

Transitioning to 100% Clean and Renewable Energy Sources in Montgomery County

Support for a transition to 100% renewable energy is building in southeastern Pennsylvania and throughout the country. Many communities in southeastern Pennsylvania have recently expressed their support by adopting the “Ready for 100” program, including 10 municipalities in Montgomery County as of June 26, 2019. In addition, in May 2019 the Montgomery County Board of Commissioners announced a wind energy purchase that will power all of the county’s electrical accounts with wind power for the next 3 years. The County also adopted a commitment to transition to renewable energy for heating all county-owned buildings and powering all county-owned vehicles by 2050.

As the number of municipal commitments to renewable energy grows, so does the need to understand the process of transitioning to 100% renewable energy. Municipal officials are being asked to take the following actions to reduce greenhouse gas emissions and prepare for the effects of climate change that will be experienced by their constituents in the months and years to come.

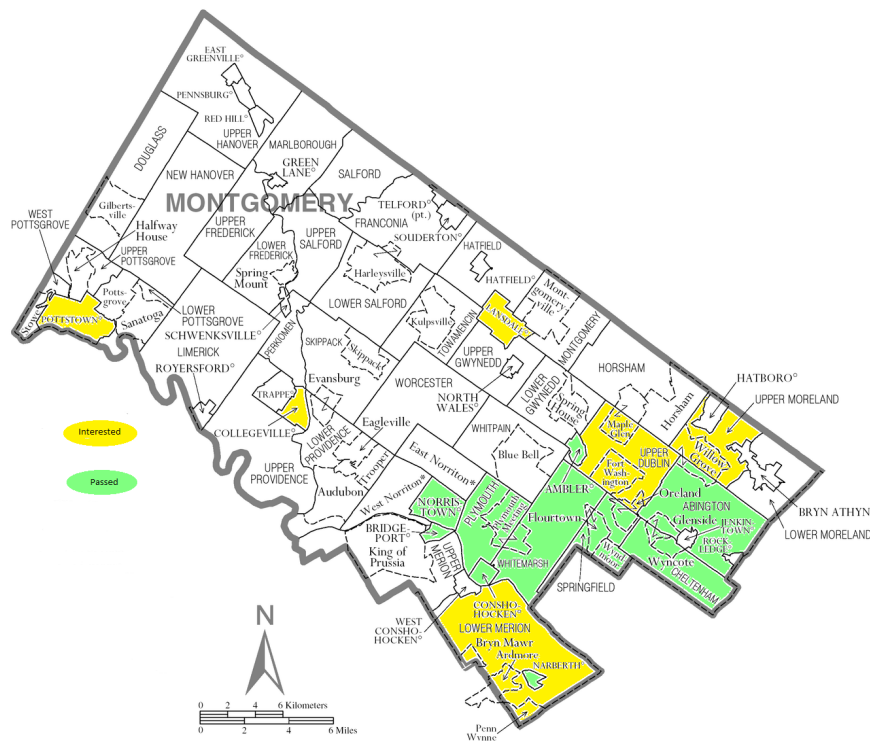
1. Adopt a resolution with the goal of transitioning municipal operations and the community at large to 100% clean and renewable electricity by 2035, and to 100% clean and renewable heating and transportation by 2050.
2. In coalition with other townships and boroughs in Montgomery County, commission the development of a Climate Action Plan and/or an Energy Transition Plan to achieve the goal of 100% renewable energy in the agreed-upon timeframe using an open and inclusive process.
3. Integrate the Climate Action Plan and/or Energy Transition Plan into the municipality’s Comprehensive Plan.
4. Review the Township’s processes, procedures, and programs for compatibility and compliance with the Climate Action and/or Energy Transition Plan, and change as needed to ensure compliance.
5. Assist in the education of the community regarding steps that residents and business partners can take to reduce their carbon footprints.

Below is further detail on the Ready for 100 program, on the climate change reality that necessitates the above actions, on activities and discussions currently underway in Montgomery County and southeastern Pennsylvania to enable a transition to 100% renewable energy, and on additional considerations.

What is “Ready for 100”?

[Ready for 100](#) (RF100) is a campaign launched nationally by the Sierra Club that encourages volunteers to advocate at the municipal level, and municipalities to adopt, an equitable and socially inclusive transition to 100% clean, renewable (i.e., at this time largely wind- and solar-based) energy. To date, over 120 municipalities nationwide have adopted renewable energy resolutions, as well as 5 states plus Washington, DC, and Puerto Rico. Nineteen of these municipalities are in Southeast Pennsylvania, and 10 are in Montgomery County.

A key element of these resolutions is a commitment to 100% use of renewable energy for electricity by 2035, and for all energy sectors by 2050. The Sierra Club has created a website for Montgomery County’s RF100 communities, which can be found at <https://www.sierraclub.org/pennsylvania/southeastern/ready-for-100-montgomery-county>. This website contains a wealth of information about the RF100 program, a list of communities that have adopted or are considering RF100 resolutions, and links to valuable resources such as guidelines for achieving an equitable and just transition to 100% renewable energy.



PASSED RENEWABLE ENERGY

- Abington Township
- Ambler Borough
- Bridgeport Borough
- Cheltenham Township
- Conshohocken Borough
- Narberth Borough
- Norristown Borough
- Plymouth Township
- Springfield Township
- Whitemarsh Township

What happens after passing a renewable energy resolution?

The adoption of an RF100 resolution is just the first step in the process. Once a commitment has been made, an energy transition planning process is undertaken to determine the steps needed for a particular municipality to reach its clean energy goals. For example, in Chester County, several municipalities adopted resolutions in 2017. In 2018, after considerable discussions with a variety of stakeholders, the West Chester Area Council of Governments issued a Request for Proposals to commission an energy plan for six contiguous municipalities. The Cadmus Group, a strategic and technical consultancy, was selected, from the nine proposals that were received, to draft an energy transition plan for the Chester County communities. This work is currently underway and serves as a potential model for Montgomery County communities. A roadmap developed for Cadmus by the Meister Consultants Group as part of this process outlines a stepwise path for communities transitioning to 100% renewable energy.

The Cadmus/Meister roadmap identifies specific action items for municipalities. For example, the roadmap segments a municipality's efforts into strategies oriented toward the municipality itself, toward consumers, and toward utilities. Under the 'consumers' section, the roadmap lists these concrete efforts that can be undertaken:

1. Engage the community in setting energy goals.
2. Establish local incentives for on-site renewable energy (e.g., solar rebates).
3. Establish city mandates for on-site renewable energy (e.g., solar mandate).
4. Host a renewable energy bulk purchasing program (e.g., Solarize).
5. Reduce permitting, zoning, inspection time and costs for renewable energy.
6. Lease public land for renewable energy.
7. Establish rates or tariffs that compensate energy generated on-site (e.g., net-metering).
8. Establish a community-shared renewable energy program (e.g., community solar).
9. Establish a community choice aggregation program (municipal aggregation).

These actions must be considered within the context of the entire roadmap report to be fully understood. However, one can appreciate this listing of specific steps, actions beyond a general aspiration for renewable energy, that can be undertaken to help ensure success, and minimize the risk of failure, in the effort to convert a municipality to renewable energy.

Another model to consider is that of the Phoenixville Regional Planning Commission, which is facilitating collaboration on multi-municipality comprehensive plan, putting energy planning in context with land planning, water resource protection, traffic studies, expected population growth, etc.

With at least 15 municipalities in Montgomery County having expressed interest in adopting RF100 resolutions, at least 10 of which have adopted resolutions already, RF100 communities in Montgomery County are coordinating to develop a mechanism for the municipalities to share resources for energy transition planning. Several local resolutions have committed to complete their energy transition plan by Earth Day 2020. This local nucleus of interested, energized, and adopting municipalities provides a ready network of partners for energy transition planning.

What will a transition to 100% renewable energy look like in Montgomery County?

The energy transition planning process will help to define the policy needs, programs, technologies, financial supports, and other elements that are needed to achieve the goal. Below are listed some of the anticipated elements of a transition to 100% renewable energy.

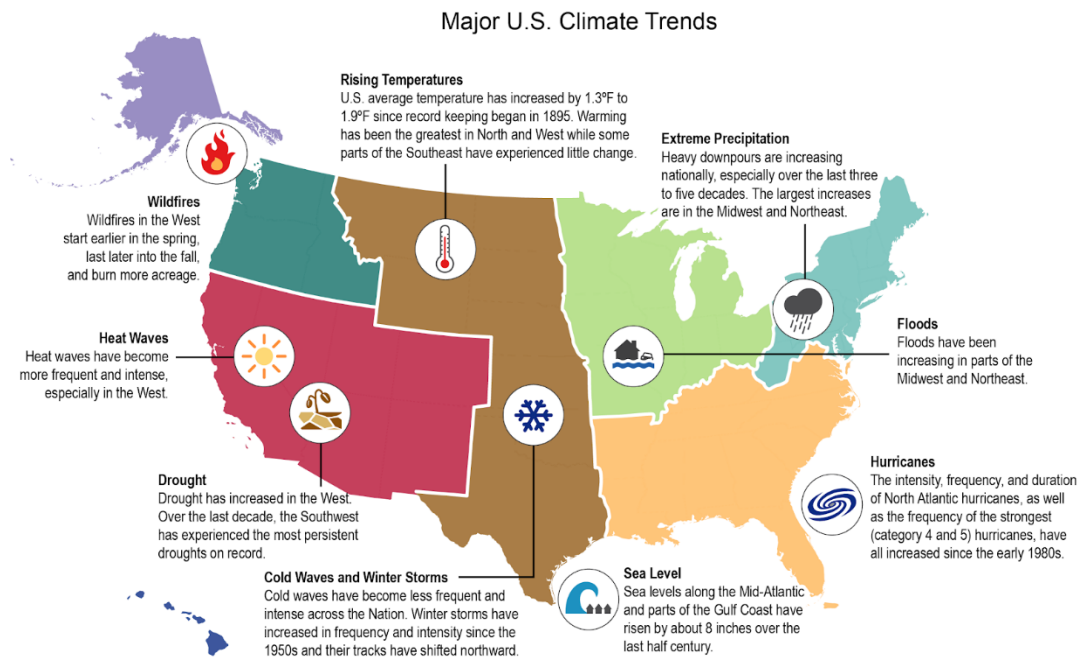
- Formal energy audits of municipal buildings and operations to identify and prioritize opportunities for further efficiency improvements.
- Analysis of municipal and community-wide energy use to identify and prioritize opportunities for efficiency improvements.
- New and/or enhanced municipal policies/ordinances requiring efficiency and renewable energy in new buildings and major renovations.
- New and/or enhanced municipal policies/ordinances limiting emissions from mobile sources and off-road equipment.
- Cooperation/coordination with neighboring municipalities to facilitate aggregated purchasing of renewable energy.
- Programs to educate residents and businesses about energy efficiency and renewable energy.
- Grant-writing to help fund renewable energy installations.

Why should municipalities make a commitment to 100% renewable energy?

There are many reasons for Montgomery County municipalities to commit to 100% renewable energy. Here are a few:

- **The need to address climate change is urgent.** In its 2018 special report, *Global Warming of 1.5°C*, the United Nations Intergovernmental Panel on Climate Change predicted with high confidence that global warming is likely to reach 1.5°C above preindustrial levels between 2030 and 2052 if it continues to increase at the current rate. It states, with a high confidence level, “[c]limate-related risks for natural and human systems are higher for global warming of 1.5°C than at present, but lower than at 2°C.

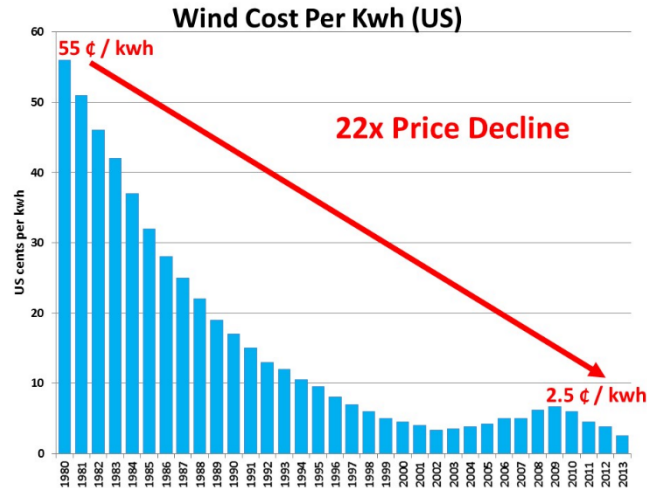
These risks depend on the magnitude and rate of warming, geographic location, levels of development and vulnerability, and on the choices and implementation of adaptation and mitigation options.” The figure below is an overview of expected changes in weather and related events across the United States. It shows only general climate changes; it is silent on the attendant stresses to humans, systems, and communities, and on the losses of life and property. By adopting RF100, municipalities have an opportunity to break their fossil fuel dependence and the attendant contributions to an untenable future. This is a chance to exercise foresighted leadership in building a better community, both locally and globally.



- **Renewable energy is becoming cost-competitive with fossil fuels.** Future prices of fossil fuels are not known; prices of oil and gas have historically been volatile. In contrast, as shown below, the costs of solar and wind energy have been declining rapidly and are now competitive with fossil fuels in many areas. It is not unreasonable to expect further reductions. In addition, renewable energy lacks the secondary costs of fossil fuels – such as international political instability and military action to secure supplies and supply lines.



Solar Panel Price



Wind Cost Trends

- **It will bring economic benefits to the municipalities.** The momentum and support for renewable energy that is building in southeastern Pennsylvania and the surrounding region will translate into increased demand for renewable energy, which is likely to bring both new jobs and further reductions in renewable energy costs with aggregated purchasing.
- **It will position Montgomery County and its municipalities as clean energy leaders.** By adopting a commitment to transition to 100% renewable energy, municipalities will signal to residents, renewable energy suppliers, neighboring communities, and [Pennsylvania and U.S.] lawmakers that they are ready to do what is necessary to address climate change and reap the benefits of a clean energy economy. It also establishes the municipalities as desirable, energetic, and forward-looking places to work and reside.
- **Residents are supportive.** There is already considerable interest in RF100 among Montgomery County residents. Citizens across the county are championing this worthwhile cause and energetically supporting its adoption.

What will it cost?

The costs of commissioning an energy transition plan are expected to be in the range of \$50,000 to \$100,000, but it is expected that this cost will be shared among a number of Montgomery County municipalities. Buncolm County, North Carolina (200,000 residents), spent \$100,000 for a plan to get to 100% renewable energy. Greater West Chester, Pennsylvania (100,000 residents), spent \$75,000 to commission an energy transition plan encompassing six

municipalities. The cost was split based on relative population of the participating townships, with the average being about \$12,500. The expected cost for Montgomery County municipalities of \$10,000 to \$15,000 could easily be offset by improving energy efficiency at municipal facilities (lights, insulation, fuel efficient vehicles) or through aggregated purchasing of electricity.

The community-wide costs of achieving the goal of 100% renewable energy cannot be known until energy transition planning is undertaken. However, recent trends in renewable energy costs and financing are very favorable. In addition, much of the cost of installing the needed renewable energy infrastructure can be offset by efficiency improvements, many of which are relatively low-cost, with short payback periods, long-term benefits, and the prospect of adding many local jobs.

Also consider the costs and risks of a “business as usual” approach. By continuing to rely on fossil fuels for electricity, heat, and transportation energy, municipalities implicitly accept the risks of unstable oil and gas prices, unstable power grids, increased costs of flood insurance and storm recovery, and increased climate-change related health care costs. In contrast, renewable energy, delivered reliably from a distributed and secure power system, offers stable long-term costs, protecting the financial position of the municipalities and their residents.

In a broader sense, failure to act now will ensure the increases in damage to human life and prosperity that some believe are already evident. From both a cost viewpoint and a human welfare perspective, it is prudent to act now in order to minimize the various negative impacts of continued reliance on fossil energy. Implementation of the RF100 program is one way to take such action.

Summary

The timeframes presented in the RF100 program—100% renewable electricity by 2035 and 100% renewable heating and transportation by 2050—are achievable and are consistent with current recommendations by climate scientists. At least 10 municipalities in Montgomery County have already adopted resolutions to transition to 100% renewable energy, and the Montgomery County Commissioners recently announced a wind energy purchase that will power all of the county’s electrical accounts with emission-free renewable power for the next three years, as well as a commitment to sustainable operations. With support for RF100 well established and growing in southeastern Pennsylvania, adopting and implementing the RF100 program will position Montgomery County and its municipalities as clean energy leaders and as a desirable, energetic, and forward-looking place to work and reside.