



**pennsylvania**  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Policy Office

# The State of Renewables in Pennsylvania

*July 26, 2015*

Tom Wolf, Governor

Patrick McDonnell, Acting Secretary

# Keystone State Energy Portfolio

- 2<sup>nd</sup> largest energy field in the world
- 4<sup>th</sup> largest energy producer in U.S.
- 2<sup>nd</sup> largest electric generator in U.S.
- 2<sup>nd</sup> largest nuclear generator in U.S.
- 4<sup>th</sup> largest coal producer in U.S.
- 2<sup>nd</sup> in natural gas production in U.S.
- 12<sup>th</sup> in total solar capacity installed
- 16<sup>th</sup> in total wind capacity installed
- 17<sup>th</sup> in Energy Efficiency and Conservation

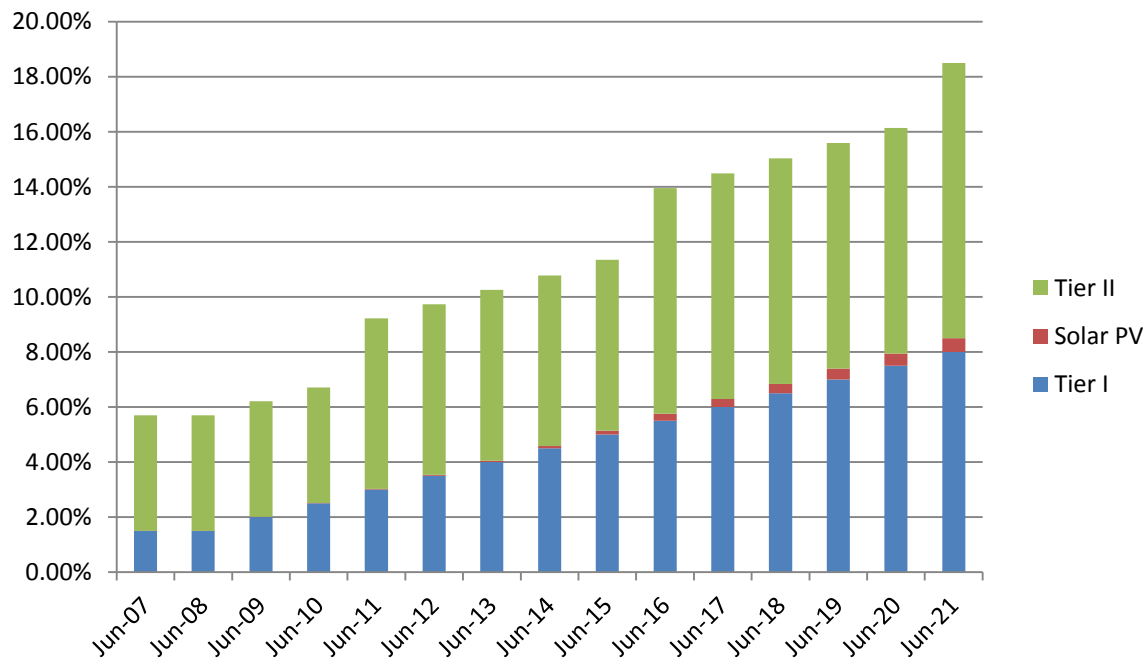


# Climate Change Impacts Assessment

- The 2015 data shows that Pennsylvania has undergone a long-term warming of more than 1°C (1.8°F) over the past 110 years.
- Models used in the Update suggest this warming is a result of anthropogenic influence, and this trend is accelerating.
- Projections in the 2015 Update show that by the middle of the 21<sup>st</sup> Century, Pennsylvania will be about 3°C (5.4°F) warmer than it was at the end of the 20<sup>th</sup> Century.

# ▶ Alternative Energy Portfolio Standards

- Pennsylvania Act 213 The Alternative Energy Portfolio Standards Act of 2004 (AEPS) was enacted to provide economic development opportunities by increasing the mix of alternative electricity generation in Pennsylvania.



# AEPS Progress (2016)

- AEPS Production Requirements for 2016: 13.70%
  - Tier I: 5.50% (on target for compliance)
  - Solar PV: 0.25% (on target for compliance)
  - Tier II: 8.20% (on target for compliance)

## Pricing for AEC Sales

### 2014/2015 Alternative Energy Credit Pricing

<u>AEC Type</u>	<u>Weighted Avg. (trend)</u>	<u>AEC Price Range</u>	<u>ACP</u>
Solar AEC	\$78.62 (falling)	\$10.00 - \$350.00	\$157.25
Tier I	\$12.51 (slight up)	\$2.40 - \$47.00	\$45.00
Tier II	\$0.12 (slight down)	\$0.01 - \$15.00	\$45.00

# Finding PA's Solar Future

**Summary:** Create a shared vision for the most effective ways in which Pennsylvania can reach its goal of meeting 10% of electricity sales through solar. This project uses a comprehensive stakeholder engagement process, scenario analysis, and a consensus approach to map out *Pennsylvania's Solar Future* offering a model for other states.

**Key Idea:** A well-coordinated stakeholder engagement process and analysis of well-understood scenarios will create shared understanding and buy-in from many parties. The effort will reveal the roles and opportunities related to Regulatory and Ratemaking, Incentives and Business models and Operations and Systems Integration. The resulting plan will inform Pennsylvania's Climate Change Action Plan, aid in exceeding the Alternative Energy Portfolio Standards (AEPS) goals, drive compliance with the Clean Power Plan, and increase Pennsylvania's resiliency.

## Goals:

1. A clear and detailed path to exceeding PA's current AEPS solar target, meeting CPP goals and achieving 10% of electricity sales from in state solar generation by 2030.
2. Sustained engagement and support from a diverse group of qualified experts across the state in a focused dialogue on solar energy.

## Impacts:

1. Create momentum to achieve at a minimum 10% goal.
2. Increased agreement among utilities, businesses, and government on value of solar.
3. A documented process replicable in other jurisdictions.

EERE Funds Requested:	\$599,913
Proposed Applicant Cost Match:	\$168,975
Total Project Value:	\$768,888

# Climate Change Action Plan

## Action Plan Requirements:

- Identifies GHG emissions, sequestration trends, and baselines.
- Evaluates strategies for reducing or offsetting GHG emissions.
- Identifies cost, benefits and co-benefits of GHG reduction strategies, including impact of future energy needs.
- Identifies areas of agreement and disagreement.
- Recommends legislative changes.

# Update Process

- The 2015 Update was based on a review and evaluation of scientific literature and data along with a macroeconomic analysis of the work plans.
- The work plans cover a wide range of options for emissions reductions in the energy, residential, commercial, industrial, land use, transportation, agriculture and forestry sectors in Pennsylvania.
- The DEP, with the advice of the CCAC, developed the work plans following general criteria for all of the individual work plans.
- Work plans provide a framework for planning and serve as a guide during a specified time period for carrying out work.
- During the Update process, the DEP in consultation with the CCAC developed 13 different work plans covering various sectors within the Commonwealth.



# 2015 Action Plan Update

- Chapter 1. Overview & Introduction
- Chapter 2. Climate Change Impacts
- Chapter 3. Inventory & Projections
- Chapter 4. Energy
- Chapter 5. Land Use
- Chapter 6. Transportation
- Chapter 7. Forests
- Chapter 8. Agriculture
- Chapter 9. Waste Management
- Chapter 10. Macroeconomic Analysis
- Chapter 11. Climate Change Mitigation Needs
- Chapter 12. Legislative Recommendations

# PA 2016 State Energy Program Plan

- Each year, each State Energy Office submits a State Energy Program (SEP) plan to the U.S. Department of Energy for a formula-based grant for energy efficiency, renewable energy, and energy assurance activities.
- PA's 2016-17 plan consists of six major projects, four of which are directly tied to work plans/recommendations from Pennsylvania's Climate Change Action Plan Update
- The remaining two projects will enable us to better coordinate our energy efforts with other state agencies and plan for the future, and to enhance our energy emergency preparedness capabilities.
- SEP also supports staffing and administrative functions related to the other activities of the energy office

# PA 2016 SEP Plan (cont.)

- 2016 Projects include:
  - CHP Enabled Renewable, Distributed Energy Micro-grid Technology
  - Energy Assessments for Small Manufacturers
  - Small Business Energy Assessments/Retrofits (in low income areas)
  - PA State Agency Energy Planning & EM&V Protocols
  - Energy Emergency Assuredness/Planning
  - Building Operator Training

# National Energy Efficiency Registry

- Pennsylvania is one of six partner states, led by Tennessee, and working with TCR and NASEO, who have secured a DOE award to develop a national energy efficiency registry (NEER).
- The NEER will allow states to track initiatives within their own programs as well as demonstrate progress toward energy goals and potential compliance with existing and future state and federal environmental regulations.
- The NEER Multi-stakeholder Working Group is helping to develop the NEER's Principles and Operating Rules, which will define the functionality that the NEER will provide.
- <https://www.theclimateregistry.org/thoughtleadership/energy-efficiency/>



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