

# REVERSING INEQUALITY, COMBATting CLIMATE CHANGE

## A CLIMATE JOBS PROGRAM FOR NEW YORK STATE

PRELIMINARY RECOMMENDATIONS

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**THE WORKER INSTITUTE**  
ADVANCING WORKER RIGHTS AND COLLECTIVE REPRESENTATION



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**New York State can and should act now to protect New Yorkers from the worst impacts of climate change while also addressing growing economic inequality. An ambitious and audacious Climate Jobs agenda creates good, high-road jobs for communities across the state and drastically reduces greenhouse gas pollution. By adopting a Climate Jobs agenda, New York will lead the country and chart the way to a low-carbon, equitable economy.**

Inequality in New York State is rising and currently holds the second highest level of economic inequality in the country.<sup>1</sup> Unequal job and wage growth across the state and across sectors is one of the main contributors to rising inequality. While the state overall has seen several years of employment growth, the growth is not spread equally within its borders and several regions continue to suffer from job losses and stagnant employment levels.<sup>2</sup> Additionally, in many sectors, such as construction and manufacturing, wages are not increasing at the same pace as inflation, leaving many workers with paychecks that cover fewer and fewer needs.<sup>3</sup>

At the same time, New York has only made marginal reductions to its greenhouse gas emissions while the impacts of the climate crisis have become ever more apparent. To stop catastrophic climate change, New York's emissions must be a fraction of current levels by 2050.<sup>4</sup> To reach this target will require a dramatic departure from the current course and the implementation of breakthrough strategies that significantly reduce greenhouse gas pollution while creating tens of thousands of good, family-sustaining jobs.

New York State can take the lead in adopting a bold and ambitious Climate Jobs plan that addresses the crises of inequality and climate change head on. Indeed, New York has altered the course of history by taking the lead to address major challenges in the past – for example, the New Deal was successfully implemented in NYS prior to being adopted nationally. To address the crises of climate change and inequality requires a bold approach and solutions that can be quickly, efficiently and effectively sequenced and scaled up.

The recommendations presented below embrace that approach and their adoption will create good, high-road jobs that provide family sustaining wages and benefits for communities across the state. They can also result in meaningful and measurable emissions reductions and put New York firmly on the path to a clean energy economy that works for all New Yorkers. Transitioning New York State's economy requires substantial investments but these investments will pay for themselves in a matter of years by cost savings from energy efficiency, public transportation, improved public health, and job creation through investment in clean energy expansion.<sup>5</sup> Moreover, the hard truth is we cannot afford inaction. The threat of climate change is too great to our economy and to future generations. Adopting an ambitious climate jobs plan strengthens our economy and helps stave off the worst impacts of climate change.

## NEW YORK STATE “JUST TRANSITION” TASK FORCE RECOMMENDATION

In building a strong, fair economy based on clean energy, New York State should give special attention to workers and communities negatively impacted by the transition away from high-carbon industries and sectors. Thousands of workers are currently employed in these sectors, in high-paying jobs that support their families and communities.

A Climate Jobs program for New York State that includes the establishment of a “Just Transition” Task Force could ensure a fair and equitable transition to a new, clean energy economy. Support for impacted workers and communities can include wage and health benefit replacements, “bridge to retirement” funding for workers near retirement age, and re-training and education support for workers who would like to shift to other sectors. This Task Force can also examine the job and training quality standards that are necessary to ensure jobs in the new, low-carbon economy are good, high-road jobs that help address growing inequality, rather than exacerbate it. These include prevailing wage, state-approved apprenticeship job training standards, project labor agreements, best value contracting, and targeted local hire programs.

# NEW YORK STATE CLIMATE JOBS RECOMMENDATIONS



# RECOMMENDATIONS

# BUILDING SECTOR

## RETROFIT ALL PUBLIC SCHOOLS ACROSS THE STATE TO REACH 100 PERCENT OF THEIR ENERGY EFFICIENCY POTENTIAL BY 2025

Retrofitting schools is an easy way to reduce energy use and create good, family-sustaining jobs. Schools are often hubs within communities and making them as energy efficient as possible is good for students, families, and communities. Retrofitting in public schools can reduce energy use by 500-1,200 GWh, removing 1.4 million metric tons of CO<sub>2</sub> and creating between 12,800-18,400 jobs.

## REDUCE ENERGY USE IN ALL PUBLIC BUILDINGS BY 40 PERCENT BY 2025

Currently, the Build Smart NY program requires public buildings to reduce their energy use by 20 percent below 2011 levels by 2020.<sup>6</sup> The cost of the retrofits will depend on building type and can be based off the state's comprehensive energy audit.<sup>7</sup> Ultimately, the retrofits will be a cost savings measure as they will decrease the state's electricity costs. The state spends \$500 million annually on electricity costs.<sup>8</sup> A 40 percent reduction would save the state \$200 million annually. State-owned buildings consume 3,000 GWh per year, which should be reduced by 1,200 GWh by 2020.<sup>9</sup>

In one fiscal year, the state reduced its energy use intensity by 4.7 percent, which saved \$50-\$60 million of public funds and cut 130-180 thousand tons of greenhouse gas emissions.<sup>10</sup> By accelerating the rate of energy reduction, the state can easily reduce overall energy use in public buildings by 40 percent below 2011 levels by 2020 and save hundreds of millions of dollars, create more than 12,000 jobs, and reduce the level of greenhouse gas emissions by over 16 million tons.<sup>11</sup>

## STREAMLINE AND EXPAND ACCESS TO RESIDENTIAL RETROFIT PROGRAMS

Retrofitting just half of New York City's small homes would save homeowners \$255 million annually and create 1,500 jobs.<sup>12</sup> However, the complexity of residential retrofits prevents widescale adoption of retrofit programs and measures. Programs like Pratt Center's Retrofit Standardization Initiative bundle efficiency work and provide a simple package of five energy efficiency measures that can be implemented in hundreds of thousands of similar small homes. Such packages minimize cost, time, and complications achieving the scale of emissions reductions necessary to address the climate crisis.<sup>13</sup>

For New York City, the starter retrofit packages were estimated to cost on average \$3,312, which would result in a 14 percent annual utility savings.<sup>14</sup> A similar package should be adopted for homes in Upstate New York to achieve statewide residential retrofits. The housing stock in Upstate New York is different from that of New York City so cost estimates will have to be adjusted accordingly.

# RECOMMENDATIONS

# TRANSPORTATION SECTOR

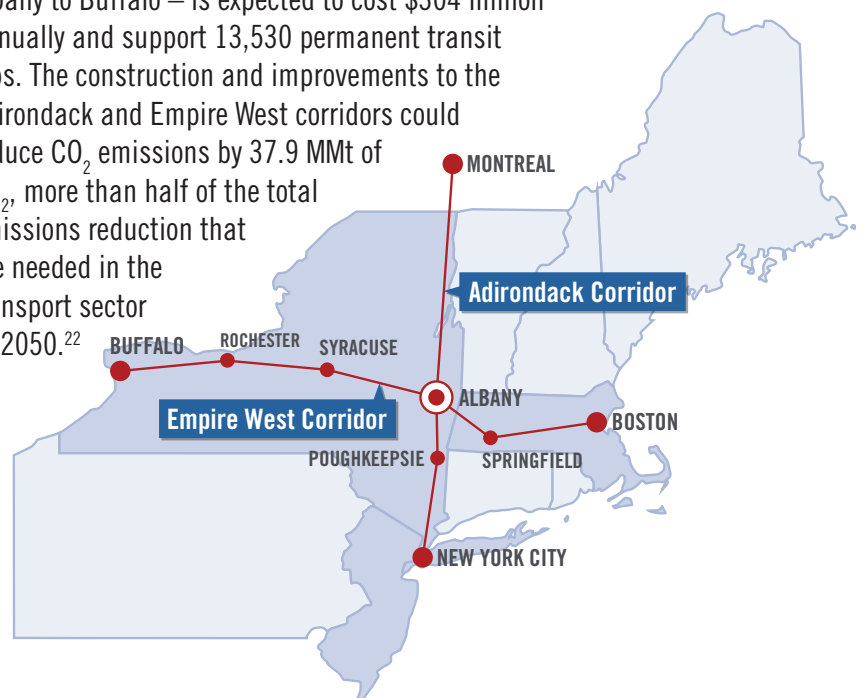
## BRING NYC PUBLIC TRANSIT TO A STATE OF GOOD REPAIR AND EXPAND SERVICE

Maintaining and updating America’s largest transit system reduces automobile use and global warming pollution while providing 15 million people in the New York metropolitan area with quick, safe, and efficient access to jobs, schools, hospitals and other basic needs.<sup>15</sup> The city and state need to make a \$20 billion investment to bring the system to a “state of good repair” and keep it safe and reliable.<sup>16</sup> Investment in the operations of public transit creates 41,000 jobs per billion dollars spent annually, making a major investment in our public transit system an excellent way to tackle the climate crisis and create many high-quality jobs.<sup>17</sup>

The MTA also needs to quickly expand public transit service to accommodate growing ridership and overcome current constraints in the system.<sup>18</sup> These expansions include additional track capacity, signal upgrades, and greater flexibility and integration of various modes of transit.<sup>19</sup>

## CONSTRUCT AND IMPROVE ADIRONDACK AND EMPIRE HIGH-SPEED PASSENGER RAIL CORRIDOR BETWEEN ALBANY AND BUFFALO, AND BETWEEN ALBANY AND MONTREAL

Construct 247-mile dedicated passenger rail corridor between Albany and Buffalo and improve the section from NYC through Albany to Montreal.<sup>20</sup> With these improvements and expansions, the Adirondack and Empire corridors’ annual ridership is projected to increase from 1.4 million to 4.3 million people.<sup>21</sup> This work would cost approximately \$14.71 billion and create nearly 336,000 jobs during the ten-year construction phase. Operation and maintenance of the Empire West Corridor – from Albany to Buffalo – is expected to cost \$304 million annually and support 13,530 permanent transit jobs. The construction and improvements to the Adirondack and Empire West corridors could reduce CO<sub>2</sub> emissions by 37.9 MMt of CO<sub>2</sub>, more than half of the total emissions reduction that are needed in the transport sector by 2050.<sup>22</sup>



## **ESTABLISH A BUS RAPID TRANSIT PROGRAM IN NEW YORK STATE**

Bus Rapid Transit (BRT), also known as a “surface subway,” provides faster and more efficient service than an ordinary bus but costs far less than building a passenger railway. Establishing and expanding BRT routes throughout NYS is an effective way to shift people from cars to mass transit and reduce NYS’s growing transport emissions. One person shifting a 20-mile automobile roundtrip commute to existing public transportation reduces their annual CO<sub>2</sub> emissions by 4,800 pounds per year, or 10% a year for a typical two-adult, two-car household.<sup>23</sup>

### **UPSTATE NEW YORK: CONDUCT A FEASIBILITY STUDY OF UPSTATE BRT ROUTES**

A feasibility study of BRT routes upstate should prioritize routes linking low- and middle-income neighborhoods that are currently underserved by transportation options to job opportunities. BRT can also help rejuvenate local economies and encourage high-density development near bus routes, which also helps to reduce energy consumption and emissions.<sup>24</sup>

### **NEW YORK CITY: ADD TWO NEW BUS RAPID TRANSIT ROUTES IN NYC— BUSH TERMINAL TO JFK AND EAST BRONX TO EAST HARLEM**

By building, maintaining and operating BRT service from Bush Terminal to JFK airport and the East Bronx to East Harlem, New York City could create approximately 400 permanent transit jobs and connect workers along the routes with access to an estimated 40,000 jobs.<sup>25</sup> In total, these two BRT routes would create 400 new, permanent jobs and reduce CO<sub>2</sub> emissions by 106,166 tons per year, at a cost of \$120 million to construct the routes and \$15 million to operate them annually.<sup>26</sup>

# RECOMMENDATIONS

# ENERGY SECTOR

## **INSTALL 3 GW OF SOLAR ENERGY ON 100 MILLION SQUARE FEET OF PUBLIC SCHOOL ROOFTOPS THROUGH THE NEW YORK POWER AUTHORITY BY 2025**

The New York Power Authority (NYPA) is undertaking solar production but to date, NYPA has installed only 4.1 MW of solar.<sup>27</sup> Significantly expanding programs like the K-Solar program, which creates a purchasing pool and uses the large scale of work to increase cost efficiency, would save school districts money and reduce greenhouse gas emissions.<sup>28</sup>

NYPA estimates the solar production potential from solar installations on the top of schools alone could exceed 3 GW, nearly 20 times the current solar production in the state.<sup>29</sup> These school rooftop installations will produce enough energy to meet a quarter of NYS's energy needs. Assuming 14 jobs are created for every \$1 million spent on solar energy installation, at least 72,100 jobs would be created, with the potential for over 200,000 additional in ten years.<sup>30</sup>

## **INSTALL AN ADDITIONAL 1GW OF SOLAR PROJECTS THROUGH THE NEW YORK POWER AUTHORITY, THE PUBLICLY-OWNED POWER UTILITY**

To catch up with California's total installed solar generation, NYPA would need to install an extra 1 GW of solar energy in addition to the solar energy generated on top of public schools within ten years for a total of 4.1 GW, which is roughly one quarter of all electricity demand in the state.<sup>31</sup> In addition to building on-site solar installations, New York State will need utility-scale solar arrays to meet its energy needs. NYPA can install large solar arrays throughout the state. The cost of utility-scale solar installations has fallen by 50 percent in the U.S.<sup>32</sup> An estimated 24,000-67,000 jobs could be created by installing an additional 1 GW of solar projects, at a cost of \$1.7 to \$4.7 billion.<sup>33</sup>

## **INSTALL 7.5 GW OF OFF-SHORE WIND BY 2050 THROUGH THE NEW YORK POWER AUTHORITY**

The Atlantic Ocean off the coast of New York State has the potential to support up to 38 GW of clean, wind-driven energy.<sup>34</sup> The Long Island offshore wind project could generate 700 MW at a cost of \$821 million, preventing 1.08 million tons of CO<sub>2</sub> from being released annually.<sup>35</sup> The 700 MW project is estimated to create 17,000 job-years and \$1 billion in wages.<sup>36</sup> A ten-fold increase in offshore wind generated would result in 7 GW of electricity, nearly half of New York State's annual electricity demand and result in the creation of 170,000 job-years and \$10 billion in wages.<sup>37</sup>

With the addition of the 25 percent of solar generated from NYPA, the existing 20 percent of renewable energy currently being generated, and 7.5 GW of off-shore wind, New York State would be almost completely powered by renewable energy by 2050.



## ENDNOTES

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## ABOUT THIS REPORT

In Fall 2015, The Worker Institute at Cornell convened the **Labor Leading on Climate** research, education and policy initiative. This New York State-based initiative brings together unions, workers' organizations and policy experts to develop job creation and economic development strategies to drastically reduce greenhouse gas pollution and confront the climate crisis. These recommendations draw on the best available data on job creation and greenhouse gas reduction metrics and the research supporting the data is cited throughout the report. The final recommendations and report from this initiative is to be released in spring 2016. For more information about this initiative, please contact Lara Skinner at [Irs95@cornell.edu](mailto:Irs95@cornell.edu).

This initiative is possible because of the support of the State of New York. The opinions, findings and/or interpretations of data contained herein are the responsibility of the authors and do not necessarily represent the opinions, interpretations or policy of the State of New York or of the ILR School, Cornell University.

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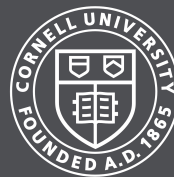
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The Worker Institute at Cornell, an institute of the ILR School, engages in research and education on contemporary labor issues, to generate innovative thinking and solutions to problems related to work, economy and society. The institute brings together researchers, educators and students with practitioners in labor, business and policymaking to confront growing economic and social inequalities, in the interests of working people and their families. A core value of The Worker Institute is that worker rights and collective representation are vital to a fair economy, robust democracy and just society.



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for a Sustainable Future**



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