EXPLORING THE PENNSYLVANIA ENERGY TRAIL OF HISTORY

Compiled by Michael A. Bertheaud and Howard M. Pollman

Pennsylvania’s vast natural resources helped fuel the growth and development of both state and nation, spawning innumerable advances in transportation, industry, technology, and science. These resources propelled an economy that supported generations of men and women.

The Pennsylvania Trails of History, a network of historic sites and museums administered by the Pennsylvania Historical and Museum Commission (PHMC), offers visitors an exciting, firsthand look at the people, places, and events that hallmark the Commonwealth as “the keystone of a nation.” Through 2009—for which PHMC has adopted “Energy: Innovation and Impact” as its annual theme—a special Energy Trail of History is showcasing destinations that tell the story of energy, its uses, its history, and the industries and opportunities it created. It’s a story that will enlighten and energize visitors of all ages.

In northwestern Pennsylvania, at Erie, the Flagship Niagara (www.brigniagara.org) is living proof that wind power provided, for more than two thousand years, the fastest form of transportation by propelling wooden ships. Commodore Oliver Hazard Perry (1785–1819), commanded the Niagara after his flagship, the Lawrence, was destroyed by the British during the Battle of Lake Erie, on September 10, 1813. Today’s visitors can participate as day sail students onboard the Niagara and take part in harnessing wind power just as seafarers have over the centuries. Wind is a tremendous energy source—it’s clean and renewable, but harnessing it requires hard work and know-how. The Erie Maritime Museum chronicles the history of the Niagara, as well as the region’s rich maritime heritage with interactive exhibits and lively interpretive programs.

Southeast of Erie, Pennsylvania claims—among many “firsts”—the birthplace of the modern petroleum industry. A century and a half ago, on August 28, 1859, the world’s first successful commercial oil well, sunk by Edwin L. Drake (1819–1880) near Titusville, Venango County, “came in,” launching frenzied speculation, wild land sales, fierce competition, and boom towns, such as Pithole City, which mushroomed to fifteen thousand residents in just six months. The Drake Well ultimately revolutionized the way people throughout the world

Oil rigs once dotted the landscape in northwestern Pennsylvania, where the world’s petroleum industry began. Farming families shared the land with oil drillers, both hoping to extract a fortune in oil or oil leases. Drake Well Museum, Titusville, Venango County, tells the story of how oil revolutionized the ways people around the world live and work and preserves the world’s first commercial oil well. An oil farm near Lamartine, Clarion County, typified the tremendous amount of energy used to extract the precious crude from the ground.

www.phmc.state.pa.us
The wind-filled sails of the Flagship Niagara are, in themselves, a working energy exhibit at the Erie Maritime Museum. During the War of 1812, the Niagara carried Commodore Oliver Hazard Perry to victory in the pivotal Battle of Lake Erie in September 1813.
live, work, and play. The visitor center at Drake Well Museum (www.drakewell.org), Titusville, Venango County, interprets the legacy of the oil boom. A number of special events, including a spectacular Nitro Show will be held on Drake Day Extravaganza, Thursday, August 27. Barrel-making, blacksmithing demonstrations, the operation of oil field equipment, and entertainment will be offered also in conjunction with Oil 150 (www.oil150.org) celebrations throughout 2009.

The Pennsylvania Lumber Museum (www.lumbermuseum.org) at Galeton, Potter County, located in the Commonwealth’s Northern Tier—recently designated as the Pennsylvania Wild Lands Region for its two million forested acres of unparalleled beauty—preserves and interprets the history of one of the Keystone State’s most important industries. More than three thousand artifacts, a re-created lumber camp, and a sustainable hiking trail bring the industry to life. Exhibits dramatically illustrate how successive eras of technology employed different types of energy to harvest the natural resource and bring it to a seemingly insatiable market.

Like lumber, anthracite also helped fuel the nation’s economy for decades. The Pennsylvania Anthracite Heritage Museum (www.anthracitemuseum.org) in Scranton, Lackawanna County, chronicles the effects of this significant energy source on generations of northeastern Pennsylvania’s hard coal miners and their families. The museum examines the history of mining companies and related businesses, particularly labor relations in the region; immigration and ethnicity; the social, cultural, political, institutional, energy, and commercial heritage of the area; and the region’s deindustrialization, disinvestment, and out-migration. The nearby Scranton Iron Furnaces helped spur the nation’s Industrial Revolution through the use of anthracite to manufacture the T-rail.

Skidding logs (above) near Austin, Potter County, is just one part of the Commonwealth’s three centuries of legendary logging history, interpreted at the Pennsylvania Lumber Museum, Galeton, Potter County. For northeastern Pennsylvania’s anthracite miners’ families, coal burning stoves similar to a circa 1880 “Good Morning” model (right), on display at Eckley Miners’ Village, Luzerne County, was the only option for cooking and heating.
Located in Luzerne County to the south, Eckley Miners’ Village (www.eckleyminers.org), near Hazleton, is dedicated to the preservation, interpretation, and study of the cultural and social history of Pennsylvania’s anthracite communities. The story is also about industry, technology, and energy. Visitors learn, firsthand, how coal was the heart of the Industrial Revolution. Hard coal spurred industry and urban growth in the United States; it profoundly affected the output, technology, location, and organization of several major American industries.

Southeast of the anthracite region, eighteenth-century Graeme Park (www.ushistory.org/graeme) at Horsham, Montgomery County, relied on solar energy, fireplaces for heating and cooking, and candles to light the rooms at night. Since cooking on an open hearth was hot and dangerous, Dr. Thomas Graeme erected a separate building to serve as a kitchen. An eighteenth-century cooking demonstration will be held in Graeme Park’s kitchen during the Celtic Heritage Festival in July.

On the banks of the Delaware River at Morrisville, Bucks County, William Penn’s re-created country estate, Pennsbury Manor (www.pennsburymansion.org), enables guests to explore period energy concepts and see new efforts of innovative “green building” at the historic site’s recently opened visitors center. Pennsbury’s gardens are exceptional examples of period recycling and energy-efficient horticulture. The state-of-the-art visitor center is especially intriguing because it employs recycled materials in interior flooring and exterior concrete siding, which saved trees.
The old becomes new and novel for children during a special summer camp experience as they find fascination in a hand-pumped water well at Old Economy Village, Ambridge, Beaver County. The Harmonists were advanced in the use of energy and among the first to use stationary steam engines to run textile mills and to transport products by river.

Hope Lodge (www.ushistory.org/hope), located in Fort Washington, Montgomery County, offers lessons about energy in the eighteenth century. In the absence of oil, natural gas, or electricity, other materials were needed to produce heat and light. Wood was burned in fireplaces, large windows harnessed solar energy, and candles, fat lamps (which burned animal fats, rendered lard, or grease), rush lights, and splints helped light the gracious rooms at night. Fireplace cooking demonstrations are offered on selected days through the year.

PHMC historic sites and museums located in central Pennsylvania illustrate the significance of energy in a myriad of ways. The Oley Valley in eastern Berks County was a diverse region in colonial America. The early inhabitants harnessed the valley’s streams to power a wide variety of mills, iron furnaces, and forges. The circa 1800 Bertolet Sawmill at the Daniel Boone Homestead (www.danielboonehomestead.org), Birdsboro, is one of only a handful of working water-powered up-and-down mills of its type surviving in North America. Visitors can learn how water power provided an essential energy source when the site operates the sawmill during major programs, as well as on Tuesdays during July and August.

Lancaster County claims three distinctive PHMC destinations. The Railroad Museum of Pennsylvania (www.rrmuseumpa.org), Strasburg, offers larger-than-life proof that conservation and efficiency are not new concepts. Energy conservation has always been critical to railroading operations—both from the standpoint of railroads as consumers of wood, coal, and oil to operate trains, and from the standpoint of railroads conserving energy as an alternate mode of transportation. Through December, museumgoers can enjoy a special exhibition based on the 2009 energy theme and discover what footprints railroads leave behind in the world. Video clips from present-day railroad corporations chronicle their drive for sustainable and clean energy sources, and museum exhibits illustrate the impact that railroading made on the environment.

As they did when William Penn occupied his country estate, Pennsbury Manor, at Morrisville, Bucks County, animals provide power for plowing.
Always interested in the most efficient technologies to accomplish work, the Harmony Society was among the first textile manufacturers in the United States to use stationary steam engines to power its mills and to transport its products on the Ohio and Mississippi Rivers. The Harmonists, who settled Old Economy Village (www.oldeconomyvillage.org) in 1824 in Ambridge, Beaver County, organized the Economy Oil Company and began drilling on timberlands in Warren County. The company's success enabled the communal society’s members to invest in and develop a number of other profitable industries and business interests.

No matter where visitors begin or end their trip along the Energy Trail of History—whether it’s experiencing the majesty of wind power filling the sails of the U.S. Brig Niagara or discovering the sources, history, and uses of energy at The State Museum of Pennsylvania—they’re bound to realize that energy matters, then and now. Exploring these and other energy-related destinations throughout the Commonwealth reveals that the spirit of innovation lives on as new energy sources, among them wind, solar, biodiesel, and natural gas extracted from Marcellus Shale, are making national (and, in some cases, international) headlines and inspiring Pioneers took advantage of water power, one of nature’s most powerful energy sources, for milling grain and cutting lumber. A working 1810 sawmill, restored to operating condition at Daniel Boone Homestead, Birdsboro, Berks County, relies on a wooden waterwheel and a push-pull saw.

PHMC BUREAU OF ARCHIVES AND HISTORY PHOTO BY TED R. WALE
MAP KEY FOR THE ENERGY TRAIL OF HISTORY

1. Erie Maritime Museum and Flagship Niagara
2. Drake Well Museum
3. Pennsylvania Lumber Museum
4. Pennsylvania Anthracite Heritage Museum and Scranton Iron Furnaces
5. Eckley Miners’ Village
6. Graeme Park
7. Pennsbury Manor
8. Hope Lodge
9. Daniel Boone Homestead
10. Railroad Museum of Pennsylvania
11. Landis Valley Museum
12. Ephrata Cloister
13. Cornwall Iron Furnace
14. The State Museum of Pennsylvania
15. Pennsylvania Military Museum
16. Somerset Historical Center
17. Old Economy Village

The centerpiece of the late eighteenth-century farmstead at PHMC’s Somerset Historical Center is a 1798 log house, which was moved to the site in the 1970s. The farmstead’s small orchard, grain and flax fields, and vegetable garden illustrate how labor-intensive farming was for the region’s early settlers.
Logging in Pennsylvania—once one of the Keystone State’s most important industries—is brought to life in workshops, demonstrations, and hands-on activities during the annual Bark Peelers’ Convention, hosted in early July by the Pennsylvania Lumber Museum, Galeton, Potter County.

Before the automobile, the use of horsepower was part of every day life, especially for transportation in both rural and urban areas. At Lancaster’s Landis Valley Museum, visitors can experience what life was like for Pennsylvania German settlers through demonstrations and special family events.

Not far from the Railroad Museum of Pennsylvania, the Landis Valley Museum (www.landisvalleymuseum.org), Lancaster, examines the lives of German settlers in Pennsylvania through gallery exhibits and living history demonstrations. The living history complex interprets how agricultural technology and energy use changed over time. During the spring, summer, and fall seasons, visitors can experience true “horse power” by taking a horse-drawn wagon ride or observe interpreters using horses and oxen to work the land and harvest crops. On a daily basis, visitors tour the Agricultural and Tool Exhibit Building to inspect examples of common farm machinery and implements that used animals, steam, and gasoline to power them.

Also located in Lancaster County, Ephrata Cloister (www.ephratacloister.org) in Ephrata, was an unusual religious community founded in 1732. It was based on celibacy and the pursuit of spiritual enlightenment rather than material goals by strict discipline and self-deprivation. Wood, water, and muscle are the elements of energy which supplied power to the Cloister in the eighteenth century. The bordering Cocalico Creek furnished the community with the power to run five mills. Wood warmed the community’s distinctive medieval-style buildings and structures, and fired the ovens which baked the bread to feed the nearly eighty celibate members. Muscle from members of the community planted and harvested crops, built dwellings, and supplied the necessities of daily life.

Energy was critical to the success of the Cornwall Iron Furnace (www.cornwallironfurnace.org) at Cornwall, in adjacent Lebanon County. Established in 1742, the furnace—the only one of America’s hundreds of early charcoal-fueled blast furnaces to survive fully intact—required enormous amounts of energy to produce iron. The complex was the site of frenzied work during its heyday. Woodcutters harvested acres of trees necessary to fuel the process. Colliers transformed timber into charcoal. Miners extracted ore and limestone.
A twenty-four-foot diameter, four-ton wheel, turned by a water wheel or a supplemental steam engine, provided the bellows air blasts at the Cornwall Iron Furnace, Cornwall, Lebanon County. Built in 1742, the furnace, the only one of its kind to survive intact in the United States, consumed enormous quantities of charcoal to produce iron.
Teamsters used animals to haul raw material to both the furnace and to market. In addition to manual labor, water and steam operated mechanical systems. The final element needed to make the furnace operable was a blast of air to intensify the heat.

In Harrisburg, the Hall of Industry and Technology of The State Museum of Pennsylvania (www.statemuseumpa.org) chronicles the evolution of energy from the fat lamp to the electric light bulb. Exhibits include electrical turbines and steam engines, as well as a scale-model of a coke plant. Through 2009, Columbia Gas of Pennsylvania is sponsoring a special self-guided “Energy Tour” of the Hall of Industry and Technology.

The Pennsylvania Military Museum (www.pamilmuseum.org) in Boalsburg, Centre County, examines and interprets the roles of energy, man, and machine in the modern military era. For centuries, a nation’s ability to place an army in the field or a navy off its shores depended on energy resources at hand. Manpower and animal power initially supplied the energy. By the opening of the twentieth century, however, the machine began to replace manpower. Special exhibits focus on the critical areas of production, consumption, and the destruction of energy resources.

Visitors to the Somerset Historical Center (www.somersethistoricalcenter.org) in Somerset, Somerset County, will experience the pageant of progress and innovation as they learn about the agricultural ways of life of rural southwestern Pennsylvania. Farmers have worked this land for centuries, striving to make the most of what was often an inhospitable environment. Any innovation in technology or practice that promised to lessen the farmer’s burden was eagerly seized upon and, as a result, the region’s rural landscape has been continually reshaped as settlers strive to adopt more productive means of earning a living from the land.
Always interested in the most efficient technologies to accomplish work, the Harmony Society was among the first textile manufacturers in the United States to use stationary steam engines to power its mills and to transport its products on the Ohio and Mississippi Rivers. The Harmonists, who settled Old Economy Village (www.oldeconomyvillage.org) in 1824 in Ambridge, Beaver County, organized the Economy Oil Company and began drilling on timberlands in Warren County. The company’s success enabled the communal society’s members to invest in and develop a number of other profitable industries and business interests.

No matter where visitors begin or end their trip along the Energy Trail of History—whether it’s experiencing the majesty of wind power filling the sails of the Flagship Niagara or discovering the sources, history, and uses of energy at The State Museum of Pennsylvania—they’re bound to realize that energy matters, then and now. Exploring these and other energy-related destinations throughout the Commonwealth reveals that the spirit of innovation lives on as new energy sources, among them wind, solar, biodiesel, and natural gas extracted from Marcellus Shale, are making national (and, in some cases, international) headlines and are inspiring individuals and institutions to once again look to Pennsylvania for the resources necessary to move into the future.

PHMC has created an online interactive map that not only pinpoints the historic sites and museums that make up the Energy Trail of History, but also the many state historical markers that commemorate the men and women, the imagination and the inventions, and the innovation and impact that hallmark the Keystone State as a leader in energy and energy-related issues. Visit www.paenergytrail.com for this map and additional information underscoring PHMC’s 2009 theme, “Energy: Innovation and Impact.”
Michael A. Bertheaud is chief of interpretation and placed properties for PHMC’s Bureau of Historic Sites and Museums. He previously served as historic site administrator for PHMC’s Washington Crossing Historic Park, from 2000 to 2006. Prior to joining the staff of PHMC, he was executive director of the Luzerne County Historical Society, headquartered in Wilkes-Barre. He received a B.A. and a M.A. in history from Wright State University, Dayton, Ohio.

Howard M. Pollman, PHMC’s marketing director, is responsible for increasing the visibility of the agency and its myriad public history and outreach programs through marketing, advertising, and branding initiatives. He develops and implements marketing and public relations strategies to promote the two dozen historic sites and museums along the popular Pennsylvania Trails of History™. He received a B.A. in advertising from the Pennsylvania State University.

The compilers wish to thank PHMC historic site and museum administrators and their staffs for providing background information for this feature.

Three generations of coal miners (right) photographed by John Horgan Jr. at the Marvine Colliery in Scranton represent countless stories told at the Pennsylvania Anthracite Heritage Museum and Iron Furnaces, Scranton, Lackawanna County.

Pennsylvania’s railroads used and transported mountains of anthracite and bituminous coal. Historic locomotives and rolling stock are on display at the Railroad Museum of Pennsylvania, Strasburg, Lancaster County, which has installed a special energy exhibit on view through 2009.