup> “By the Numbers: America’s Pledge Shows How US Is Taking Climate Action Without Trump.” Shifting to Renewable Energy Can Save U.S. Consumers Money | World Resources Institute. Accessed April 20, 2018. <http://www.wri.org/blog/2017/11/numbers-americas-pledge-shows-us-moving-forward-climate-action>

entities are saving money that they can invest into the city and catalyze local economic growth. This creates a cycle that allows companies to reinvest savings into better efficiency improvement strategies. However, only companies who are voluntarily taking action to reduce their emissions experience these savings.

“In its next phase of work, the America’s Pledge initiative will aggregate and quantify the full range of potential U.S. non-federal actions, including how they affect our ability to reach the U.S. emissions-reduction target”.<sup>11</sup> If local or state governments implemented their own strategies, savings and growth could be realized even in the absence of a federally mandated requirement.

A major barrier to this process is that energy efficiency requirements add a step to an already complex process of managing a building. People do not understand how much potential there is to save money through cost effective energy efficiency tactics. Increasing awareness of the benefits of commercial energy savings must be considered a priority when looking to improve the energy efficiency of cities. The Department of Energy published research that shows the amount of savings that could be experienced through cost effective means. Figure 2 shows the percentage of savings that can be realized through simple improvements to a building.

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<sup>11</sup> “By the Numbers: America’s Pledge Shows How US Is Taking Climate Action Without Trump.” Shifting to Renewable Energy Can Save U.S. Consumers Money | World Resources Institute. Accessed April 20, 2018. <http://www.wri.org/blog/2017/11/numbers-americas-pledge-shows-us-moving-forward-climate-action>

Figure 2.

RECOMMENDED ACTION	POTENTIAL SAVINGS (AS A PERCENTAGE OF UTILITY BILLS)	AVERAGE ANNUAL SAVINGS IN \$ (BASED ON EIA AVERAGE END-USE EXPENDITURES*; ACTUAL SAVINGS WILL VARY)	12
Install exterior low-e storm windows	12%-33% annually on heating and cooling bills	\$100-\$274	
Seal uncontrolled air leaks	10%-20% on annual heating and cooling bills	\$83-\$166	
Plant shade trees	15%-50% of annual air conditioning costs	\$35-\$119	
Use a power strip for electronic equipment and turn it off when not in use	Up to 12% of electric bill per year	\$100	
Replace an older toilet that uses 6 gallons per flush with a WaterSense model		\$100	
Turn back your thermostat 7°-10°F for 8 hours a day	Up to 10% annually on heating and cooling bills	\$83	
Weatherstrip double-hung windows	5%-10% annually on heating and cooling bills	\$42-\$83	
Replace your home's five most frequently used light fixtures or bulbs with models that have earned the ENERGY STAR	9% on electricity bill annually	\$75	
Lower water heating temperature	Save 4%-22% annually on your water heating bill	\$12-\$60	
Insulate water heater tank	Save 7%-16% annually on water heating bill	\$20-\$45	
Fix leaky faucets; one drip per second wastes 1,661 gallons of water		\$35	
Use sleep mode and power-management features on your computer	Up to 4% of annual electric bill	\$30	
Insulate hot water pipes	Save 3%-4% annually on water heating bill	\$8-\$12	
<b>**TOTAL POTENTIAL SAVINGS</b>		<b>\$723-\$1,182</b>	

Planting trees to provide proper shading, according to the chart created by the Department of Energy, could help save between 15 and 50 percent on annual air conditioning costs, which equates to approximately \$35 to \$110 of savings in utility bills. Even having the

<sup>12</sup> "How Much Can You REALLY Save with Energy Efficient Improvements?" Department of Energy. Accessed May 01, 2018. <https://www.energy.gov/energysaver/articles/how-much-can-you-really-save-energy-efficient-improvements>.

proper windows installed could help save between 12 and 33 percent annually on heating and cooling bills, resulting in approximately \$100 to \$274 worth of savings.

These savings are dependent on a few things such as climate, installation costs, up-front purchasing costs, shipment costs, etc. most of which have to do with where a building is located. If we take a deeper look at how these costs can be carried over to a city such as New Orleans and relate it to how other cities have actually managed to accomplish considerable energy savings, we can see how much potential New Orleans has in terms of potential energy savings.

According to the American Council for an Energy Efficient Economy, the ACEEE, which produces a city energy efficiency scorecard each year, New Orleans was ranked as the 40<sup>th</sup> best city out of 51 ranked cities.<sup>13</sup> There are many changes that New Orleans needs to make in order to become a more energy efficient city. It is critical to understand how New Orleans might be able to solve this issue by looking at how other cities have managed to do it.

In the same energy efficiency scorecard produced by the ACEE, Atlanta placed 18<sup>th</sup> amongst the 51 ranked cities.<sup>14</sup> Atlanta is a comparable city to New Orleans because of its similar size, population, growth rate, and weather. New Orleans has a population of approximately 360,000 with an annual population growth rate of 7.4%. Atlanta has a

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<sup>13</sup> Ribeiro, David, Tyler Bailey, Ariel Dreihobl, Jen King, Stefen Samarripas, Mary Shoemaker, Shruti Vaidyanathan, Weston Berg, and Fernando Castro-Alvarez. "The 2017 City Energy Efficiency Scorecard." American Council for an Energy Efficient Economy. May 2017. Accessed April 20, 2018. <http://aceee.org/sites/default/files/publications/researchreports/u1705.pdf>.

<sup>14</sup> Ribeiro, David, Tyler Bailey, Ariel Dreihobl, Jen King, Stefen Samarripas, Mary Shoemaker, Shruti Vaidyanathan, Weston Berg, and Fernando Castro-Alvarez. "The 2017 City Energy Efficiency Scorecard." American Council for an Energy Efficient Economy. May 2017. Accessed April 20, 2018. <http://aceee.org/sites/default/files/publications/researchreports/u1705.pdf>.

population of approximately 460,000 with an annual population growth rate of 3%. Both cities have a similar population density, a metric used to determine how crowded the city is. Atlanta has a population density of 1230 people per squared kilometer, and New Orleans has a population density of 1965 people per squared kilometer. This statistic shows that both cities have similarly sized infrastructure as compared with the respective populations of each city. It is also important to account for differences in weather, as this is directly related to energy consumption. If Atlanta were extremely hot every day of the year, this would mean that more people are using air conditioning to cool their spaces, which means more energy consumption. However, this is not the case and New Orleans and Atlanta have similar weather conditions. The maximum temperature for New Orleans is about 25.7 degrees Celsius, while Atlanta's is 22.9 degrees Celsius. The average temperature for New Orleans is 17.7 degrees Celsius compared to 20.9 degrees Celsius in Atlanta. The average minimum temperature for New Orleans is 16.2 degrees Celsius while Atlanta's is 12.5 degrees Celsius. New Orleans has an average humidity rate of 77% and Atlanta has an average humidity rate of 69%. <sup>15</sup> Atlanta is great city for New Orleans to compare itself to, as it has similar weather conditions, similar populations, similar infrastructure demands, but yet Atlanta has seemingly figured out a way to create a more energy sustainable city, while New Orleans has not.

Atlanta, according to the Environmental Protection Agency, has 311 Energy Star rated buildings, the fourth ranked in cities in respect to such terms.

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<sup>15</sup> "Atlanta vs New Orleans: 43 Facts in Comparison." Versus | City Comparison. Accessed April 20, 2018. <https://versus.com/en/atlanta-vs-new-orleans>

“None of this simply just happened. The 311 certified buildings stretch from downtown to Buckhead and range from an instantly identifiable structure like the Promenade in Midtown to the Atlanta Neighborhood Charter School in Grant Park. The city formed a partnership with Central Atlanta Progress and also worked with the Midtown Alliance, Livable Buckhead, the Green Building Council and other influential organizations to hold eight outreach sessions with commercial building owners around the city. There was even a “walk-in day” where nonprofit, offered to input the necessary certification data for building owners.”<sup>16</sup>

In 2015, “the Atlanta City Council unanimously passed the City of Atlanta’s Commercial Buildings Energy Efficiency Ordinance, which will result in a 50 percent reduction in CO<sub>2</sub> emissions from commercial buildings by the year 2030”.<sup>17</sup> Atlanta is also participating in the Better Buildings Challenge, a national program, with more than 100 million square feet of commercial building space pledged to cut its energy and water consumption by 20 percent by 2020.<sup>18</sup> Atlanta is using these programs to both implement requirements and promote voluntary city energy standards.

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<sup>16</sup> Vejnaska, Jill. “Why Atlanta’s Nearly Tops in U.S. in Having Energy Efficient Buildings.” AJC. August 13, 2016. Accessed April 20, 2018.

<https://www.ajc.com/news/why-atlanta-nearly-tops-having-energy-efficient-buildings/wML8MjuPs8hTikMt3O0ISI/>

<sup>17</sup> Vejnaska, Jill. “Why Atlanta’s Nearly Tops in U.S. in Having Energy Efficient Buildings.” AJC. August 13, 2016. Accessed April 20, 2018.

<https://www.ajc.com/news/why-atlanta-nearly-tops-having-energy-efficient-buildings/wML8MjuPs8hTikMt3O0ISI/>

<sup>18</sup> Vejnaska, Jill. “Why Atlanta’s Nearly Tops in U.S. in Having Energy Efficient Buildings.” AJC. August 13, 2016. Accessed April 20, 2018.

<https://www.ajc.com/news/why-atlanta-nearly-tops-having-energy-efficient-buildings/wML8MjuPs8hTikMt3O0ISI/>

Atlanta's Office of Sustainability developed the sustainability initiative called Power to Change through a participatory process and collaboration with several hundred stakeholders. "The Atlanta Commercial Energy Efficiency Ordinance was developed over the course of eight months, and the Mayor's Office of Sustainability held over 165 meetings with stakeholders in crafting the policy".<sup>19</sup> This is important to note because Atlanta included stakeholders in the development of the Ordinance in order to ensure its proper management, implementation, and improve overall accountability. "Analysis by the Mayor's Office of Sustainability shows that the ordinance can produce hundreds of millions of dollars in benefits to the private sector, driving direct investment in our local community, creating jobs, and improving public health simultaneously as energy-related emissions are reduced".<sup>20</sup> This again reinforces the correlation between energy savings and economic growth. Savings from the energy efficiency tactics are being used by businesses to stimulate the local economy and encourage economic growth in Atlanta.

"The ordinance focuses on overcoming information barriers to energy efficiency and allowing the market to utilize that new-found knowledge as a driver to reward efficient performance".<sup>21</sup> Transparency is a tool that is used by most every city in order to foster sustainable growth. For those business owners and stakeholders who do not understand why improvements to their building can help their bottom line, Atlanta is creating a network of people who do understand how and why these improvements are necessary

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<sup>19</sup> "About." Atlanta Building Efficiency. March 13, 2018. Accessed May 08, 2018. <https://atlantabuildingefficiency.com/about/>.

<sup>20</sup> "About." Atlanta Building Efficiency. March 13, 2018. Accessed May 08, 2018. <https://atlantabuildingefficiency.com/about/>.

<sup>21</sup> "About." Atlanta Building Efficiency. March 13, 2018. Accessed May 08, 2018. <https://atlantabuildingefficiency.com/about/>.

and is therefore fostering a spread of knowledge about the subject. As equally important as transparency is data collection.

Benchmarking is a tool used to understand exactly how much energy a building is consuming at any period of time. Atlanta also understands how critical it is to benchmark. The aforementioned Ordinance will require commercial building owners to benchmark their building's energy and water consumption annually. This will improve their economic performance, and help individuals and the city of Atlanta monitor their consumption and set goals for the future. "As the saying goes, you can't manage what you don't measure".<sup>22</sup> All of the data collected through benchmarking by the city is made publically available. Atlanta does this not only to create transparency and inform decisions on how to improve buildings, but also creates an incentive for building owners to reduce their energy consumption, as that consumption becomes public knowledge.

Atlanta achieves these benchmarking standards by requiring that building owners report consumption data each year. Transparency is required by the city through annual submission of 12 months of energy bills to the municipality. Every ten years, each building owner is required to have an energy assessment done on the building. With all of this information, the building owner can decide whether or not to retro-commission their building to improve energy efficiency.<sup>23</sup> "The Mayor's Office of Sustainability anticipates that this particular policy will take Atlanta more than halfway to meeting the goals of Power to Change. It will also save Atlanta businesses over \$100 million in 2020, creating

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<sup>22</sup> "About." Atlanta Building Efficiency. March 13, 2018. Accessed May 08, 2018. <https://atlantabuildingefficiency.com/about/>.

<sup>23</sup> "Commercial Building Energy Efficiency Ordinance Fact Sheet." Seealliance. Accessed May 1, 2018. <http://www.seealliance.org/wp-content/uploads/Fact-Sheet.pdf>.

over 1,000 full-time jobs in that year”.<sup>24</sup> Atlanta recognizes that even though retro-commissioning a building is not required, building owners and managers will still take the necessary steps to improve energy efficiency as long as they see that there are potential savings to be realized. The only way that building owners and managers can truly understand these potential savings is through benchmarking.

Atlanta is a city that can serve as a great example for what New Orleans can accomplish through municipality efforts. Two of the most important factors in allowing for energy efficiency are benchmarking and transparency. Benchmarking allows individual building owners and managers to understand how much energy their building is consuming and how much money they can save through improvements. Transparency allows for a wider range of people to understand the topic, which creates a network of people ready to assist anyone who cannot do this on their own. Both create jobs and both create economic stimulation.

In a report produced by ACEEE an analysis of the building stock in New Orleans showed that by 2030 there will be enough cost-effective energy efficiency potential to meet about 27% of the state’s electricity needs.<sup>25</sup> Currently New Orleans has no public purpose funded energy efficiency programs, like that of Atlanta’s, that requires building owners to submit data to be benchmarked. As this is the first step in becoming a more sustainable city, New Orleans needs to create a mandate that fosters energy savings. In the same report produced by the ACEEE the following is stated: “Our analysis finds that energy efficiency

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<sup>24</sup> "About." Atlanta Building Efficiency. March 13, 2018. Accessed May 08, 2018. <https://atlantabuildingefficiency.com/about/>.

<sup>25</sup> Molina, Maggie. "Louisiana's 2030 Energy Efficiency Roadmap." American Council for an Energy Efficient Economy. May 2013. Accessed May 1, 2018. <http://aceee.org/sites/default/files/publications/researchreports/e13b.pdf>.

can play a critical role in Louisiana's energy future as a least-cost resource that benefits all customers and as an economic development tool. The state's current policies and programs, however, are not sufficient to take advantage of the full energy efficiency potential".<sup>26</sup>

Louisiana and New Orleans demonstrate a need for energy efficiency and could greatly benefit from the energy savings. In order to reach this goal there needs to be policy that fosters and requires efficiency standards, so that not only New Orleans' resources become more sustainable, but the city's growth does too. This can be done through two methods: a citywide ordinance or a city council regulation of Entergy.

A citywide ordinance could be implemented that requires building managers and owners to abide by building energy saving methods through building codes, much like Atlanta's ordinance. There would need to be a requirement to submit building consumption data so that transparency is fostered through benchmarking. An ordinance would essentially be an obligation included in the building codes that requires building owners or managers to submit monthly energy bills each year. When discussing the potential of creating this ordinance with Camille Pollan, the Energy Efficiency Program Manager for the Office of Resilience and Sustainability in New Orleans, and Jared Munster, the Director of the Safety and Permits Office in New Orleans, there was some confusion as to why the city would require building owners or managers to submit the data, when the utility, Entergy New Orleans, already has the data at the ready to be submitted. Munster felt that if Entergy were obligated to provide the same information that the building owners would need to through an ordinance, it would be a streamlined act that didn't over-complicate things for

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<sup>26</sup> Molina, Maggie. "Louisiana's 2030 Energy Efficiency Roadmap." American Council for an Energy Efficient Economy. May 2013. Accessed May 1, 2018.  
<http://aceee.org/sites/default/files/publications/researchreports/e13b.pdf>.

building owners and managers who are not accustomed to this type of data collection and submission.<sup>27</sup>

The other method in fostering energy sustainability in New Orleans would be to require Entergy to do all of the above tasks through a city council regulation. Entergy, the electricity provider for New Orleans, is a unique case in New Orleans as it is directly regulated by the city council. Entergy operates on a per kilowatt-hour used basis, meaning that the more energy we consume as customers of Entergy the more money they make. Entergy also makes money through its investments and receiving returns on them. If Entergy builds a new power plant in Nola East and also builds all the power lines and necessary hardware, Entergy makes more money by doing so. Since they are a monopoly in the area, to be allowed to do this they just have to justify the increased rates created by new structures, which is easily done when the argument is made that nothing can be accomplished without power, which they are providing.

If instead Entergy were forced to make investments that were sustainable in nature such as solar energy hardware, investments into upgrading our building stock, etc. then they could decouple their rates by being based on a monthly rate as opposed to being based on a per kilowatt hour used rate. However, Entergy has already been approved to build a new power plant in New Orleans east. “[In 2016], Entergy New Orleans customers suffered 2,599 outages, affecting homes and businesses alike. Entergy’s own data shows that 99 percent of those outages were a result of the distribution system – the aging, antiquated system of poled and wires in our neighborhoods. The new power plant proposed by the

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<sup>27</sup> This information was collected on a direct call with Camille Pollan, the Energy Efficiency Program Manager for the Office of Resilience and Sustainability in New Orleans, and Jared Munster, the Director of the Safety and Permits Office in New Orleans.

utility will not solve the outage problem”.<sup>28</sup> The author of this article is Alexandra Miller, the president of the Alliance for Affordable Energy, the only Louisiana based non-profit group working to protect consumer rights to ensure fair, affordable, and environmentally responsible energy policy for all Louisiana energy consumers.<sup>29</sup> According to the article, the city council was studying outages and energy-saving technologies to decide on a cost-effective package of investments, but Entergy was asking the council to decide on building the power plant before those studies were finished, which was ultimately approved on March 8, 2018. There were clear alternatives to the new gas power plant that were seemingly not considered by city council. “Analysis should have included digging deeper into one of the three options the city council had before it: upgrading the transmission lines that bring power into the city and distribute it to the local grid. The other two options were peaking power plants that could provide the city with local power generation during peak periods of usage or after a disaster”.<sup>30</sup>

Since the approval of the new plant, it has been reported that actors were hired in order to voice their approval of the new power plant. “Paid actors were reportedly hired to wear shirts and, at times, provide scripted public testimony at a public hearing in support of a \$210 million power plant”.<sup>31</sup> This is one major reason why New Orleans has remained

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<sup>28</sup> Miller, Alexandra. "Entergy's Proposed Gas Power Plant Is Not the Answer | Opinion." NOLA.com. October 11, 2017. Accessed May 08, 2018. [http://www.nola.com/opinions/index.ssf/2017/10/entergy\\_power\\_plant.html](http://www.nola.com/opinions/index.ssf/2017/10/entergy_power_plant.html).

<sup>29</sup> Alliance for Affordable Energy. About. <https://www.all4energy.org/our-work.html>

<sup>30</sup> Litten, Kevin. "Did New Orleans Have Enough Options When Deciding on Power Plant?" NOLA.com. March 14, 2018. Accessed May 08, 2018. [http://www.nola.com/politics/index.ssf/2018/03/entergy\\_power\\_plant\\_stacy\\_head.html](http://www.nola.com/politics/index.ssf/2018/03/entergy_power_plant_stacy_head.html).

<sup>31</sup> Sykes, Michael. "Entergy Reportedly Hired Actors to Support New Orleans Power Plant." Axios. May 07, 2018. Accessed May 08, 2018. <https://www.axios.com/paid-actors-entergy-power-plant-new-orleans-astroturfing-c2118870-eaf1-4b74-a6f8-da085994120f.html>.

at the bottom of the list in terms of city energy efficiency scores. The corruption and politics within the city council of New Orleans limit the city's capacity to explore all possible options for energy efficiency and inhibit their ability to intervene in the inappropriate behavior of the entity it's meant to regulate, Entergy.

There was clear potential for energy efficiency development in New Orleans. However, with the approval of the new Entergy power plant, the future is uncertain and no longer as optimistic. The new power plant is supposed to be creating enough power to end the various blackouts that New Orleans has grown accustomed to experiencing. The power plant will successfully do this by providing more energy to the city during peak capacity use hours, but at a cost. The plant "would add a projected \$5.84 per month to the average Entergy resident consumer who consumes 1,000 kilowatt-hours of electricity monthly".<sup>32</sup> However, as outlined earlier in this paper, there are already enough cost effective energy efficiency tactics that can be employed in the buildings across New Orleans to create enough power equal to that of the new power plant. There are effective and sustainable ways to store energy through the use of solar panels and other energy efficient technologies that could easily help to add energy during peak use hours in the city. Additionally, Entergy loses energy when it's electricity runs through the outdated hardware, such as power lines. If Entergy made upgrades to these systems then Entergy would be saving generated electricity that it could then use during peak hours. With both of these upgrades in place, Entergy would not have needed to build the new power plant,

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<sup>32</sup> Litten, Kevin. "Did New Orleans Have Enough Options When Deciding on Power Plant?" NOLA.com. March 14, 2018. Accessed May 08, 2018. [http://www.nola.com/politics/index.ssf/2018/03/entergy\\_power\\_plant\\_stacy\\_head.html](http://www.nola.com/politics/index.ssf/2018/03/entergy_power_plant_stacy_head.html).

saving the residents of New Orleans money both by eliminating the added cost of energy bills due to the new power plant and by creating cheaper energy by means of solar storage and sustainable cost effective power grid upgrades.

Some critical steps in fostering citywide energy efficiency have been outline in this paper. There needs to be transparency of data collection through benchmarking so that building owners understand the consumption of their buildings. This would also inform citizens who could demand change, and city officials who could monitor energy consumption, set goals, and create policy. The network of people supporting these standards will grow as soon as more people understand the benefits of energy efficiency.

However, these steps will not mean anything if the city of New Orleans can not rely on it's city council to make informed decisions. There were clearly alternatives to the new power plant being built that were either ignored or purposefully timed out of the decision. The first step New Orleans needs to take, especially as it relates to energy efficiency standards but can be applied to all decision-making, is accountability. If the residents and consumers of this city cannot rely on the very people they voted into office to make the right moves in the right direction, then there will be no New Orleans to grow and protect.

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