

# Stopping Climate Change in New Jersey

## 100 percent renewable energy by 2035

Rising global temperatures risk irreversible worldwide ecological and climatic changes, with widespread impacts on human health and natural systems. The threats include more violent storms, droughts, floods, acidifying and rapidly warming oceans, and altered growing seasons.<sup>1</sup> Climate change has already strengthened storms like Superstorm Sandy that devastated New Jersey and the rest of the Northeast Atlantic seaboard.<sup>2</sup> We must rapidly transition away from dirty fossil fuels like coal, oil and natural gas to clean, renewable energy as soon as possible to prevent the worst effects of a warming planet.<sup>3</sup> New Jersey must — and can — shift to 100 percent renewable energy by 2035.

### The Urgent Need to Act Now on Climate

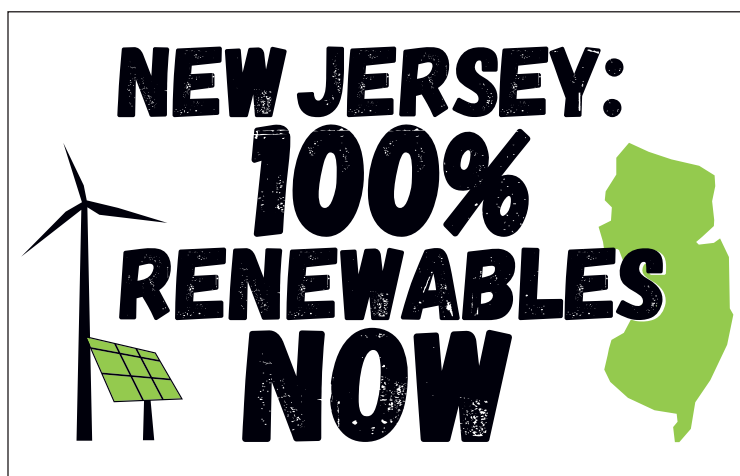
The warming of the planet is already causing significant damage that is expected to get worse. U.S. temperatures have increased dramatically over the past century, and this warming has only accelerated over the past few decades.<sup>4</sup> Since 1970, average New Jersey temperatures have increased by about 0.56 degrees Fahrenheit (0.31 degrees Celsius) per decade.<sup>5</sup> New Jersey's coastal sea levels have risen approximately one inch every six years and are predicted to be over two feet higher by 2050 due to climate change.<sup>6</sup> Since 1970,

the state has experienced more-frequent extreme weather events, with more-intense precipitation and more droughts during warmer months.<sup>7</sup>

Climate change has likely exacerbated the impacts of severe weather events like Sandy.<sup>8</sup> In New Jersey, Superstorm Sandy destroyed nearly 350,000 homes, caused \$11.7 billion in economic losses and killed 12 people.<sup>9</sup> Researchers estimate that Atlantic City is one of the 25 most susceptible U.S. cities to coastal flooding, with 37,000 people living in at-risk areas.<sup>10</sup> Populations such as lower-income people and people of color, who tend to live in coastal communities and areas most vulnerable to flooding, will be disproportionately affected.<sup>11</sup>

Climate change impacts will be expensive. Rising sea levels and more storms will likely raise flood and homeowner insurance rates.<sup>12</sup> Hurricanes like Sandy, already one of the most expensive in U.S. history, are expected to cost New Jersey up to \$4 billion in additional damages per year by 2100 as a result of sea-level rise alone.<sup>13</sup>

Pollution, extreme heat days and disease transmission — and the associated public health risks — are expected to worsen as the planet warms.<sup>14</sup> Vulnerable New Jersey



populations, such as people of color, the elderly and children, will be the most impacted.<sup>15</sup> Increasing temperatures raise the risk of heat-related death for the elderly and lower-income households.<sup>16</sup> Other threats include increased concentrations of ground-level ozone, a respiratory toxicant, and higher risk of insect-borne diseases like Lyme disease and West Nile virus.<sup>17</sup>

## **New Jersey's Electricity Mix Needs to Rapidly Shift to Clean, Renewable Energy**

Currently, much of New Jersey's power comes from greenhouse gas-emitting fossil fuels. In 2016, natural gas-fired power plants delivered 56 percent of the state's electricity.<sup>18</sup> Less than 3 percent of New Jersey's electricity came from clean renewables like wind, solar, tidal or geothermal energy.<sup>19</sup>

New Jersey's reliance on dirty fuel has caused the state to become a hub for natural gas pipelines, with around 1,500 miles of gas transportation pipelines in the state.<sup>20</sup> Despite the public outcry over the pipeline-building spree,<sup>21</sup> New Jersey has approved an additional \$180 million for a natural gas pipeline that would cut through the environmentally sensitive Pinelands.<sup>22</sup> The state's natural gas pipelines largely transport fracked natural gas from the Marcellus Shale region — increasing emissions of the potent greenhouse gas methane and delaying the shift to renewable energy.<sup>23</sup>

## **New Jersey Must and Can Shift to Clean Renewables**

New Jersey's continued reliance on fossil fuels — and promotion of natural gas pipelines — only perpetuates a dirty energy future that threatens our climate. The New Jersey Off Fossil Fuels Act (NJ OFF Act, S1405/A1823) is the strongest climate bill in history and charts a path for New Jersey to achieve 100 percent renewable energy by 2035.

The bill calls for a complete and rapid overhaul of the current energy system — a daunting task, but we can and we must do it. As President John F. Kennedy said about the Apollo mission to put a man on the moon, we do it “because that challenge is one that we are willing to accept, one that we are unwilling to postpone, and one which we intend to win.”



The NJ OFF Act is our best chance at tackling climate change, and the most necessary. It promotes a clean energy system based on wind, solar and other sources of genuinely renewable energy; on energy storage and on continued improvements in energy efficiency. We have no time to lose.

## **New Jersey's Untapped Reservoir of Clean Energy**

New Jersey has made considerable progress transitioning to clean and efficient energy as one of the leading U.S. states in renewable power, but much more must be done.<sup>24</sup> In 2016, New Jersey ranked fifth in the nation for solar, with a capacity of 2,234 megawatts, enough to power nearly 350,000 homes and providing over 6,000 jobs.<sup>25</sup> From 2014 to 2016, New Jersey's solar capacity increased by 41 percent to become the state's leading source of renewable energy, providing over 74 percent of the renewable electricity generation in 2016.<sup>26</sup>

This robust growth is only expected to continue as New Jersey realizes its immense solar capacity potential. New Jersey's rooftop solar alone can increase by 20 times from 2013 levels, which could meet over a third of the state's annual electricity consumption.<sup>27</sup> The Solar Energy Industries Association estimates that another 1,198 megawatts will be added over the next five years, nearly doubling the current capacity and powering about 200,000 homes.<sup>28</sup>

Unlike solar, New Jersey wind energy barely increased at all over the past few years; with only 9 megawatts of installed wind power, the state ranks 38th in the nation, a

lag due largely to political inertia.<sup>29</sup> As a result, New Jersey has significant amounts of onshore and offshore wind energy potential that are yet to be captured.<sup>30</sup>

While New Jersey was the first state to establish a specific mandate for offshore wind in 2010 (with a requirement of at least 1,100 megawatts) and Governor Phil Murphy signed an executive order in January 2018 that pushed for 3,500 megawatts of offshore wind by 2030, there is no offshore wind to date.<sup>31</sup> Two companies, US Wind and DONG Energy, currently hold leases for offshore wind that has not been developed; together, these projects could add 4,150 megawatts of wind power.<sup>32</sup>

Emerging and improving battery storage technology is already being deployed to integrate these renewable power resources into a reliable and resilient electricity system.<sup>33</sup>

Some estimates suggest that current and emerging renewable technologies could provide a significant share of New Jersey's electricity requirements.<sup>34</sup> Renewables are already being deployed at unprecedented rates, exceeding expectations many times over.<sup>35</sup> A more rapid shift to genuine renewables under the NJ OFF Act would supercharge this shift.

## Benefits of Clean and Efficient Power

These changes will protect the planet and strengthen the economy. Increased solar and wind energy substantially reduce greenhouse gas emissions, lower overall energy

costs and improve electric power grid reliability.<sup>36</sup> A transition to clean energy could also mean a better New Jersey economy, with the creation of thousands of new jobs. Solar energy jobs have more than doubled in New Jersey between 2011 and 2016.<sup>37</sup> New Jersey's Atlantic seashore is suitable for large-scale offshore wind installations that could significantly boost wind jobs and the local economy.<sup>38</sup>

Energy efficiency is another key component to reducing consumption and dependence on dirty fuels and is an incredibly cost-effective way to reduce greenhouse gas emissions and toxic pollutants.<sup>39</sup> New Jersey ranks in the middle of the pack for energy savings potential, but even the current energy efficiency sector employs more than 31,000 workers.<sup>40</sup> Cost-effective improvements in energy efficiency can result in 26 percent in energy savings for New Jersey families, as well as a \$1.5 billion annual reduction in utility bills.<sup>41</sup>

## Take Action

The NJ OFF Act charts the strongest path to tackle climate change by pushing for a 100 percent clean energy economy. New Jersey has the potential to achieve this transition and reap the substantial economic benefits. Tell your members of the New Jersey legislature to support the NJ OFF Act today: [fwwat.ch/NJ100by2035](http://fwwat.ch/NJ100by2035)

## Endnotes

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