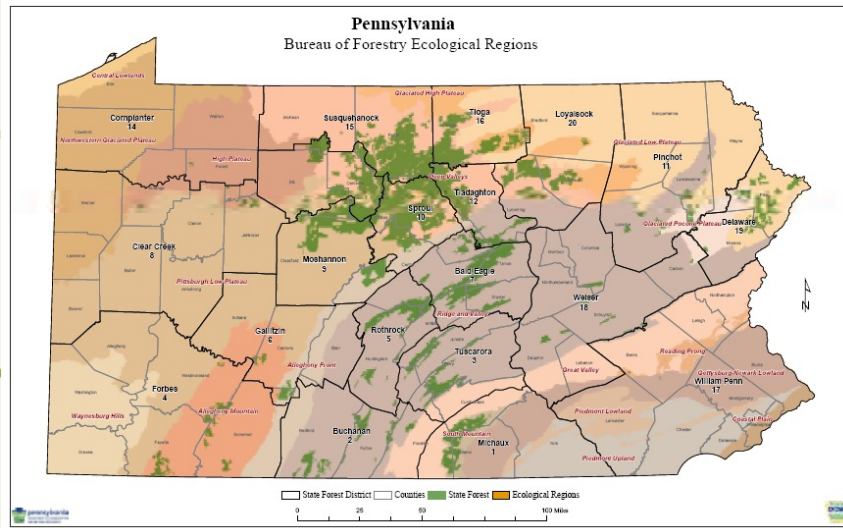


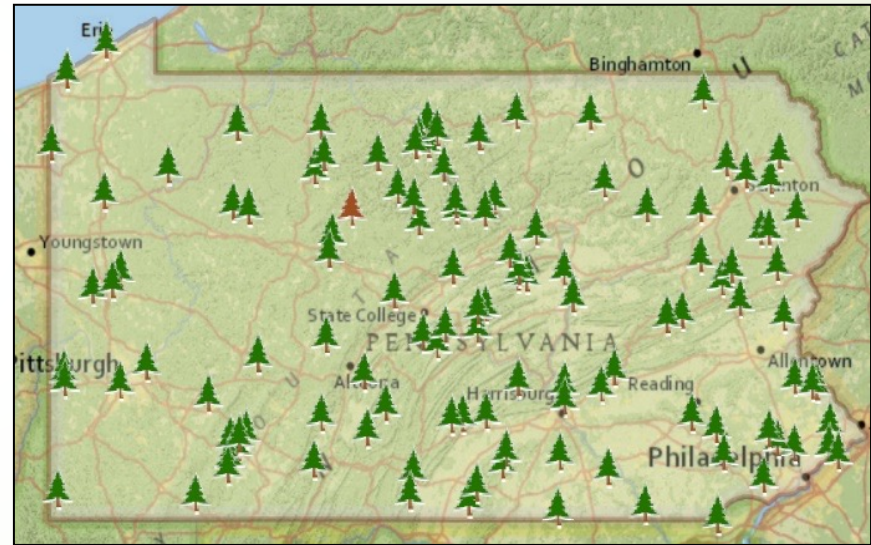
# Greening Pennsylvania's Parks and Forests

Jake Newton  
Executive Energy Project Coordinator

[www.dcnr.pa.gov](http://www.dcnr.pa.gov)



**2.2 Million Acres of State Forest**



**121 State Parks**

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# Commonwealth Leadership in Addressing Climate Change and Promoting Energy Conservation and Sustainable Governance



**Governor's Office  
Executive Order 2019-01**



**DCNR  
Sustainability Goals**



## Energy Reduction

Reduce overall energy consumption by 3 percent per year, and 21 percent by 2025

Statewide GESA anticipates a 24 percent reduction of energy consumption by 2025



## Renewable Energy

Procure renewable energy to offset at least 40 percent of the Commonwealth's annual electricity use

Derive 50% of our energy from renewable sources by 2022 – reducing CO2 emissions by 3466/tons/year and grid energy consumption by 4,902,030kWh/year



## Electric Vehicles

Replace 25 percent of the state passenger car fleet with battery electric and plug-in electric hybrid cars by 2025

Replace a total of 90 vehicles and reduce CO2 emissions by at least 772 tons



## Climate

Achieve a 26% reduction of greenhouse gas emissions by 2025 and an 80% reduction by 2050

DCNR adopted a Climate Adaptation and Mitigation Plan with 126 actions. Visit our website for more information.

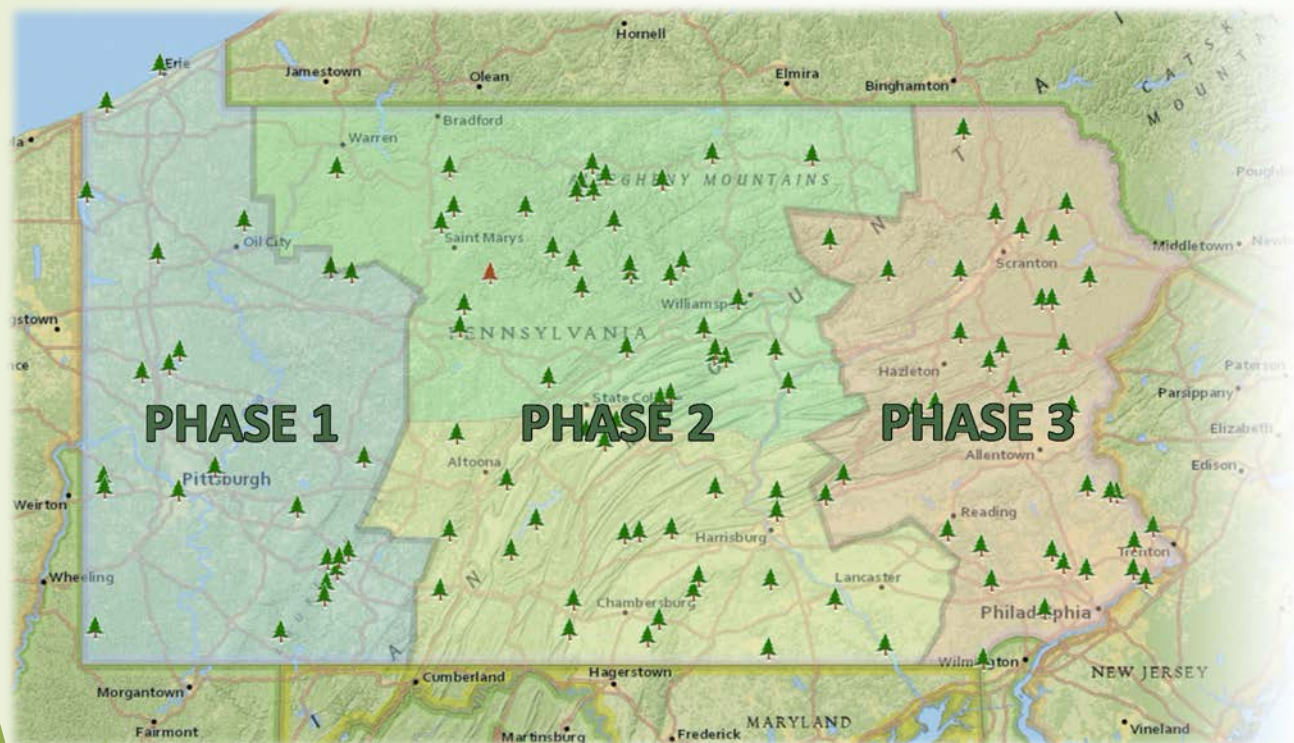


## Building/ Infrastructure

Any building project by a Commonwealth agency that costs more than 50% of the replacement cost of the building shall be designed and constructed as a high-performance building achieving a 10% reduction in energy consumption

Use sustainable design techniques for all new and renovated buildings, infrastructure, and site projects where logical, feasible, and economically responsible

# Guaranteed Energy Savings Act (GESA) Projects



- ▶ Energy efficient improvements include lighting upgrades, building weatherization and insulation, domestic water improvements, HVAC control improvements, plus Forestry & Parks “want list” items.
- ▶ **Phase 1 (Western)** – 20 state parks and 4 forest districts
  - ▶ \$7.5 million in energy savings over next 18 years
  - ▶ Reduce 2,050 metric tons of GHG’s
- ▶ **Phase 2 (Central)** – 48 state parks and 12 forest districts
  - ▶ Construction began September 2020
  - ▶ \$23.2 million in energy savings over 20 years
  - ▶ Reduce 3,060 metric tons of GHG’s
- ▶ **Phase 3 (Eastern)** – planned but not yet scheduled
- ▶ **Phase 1 & 2 Annual Energy Reductions** - 6,535,432kWh
  - ▶ Equal to electricity use of ~550 U.S. homes

# EnergyCAP Utility & Energy Management Software

The screenshot displays a vendor bill for Xcel Energy (Account: 53-8579215-4, Invoice number: 0308665115) for the period 02/10/2018-03/14/2018. The bill is for State College, PA 16803, with a total cost of \$119.04. The bill includes charges for Service & Facility (\$38.98), Interstate Pipeline (159 THERM, \$12.53), Natural Gas (159 THERM, \$35.93), Pipe Sys Int Adj (159 THERM, \$4.54), Boulder Occupation Tax (\$4.50), and Usage Charge (159 THERM, \$22.56). The interface also features three line graphs: Average Daily Use (THERM), Average Cost Per Day (\$), and Average Unit Cost (\$/THERM), all showing seasonal peaks in December.

In 2019, DGS implemented EnergyCAP software across all state agencies to track & manage utilities.

Web-based software is developed and maintained by an award-winning firm from State College.

Electric & natural gas bills are paid centrally. Each Forest & Park will monitor their monthly utilities using the software.

3 main improved benefits:

- Energy management
- Building operations
- Utility bill accounting

# DCNR High Performance Building Projects



- **High-Performance Buildings, Infrastructure, and Sites Policy**  
Adopted to ensure all newly constructed or renovated facilities utilize sustainable design practices and products where feasible
- **17 LEED certified DCNR facilities.**
- **4 additional facilities planned for LEED certification.**
- **DCNR LEED facilities' utility costs are over 40% lower than the national average.**

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Pursuing LEED certification



LEED certified

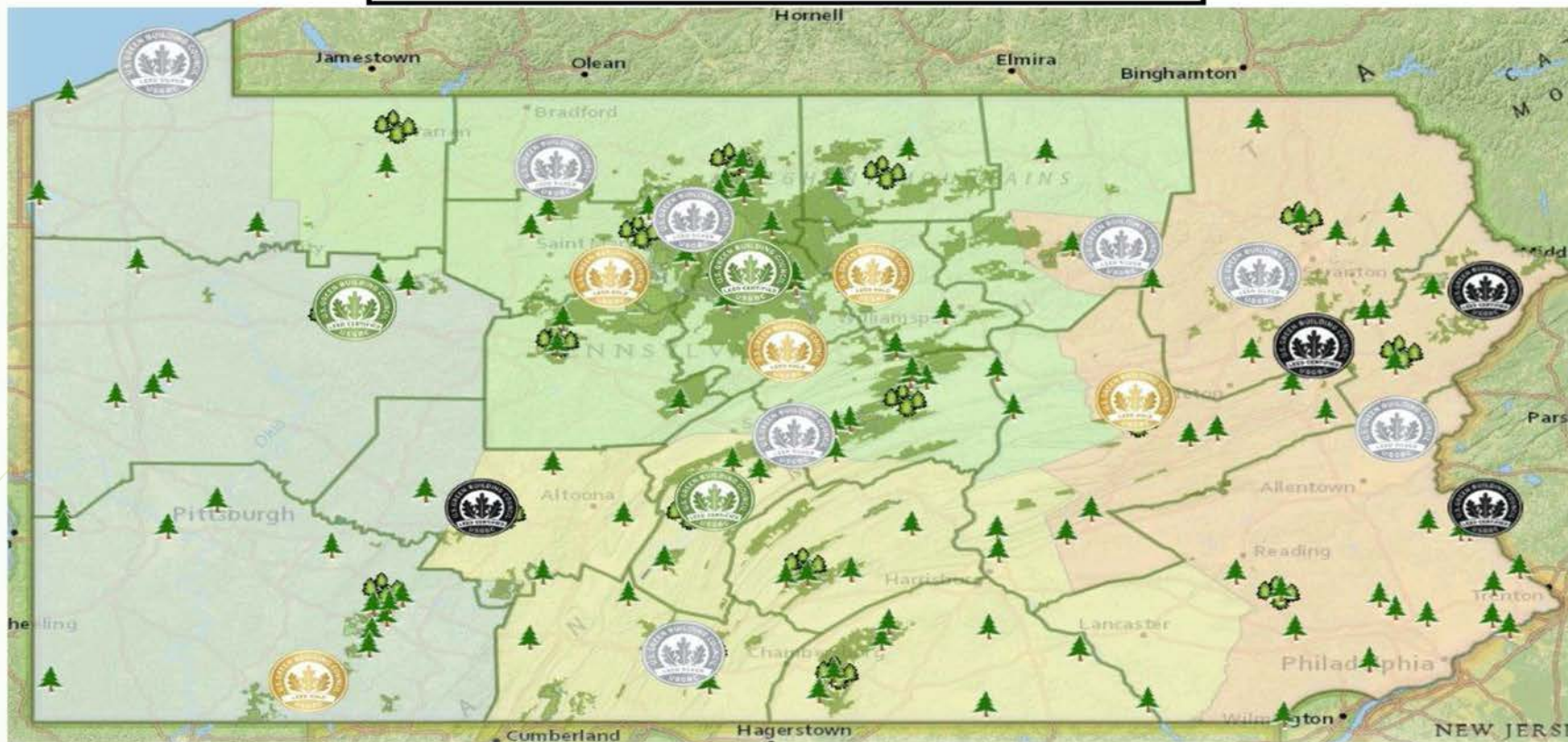
# LEED Certified Buildings Pennsylvania State Parks and Forests



Silver LEED certified



Gold LEED certified



- |   |  |   |  |
|---|--|---|--|
| 1. Sproul State Forest RMC- <b>Certified</b>      | 5. Tiadaghton State Forest RMC- <b>Gold</b>        | 10. Jacobsburg EEC- <b>Silver</b>                             | 15. Kinzua Bridge State Park Visitor Center- <b>Silver</b> |
| 2. TREC at Presque Isle- <b>Silver</b>            | 6. Nature Inn at Bald Eagle- <b>Gold</b>           | 11. Mira Lloyd Dock Nursery- <b>Silver</b>                    | 16. Buchanan State Forest RMC- <b>Silver</b>               |
| 3. Clear Creek State Forest RMC- <b>Certified</b> | 7. Loyalsock State Forest RMC- <b>Silver</b>       | 12. Weiser State Forest RMC- <b>Gold</b>                      | 17. Hickory Run Visitor Center- <b>Certified</b>           |
| 4. Rothrock State Forest RMC- <b>Certified</b>    | 8. Elk Country Visitor Center- <b>Gold</b>         | 13. Ohiopyle Park Office- <b>Gold</b>                         |  |
|   | 9. Wildlife Center at Sinnemahoning- <b>Silver</b> | 14. Patrick J. Solano Center at Frances Slocum- <b>Silver</b> |  |

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# DCNR Renewable Energy



[www.dcnr.pa.gov](http://www.dcnr.pa.gov)

## •Current Projects

- **17 Installations**

- **457kW** installed
- **~\$54,000** annual savings
- **156** metric tons/CO<sub>2</sub>/year reduction
- **1** net-zero park, **4** net-zero facilities

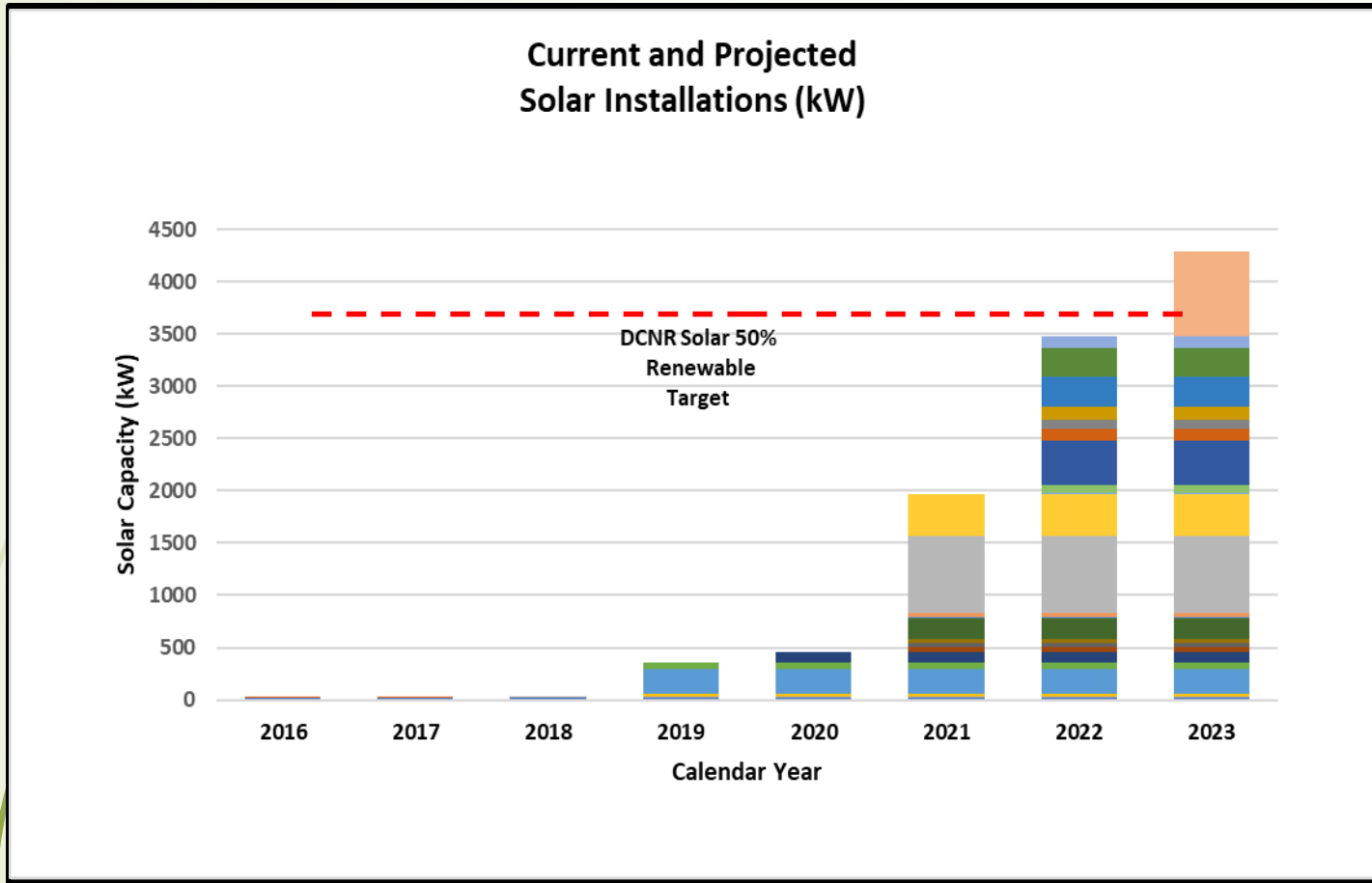
## •Future Projects

- **By the end of 2022**

- **3.48 MW** of solar installed
- **~\$415,000** annual savings
- Reduce grid energy by **3,778** MWh/year
  - Equal to electricity consumption of **~318** U.S. homes



# DCNR Renewable Energy



- **2016**
  - Presque Isle TREC
- **2018**
  - Mt. Pisgah
- **2019**
  - Fort Washington, Moraine, Buchanan RMC
- **2020**
  - Laurel Hill Scenic View
- **2021**
  - Mt. Pisgah, Shikellamy, Hyner Run, Ryerson Station, Region 2 Office, Pymatuning, Prince Gallitzin, Gifford Pinchot
- **2022**
  - Cherry Springs, Weiser FD, Moraine, Jacobsburg, Evansburg, Tyler, Nockamixon, Presque Isle, Bald Eagle FD
- **2023**
  - Ohiopyle

# DCNR Green Vehicle Fleet



## DCNR Fleet

- ▶ ~1,530 total vehicles (sedans, SUVs, vans, light/heavy duty trucks, etc)
- ▶ 12,081,115 VMT/year (2016)
- ▶ 6,977 tons of CO<sub>2</sub>/year (2016)

## Green Vehicles

- ▶ 28 EVs and PHEVs in passenger fleet
  - ▶ 7 PHEV Sedans
  - ▶ 13 PHEV vans
  - ▶ 2 EV Sedans
  - ▶ 6 E-cycles
- ▶ 5 additional PHEV SUVs currently being procured

## 2025 Goal

Convert **25%** of passenger vehicles (sedans, SUVs, vans) to either EVs or PHEVs. **62** additional vehicles will be converted in the next 4 years.

# DCNR Visitor Charging Stations



Pine Grove Furnace State Park



Kinzua Bridge State Park



Codorus State Park



Prince Gallitzin State Park

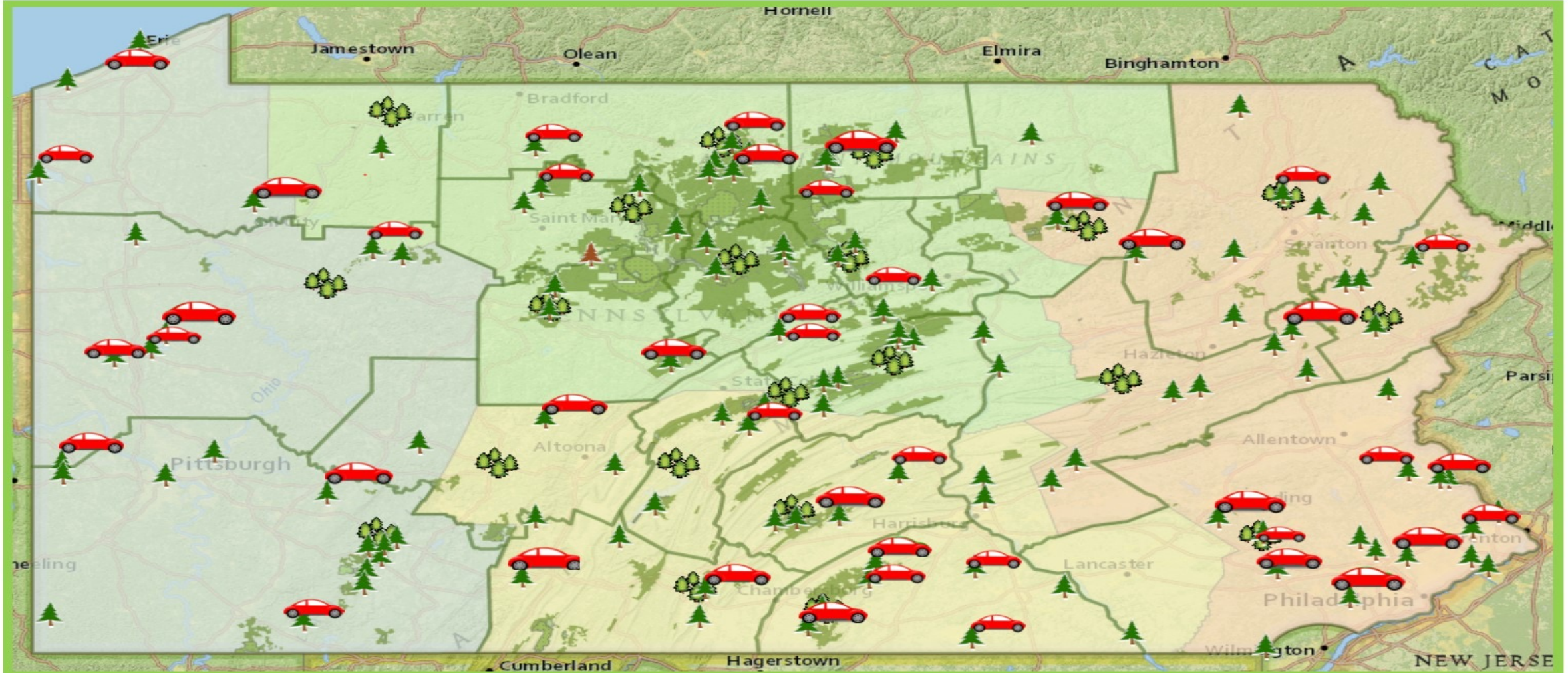
DCNR is providing Level 2 electric vehicle charging stations in select state park and forest locations **free-of-charge** to visitors.

To date, DCNR has received over \$116,000 in funding towards these installations utilizing PA Department of Environmental Protection's "Driving PA Forward" Program for Level 2 charging stations (VW Settlement Fund).

- **As of Summer 2021**  
Total of 32 visitor charging stations currently installed
- **By the end of 2021 Fiscal Year**  
At least **42** visitor charging station installations across the state

## Electric Vehicle Visitor Charging Stations

Kinzua Bridge	Black Moshannon	Cowans Gap	Pymatuning	McConnells Mill	Caledonia	Presque Isle	Nolde Forest	Cherry Springs
Prince Gallitzin	Moraine	Bald Eagle	Jennings EEC	Bald Eagle Nature Inn	Gifford Pinchot	Delaware Canal	Ridley Creek	Leonard Harrison
Washington X-ing	Lackawanna	Hickory Run	Keystone	Tiadaghton (FD#12)	Kings Gap	Fort Washington	Promised Land	Cook Forest
Pine Grove Furnace	French Creek	Colonel Denning	Ohiopyle	Pine Creek Rail Trail	Little Buffalo	Marsh Creek	Ricketts Glen	Weiser (FD#18)
Codorus	Greenwood Furnace	Raccoon Creek	Oil Creek	Tioga (FD#16)	Shawnee	Nockamixon	Worlds End	
				Pine Creek Rail Trail				



# Transitioning to a Compostable Future

- ▶ **New contract provisions to reduce single-use plastic waste:**
  - ▶ Plastic bags, plastic straws and plastic cutlery will be prohibited. Items will be replaced with paper or compostable alternatives.
  - ▶ Required to minimize their use of paper straws and disposable utensils.
  - ▶ Required to use compostable food service products and compost all food waste and products on site when opportunities are available at the state park.





# Thank You!

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