



**This Action Plan** is a list of steps that the City of Philadelphia could take to achieve the goal of using only 100% clean renewable energy, city-wide, by the year 2050 in an equitable and inclusive way. This is the vision of the Sierra Club's Ready For 100 Philadelphia team. This document has been updated since its original drafting in January 2018 and a lot will change from now until 2050. These steps represent our best thoughts at this time.

This Action Plan builds upon and assumes the passage of a 100% Renewable Energy City Council resolution(s) and the Powering Our Future document drafted by the Philadelphia Office of Sustainability.

Questions/comments regarding this Action Plan should be directed to the Philadelphia Ready for 100 team at [pratima.agrawal0224@gmail.com](mailto:pratima.agrawal0224@gmail.com). More information regarding the campaign can be found at [www.readyfor100.org/philly](http://www.readyfor100.org/philly).

## EQUITABLE STRATEGY

Given that the City of Philadelphia understands climate injustice as the effects of climate change first impacting communities with existing inequities, including communities of color; impoverished communities; immigrant communities; women; children; the elderly; communities residing near fossil fuel infrastructure, and communities that reside in low-lying areas, such as South Philadelphia, Eastwick, and the river wards along the Delaware River; and the City of Philadelphia recognizes that climate change will affect all communities, but that these particular communities will each experience climate injustice in unique, intersecting ways; and the City of Philadelphia understands its role in a clean energy transition process is to recognize and prioritize the addressing of existing inequities in Philadelphia, **we recommend the following policy initiatives:**

- The City of Philadelphia shall create structured mechanisms to include low-income citizens in the benefits to be derived from the energy transition, including creating quality careers in weatherization, energy efficiency, and solar power, adhering to local source hiring, a just transition for workers displaced by fossil fuel reduction, equitable access through ownership and benefits to new opportunity for historically marginalized communities, and affordable clean energy options.
- All newly built public and publicly subsidized low-income housing shall only use clean renewable energy sources by 2030.

- The City Council shall create a diverse and representative advisory committee<sup>1</sup> to serve as an accessible intermediary between the above-mentioned communities first impacted by climate change and City Council. The advisory committee shall work to ensure that all members of the communities have an opportunity to participate in the planning and transition process. This process shall be transparent and open, with frequent and timely opportunities for public comment, review of draft materials, and collaboration. The advisory committee shall emphasize engagement with community organizations, such as Community Development Corporations, Neighborhood Advisory Committees, and nonprofits that serve vulnerable communities.
- The City Council shall mandate that the resources to train and hire people in any renewable energy jobs<sup>2</sup> in Philadelphia during the transition prioritize those from the aforementioned communities, and by 2020 set robust and measurable goals and metrics to track progress. This includes existing municipal and private programs that provide high-school and adult job training (ie - *The Philadelphia Energy Campaign*, *Solarize Philly*), the city's *Rebuild* program, green union work, and veteran/housing insecure/formerly incarcerated re-entry job training (*RWA Philadelphia* and the Re-Entry Office of the Mayor).
- The City Council shall create a “minimum livability code,” (the “Code”) prioritizing increase in the resilience of communities most vulnerable to the impacts of climate change by creating climate-ready infrastructure in those communities, as well as instituting requirements for property resilience, efficiency, and weatherization. The Code shall also include, but is not limited to, climate-related emergency planning, flood prevention infrastructure, requiring weather-resilient building materials in municipal and new city development contracts, white roofs, green roofs, increased tree cover, increased green spaces, more protected bike lanes, solar canopies, and disincentivizing fossil fuel auto transportation.
- The City of Philadelphia shall develop a program to provide incentives for landlords to weatherize/create efficiency for their low-income properties.
- The City Council shall advocate to the Public Utility Commission for renewable energy to be the default supplier choice for PECO Customer Assistance Program (CAP) participants at rates comparable to fossil fuel market rates or provide a subsidy to mitigate the higher cost.

---

<sup>1</sup> We recommend that the advisory committee include at least one person with an urban planning background with a commitment to the city's most vulnerable communities. We also recommend including at least one person with a background in climate change resiliency. We suggest first seeking municipal employees who may be appropriate committee members before hiring externally.

<sup>2</sup> Reference *Black Work Matters: Green Jobs Report*, p. 18 (July 2017, by POWER) - <https://powerinterfaith.org/wp-content/uploads/2017/07/Green-Jobs-Report-2.pdf>

- The City shall prioritize community-based development of renewable energy infrastructure and will make investments in community facing organizations to build capacity to lead such development.
- The City shall prioritize minority-owned, women-owned, and emerging small businesses and pursue additional policies and partnerships for workforce equity to include low-income residents in the economic, social, and environmental benefits to be derived from the clean energy transition.

## MUNICIPAL

Given that the Philadelphia Office Of Sustainability issued a [Municipal Energy Master Plan](#) in September of 2017 which set energy transition goals and specific actions to start the city on a path to achieving those goals; and municipal facilities have saved approximately \$2 million over the last 2 years on energy related expenses; and the City must set an example for the rest of the community and other cities by pioneering clean energy projects that illustrate the feasibility of a transition to 100% clean energy and can establish best practices that the community can build on; and Mayor Kenney and the City of Philadelphia became the 100th city to sign the Sierra Club's Mayors for Clean Energy pledge on June 21, 2017, **we recommend the following policy initiatives:**

- Municipally owned or managed facilities, to include the airport and water department, shall reduce their energy use in the built environment by 20% by 2030, and generate or purchase electricity from 100% renewable sources by 2030.
- The City shall prioritize direct investments of renewable resources over the purchase of RECs, any RECs purchased must be from projects built during or after 2018 and within the PJM market, and the City shall reduce its reliance on RECs during the transition to 100 percent renewable resources over time.

## UTILITIES

Given that it is imperative that energy consumers and the utilities serving them take early action to reduce carbon emissions given the accelerating rate of climate change the planet is experiencing; and the construction of new fossil fuel infrastructure or expanded reliance on fossil fuels in utility resource portfolios adversely impacts a renewable energy powered future and creates financial risk to citizens through potential stranded assets; and any Philadelphia resident or business paying an electricity bill through PECO can today choose an electricity supplier with 100 percent renewable electricity through the Pennsylvania Public Utility Commission's PAPowerSwitch.com website; and PECO SmartIdeas and PGW EnergySense programs have

resulted in \$186,000,000 in Philadelphia energy savings since 2009; and the Philadelphia Energy Authority has initiated successful programs to organize solar rooftop collective purchasing (Solarize Philly) and energy conservation by the Energy Coordinating Agency; and the above programs are limited by the current rules of the PUC, such as [TBD specifics]; and renewable energy paired with energy storage is an important strategy to build resilience into our communities, and will assist with disaster recovery; and Philadelphia's efforts to commit to this clean energy transition should translate the spirit of the Resolution into meaningful signals to business, governments and citizens; and collaboration between the utilities, particularly PECO and Philadelphia Gas Works (PGW), and Philadelphia should be a natural result of mutual goals to optimize the benefits and value of a clean-energy powered electrical network, **we recommend the following policy initiatives:**

- The City of Philadelphia shall call on PECO to work with city leaders to achieve the goal of a 100% renewable electricity grid by 2030.
- The City of Philadelphia shall place an immediate moratorium on construction of new fossil fuel powered plants; and also require all existing plants to have carbon capture and storage technology by 2030 (during their phase-out).
- The City of Philadelphia urges utility companies to maximize energy efficiency, demand control technologies, energy storage, and renewable energy and avoid any new commitments to ownership of or long-term contracts for electricity derived from fossil-fuel power plants.
- City of Philadelphia leaders shall work with PGW towards establishing a new business chart of retiring existing gas infrastructure and building a stable clean energy infrastructure by 2050, and consider including large building energy storage, managing large city-sited solar projects (airport), and managing major energy efficiency projects.
- The City of Philadelphia calls on the Pennsylvania Public Utility Commission (PUC) to expand rules that will enable and not prohibit municipalities from achieving their goals of renewable energy transition.
- The City of Philadelphia calls on the PUC to increase future funding for the Act 129 program that enables utilities to run programs like SmartIdeas to help residents and businesses reduce their electricity demand and expand to include stakeholders not currently included in Act 129.
- 1) In construction begun after 2020, all appliances must be powered by electricity or other sustainable energy system. Heating and cooling systems must be powered by non-fossil fuel systems in all new construction.  
2) After 2020, upgrades in residential and commercial HVAC and appliances shall be electric or powered by other sustainable energy source.

Purpose: to begin to ween off gas from PGW

## EFFICIENCY

Given that energy efficiency is the most cost effective source of “new” energy; and buildings are the greatest source of greenhouse gas emissions in Philadelphia; and the City of Philadelphia recognizes the social and environmental benefits of energy efficiency improvements for low income households through The Division of Housing and Community Development’s Weatherization Assistance Program; and any energy demand that we eliminate through energy efficiency measures represents new renewable energy that we do not have to develop in the future. Energy efficiency measures include: weatherization, more efficient home heating and cooling systems, cogeneration, district heating and cooling, decentralized electricity generation and smart grids/microgrids, the use of industrial waste heat, building controls, automated lighting, solar-powered hot water heaters and programs that create an energy saving culture in the City of Philadelphia; and the City of Philadelphia is expected to adopt the 2018 International Code Council (ICC) building codes for commercial construction, **we recommend the following policy initiatives:**

- Energy efficiency shall be used to reach a goal of 50% reduction in energy usage of existing buildings citywide by 2050 (compared to 2006).
- Priority shall be given to energy efficiency measures including weatherization, cogeneration, district heating and cooling, decentralized electricity generation and smart grids/microgrids, the use of industrial waste heat, building controls, automated lighting, solar-powered hot water heaters and programs that create an energy saving culture in the City of Philadelphia.
- The City of Philadelphia shall continue to adopt updated ICC building codes.

## TRANSPORTATION

Given that the goal of equitable and affordable transportation promotes as much walking, cycling, public transportation and car sharing within the City of Philadelphia as possible; and transportation is a major source of pollutants and the second-largest source of carbon emissions in Philadelphia; and cars and trucks emit about 20% of all US emissions of carbon dioxide, and 19% in Philadelphia; for every gallon of fuel burned, cars emit 24 pounds of CO<sub>2</sub> and other global-warming gases; and 16% of all energy used in the US is used by cars and light trucks;<sup>3</sup> and fewer households own cars in neighborhoods with good access to public transportation;<sup>4</sup> and

---

<sup>3</sup> Source=[https://www.eia.gov/energyexplained/?page=us\\_energy\\_transportation#tab2](https://www.eia.gov/energyexplained/?page=us_energy_transportation#tab2)

<sup>4</sup> Source=<http://planphilly.com/articles/2015/04/15/infographics-who-drives-in-philadelphia-and-who-doesn-t>

programs have already been started for sharing of cars and bicycles in Philadelphia<sup>5</sup>; and the City of Philadelphia, through its “Complete Streets” program, is improving access, comfort and safety for all modes of transportation; and the Bicycle Coalition is a resource for the city to consult with on creating bike lanes; and institutions such as the School District of Philadelphia, Drexel University, Independence Blue Cross and the City of Philadelphia have endorsed the 2030 District program, **we recommend the following policy initiatives:**

- The City of Philadelphia shall transition their vehicles to zero carbon emission by 2035.
- SEPTA shall transition to a fleet of zero carbon emission vehicles by 2035, with first priority given to routes where the greatest air pollution levels exist within the City of Philadelphia in order to reduce emissions in areas with high asthma rates and health vulnerabilities.
- City Council shall create incentives for all motor vehicles (ie - city, commercial, and personal) operating in the City of Philadelphia to have zero carbon emissions by 2050.
- The city shall post signage about the vehicle anti-idling law throughout Philadelphia and encourage reporting of gas and diesel vehicle idling.
- All commercial and residential parking lots shall be required to provide parking spaces with Electric Vehicle (EV) charging docks. A portion of these spaces shall be dedicated to shared vehicles and some to private vehicles.
- A portion of on-street parking spaces shall have EV charging facilities.
- Solar canopies shall be installed on large municipal-run parking lots in areas that receive adequate sunlight.
- By 2050 all streets currently supporting 2 lanes for traffic shall have one protected lane for bicycles.

## LABOR

Given that the expansion of renewable energy nationally is creating a thriving market with the solar industry alone employing more than 200,000 people, showing job growth 12 times greater than in the general economy,<sup>6</sup>; and renewable energy projects create more jobs than fossil fuel projects--operations and maintenance of on-shore wind turbines create 12 jobs per \$1 million in revenue and solar photovoltaics create 14 jobs, compared to 5 jobs created in natural gas plants

---

<sup>5</sup> Source= Powering Our Future <https://beta.phila.gov/media/20171114102042/Powering-Our-Future.pdf> , pg. 5

<sup>6</sup> <https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/RF100-Case-Studies-Cities-Report.pdf>

and 9 jobs in coal-fired power plants<sup>7</sup>; and 80% of Pennsylvania's clean energy jobs are in energy efficiency, most of which cannot be outsourced; and Pennsylvania Governor Wolf signed into law HB 118, legislation that will further solar job expansion in the state by requiring the state to limit its SREC market to within the state, effectively closing the border to out-of-state credit purchasing and ensuring more in-state renewable energy production,<sup>8</sup>; and among Pennsylvania's municipalities' clean energy economies, Philadelphia County has the second largest clean energy economy with 5,900 clean energy jobs, behind Allegheny County<sup>9</sup>; and Philadelphia is one of the poorest big cities with an unemployment rate of 6% as compared to the national average of 4.1%, and thus good, safe, stable, well paying jobs with strong unions are necessary; and transitioning to a clean, renewable energy economy is an opportunity to address social inequities, such as low-wages, unsafe working conditions, and lack of benefits; and create a more democratic economy while employing nontraditional workers, people with marginalized identities, and people in historically marginalized communities, **we recommend the following policy initiatives:**

- Workers who have been downsized from fossil fuel industries should be supported with transition benefits, job training, and a just transition to new jobs, especially in energy efficiency and renewable energy.
- Renewable energy training and educational programs within the school district and community college shall be supported by City Council.

## ECONOMIC DEVELOPMENT AND INNOVATION

Given that clean energy production and sourcing coupled with increased energy efficiency is essential to Philadelphia's long term economic sustainability; and renewable energy can produce energy cost savings for residents and local businesses while stimulating new economic activity and jobs in the city and providing life-protecting benefits for everyone; and the renewable energy economy presents opportunities for workers in manufacturing, construction, research, and service sectors to drive innovation towards cleaner energy economies while creating and maintaining family-sustaining jobs; and investment in research and development can make Philadelphia an innovation hub for renewable energy, as it has with life sciences, with high and inclusive employment and a strong diversified economy, resilient to economic fluctuations; and increasing the renewable energy and efficiency economy can help attract renewable energy expertise, capital and companies, which are important to send a strong market signal to investors that Philadelphia is the place where ideas come to reality and is the place to invest, **we recommend the following policy initiatives:**

---

<sup>7</sup> [http://www.labor4sustainability.org/wp-content/uploads/2015/10/cleanenergy\\_10212015\\_main.pdf](http://www.labor4sustainability.org/wp-content/uploads/2015/10/cleanenergy_10212015_main.pdf)

<sup>8</sup>

<https://pv-magazine-usa.com/2017/11/06/pennsylvania-requires-solar-srecs-to-come-from-within-the-state/>

<sup>9</sup> <https://www.e2.org/wp-content/uploads/2017/08/CleanJobsPennsylvania2017.pdf>

- The City of Philadelphia shall encourage businesses to consider their environmental, social and economic impact upon the residents, environment and global community.
- The City of Philadelphia shall support clean energy innovators through the processes of business and technology research, incubation, acceleration, and demonstration by grants and academic partnerships.
- The City of Philadelphia shall increase green developer tax credits.
- The City of Philadelphia shall review and revise existing zoning ordinances with the aim of prioritizing green development in underutilized areas and properties.
- The City of Philadelphia shall engage in educating businesses on the business case for renewable energy opportunities, including on-site generation, renewable energy sourcing and energy efficiency measures, and provide support for removing financial and technical barriers in new technologies, prioritizing small and local businesses.
- The City of Philadelphia shall hold businesses responsible for the energy efficiency and energy sourcing of their facilities requiring new construction to meet all city code.
- The City Council shall prioritize zoning waivers of new development contracts to those companies who prioritize energy efficiency (above and beyond what is required by code), clean renewable sources of energy, and toxin-free materials in their construction and residential/retail occupancies. These waivers should also encourage engagement with the local community in which companies seek to develop throughout their process, prioritizing any available retail units to new local businesses in the community.