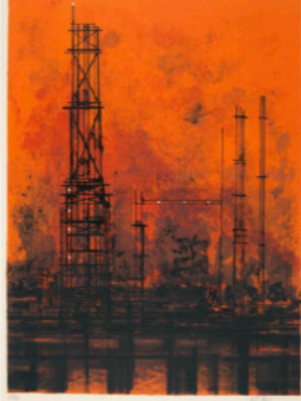


E-Museum Teaching Guide
Power and Energy



Mike Goode, Kate Holohan
Jeffrey Adams, Jeanelle Cho, Abigail Greenfield

Introduction

The emergent field of the Energy Humanities challenges us to grapple with how every historical formation—political, geopolitical, economic, social, cultural—has been underwritten by energy use and some kind of energy system, whether it be gathering wood for a fire or extracting fossil fuels for heat, transportation, and power. The operation of the Silk Road depended on using camels for power, while early European colonial expansion and mercantilism depended on harnessing wind power on an unprecedented scale. The transatlantic transportation networks of the triangular trade also depended on wind, while the trade itself dealt in enslaved African people, who were treated—horribly and unconscionably—as an expendable power and energy supply for doing agricultural labor. The whaling industry used wind power to extract a fuel: oil to burn in whale-oil lamps. Industrialism and, later, global capitalism were leveraged primarily on fossil fuels: coal, petroleum, natural gas. Those same fuels—and the practice of damming rivers—underwrote the developed world’s upward- and outward-reaching power infrastructures, highway systems, and climate-controlled urban architectures. Fossil fuels also became integral to the systems supplying much of the planet with the essential energy form known as “food.” In general, the rapid population growth of the past 200 years has been facilitated and driven by access to fossil fuel supplies and to water, the technological capabilities to exploit them for energy, and the ability to invent—and to find innovative ways of accessing and generating—energy from new sources and materials.

Because every historical formation has been underwritten by energy, every past and present artwork that depicts the world necessarily records, comments on, shapes feelings about, or deflects attention from energy infrastructures, supplies, practices, and habits. Selecting artworks for this e-museum thus presented a challenge. The more that one looks at art—especially, representational art—with energy in mind, the more one starts to see power and energy systems not just in the obvious places (power lines, cars, dams, derricks, factories, trains) but also in

clothing, newspapers, houses, domestic comforts, family reunions, protests, cleared land, farm animals, pets, and so forth. While, in the end, we reserved this e-museum primarily for artworks whose creators seemed to be knowingly making energy and power visible in some way, our hope is that the e-museum helps make more apparent the energy and power systems invisibly present in nearly any artwork. If every historical formation has been underwritten by energy and power use, the Power and Energy e-museum asks you to look more closely at how art formations comment on and are also implicated in this underwriting.

The e-museum’s many artworks depicting factories, mills, trains, cargo ships, and automobiles make visible how heavily global industrial development, urbanization, and transportation networks have relied on fossil fuels and electrical power over the course of the past two centuries. Other works in the e-museum show power and energy being produced by means other than coal, natural gas, petroleum products, and nuclear energy. These means include animals (horses, camels, oxen), wind (windmills, sailing ships), and human physical activity (rickshaws, bicycles, sedan chairs). We invite you to think critically about how different works in this gallery try to shape their viewers’ attitudes towards and feelings about different forms of power/energy production and use. In what ways do individual works seem celebratory, fascinated, cautionary, elegiac, nostalgic, or hopeful?

find several images here of agriculture related to textile-making.

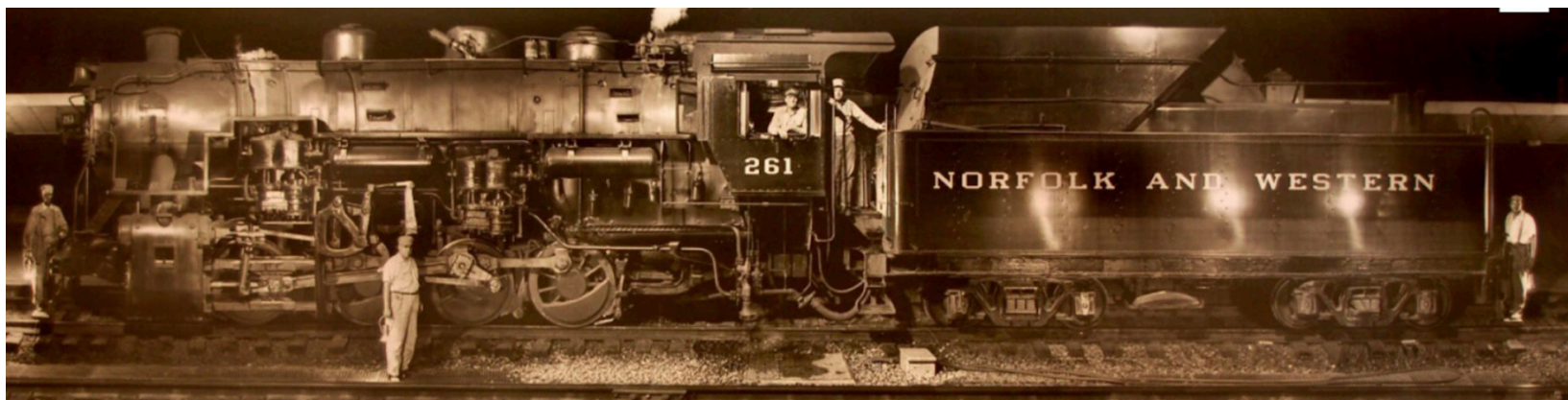
Keywords: *wind power, water power, steam power, animal power, nuclear power, electricity, hydroelectricity, power lines, power grid, fossil fuels, coal, oil, natural gas, horses, oxen, camels, steam engines, internal combustion engines, jet engines, transistors, circuits, appliances, tools, windmills, sailboats, clippers, steamships, container ships, steam shovels, trucks, automobiles, rickshaws, bicycles, airplanes, rockets, industry, highways, infrastructure, urbanization, smoke, pollution, emissions, greenhouse gasses, capitalism, landscape*

Teaching Strategies: General Questions

Individually and collectively, the works in the gallery can help students think critically about how different artworks represent, comment on, and shape ideas and feelings about:

- The power and energy sources and systems behind different activities
- The ecological dynamics and impacts of different power supplies
- The ecological dynamics and impacts of different fuels
- The ecological dynamics and impacts of different kinds of energy consumption
- How different forms of energy and power create social, political, and geopolitical hierarchies
- How different forms of energy and power disproportionately impact populations and regions
- Aesthetic genres and conventions that have developed for representing power and energy
- Histories of labor related to power and energy
- Histories of urbanization and infrastructure related to power and energy
- Histories of gender, class, nationality, and race related to power and energy
- Histories of settlement and colonialism related to power and energy

Each of these bulleted points can easily be converted into a general discussion prompt for a specific artwork by prefacing it with the phrase “How does this artwork represent (or comment on, or shape ideas about, or prompt feelings about)...?”



SIA Switcher and Crew, Shaffers Crossing, VA, O. Winston Link [Object 2006.0052]

Ecological and Cultural History

Introducing more specific ecological context for the kind of power and energy that an individual artwork makes visible can transform how students experience the work and provoke thoughtful discussion of how its significance might have changed over time. Two examples:

William Crothers Fidler's painting [\[Trolley cars in lightning by Niagara Falls\]](#) [Object 1991.024], an illustration created around 1900 for a print publication, uses a classic emblem of nature's power, Niagara Falls, to highlight humanity's ability to harness nature to generate power (made visible in the image's middle ground through the presence of the electrified trolley operating along the Niagara River and, in the background, through the electrically powered factory). That the image depicts lightning and heavy winds (the latter evident in the heeling sailboat) adds to the theme of harnessed versus unharnessed natural forces.

Hydroelectric plants that convert the force of the Niagara River into electricity continue to supply significant kilowattage daily to the Canadian and U.S. power grids. Fidler's turn-of-the-century image highlights some of the industrial and infrastructural growth that resulted when the earliest of these plants, located above the falls on the U.S. side of the river, went online in 1892. In 1895, developers completed construction on the inter-city tourist trolley that also appears in Fidler's image. Electrified by overhead power lines, the trolley, known as "The Beltline," transported several thousand people a day round trip from Buffalo to Niagara Falls, NY (a village known until 1892 as Manchester, NY). Tapping the famous falls for hydroelectricity thus developed the region not just for heavy industry but also for heavier tourism. In fact, the ability to attract tourists to the falls in the early twentieth century stemmed in part from how the surrounding area showed off hydroelectric technology's capability to sustain rapid urban, industrial, and infrastructural development.

Because hydroelectric power concentrated so much industry around Niagara Falls in the first half of the twentieth century, including chemical industries, one of its effects was the contamination of land around the falls, as then-unregulated industries disposed of hazardous waste. Higher levels of dioxins, mercury, DDT, and PCBs are present in the region's soil and in the falls' upstream riverbed than in outlying areas.



[\[Trolley Cars in lightning by Niagara Falls\]](#), William Crothers Fidler [Object 1991.024]

Ecological and Cultural History cont.

The heavy concentration of industry also increased population, which meant increased flows of sewage, waste, and agricultural runoff into the Niagara River, too. When Fidler painted his image, raw sewage was being dumped into the river. The diversion of much of the river's flow into hydroelectric power stations also drastically altered various riverine ecosystems in the region, making their waters more stagnant, which in turn concentrated the settlement of hazardous and toxic wastes in them. Fish stocks in surrounding rivers dropped dramatically by the 1950s and 60s, eventually leading to warnings against consuming fish caught near the falls. Love Canal, which eventually became the first Superfund cleanup site, was originally dug for a never-completed hydroelectric project connected to Niagara Falls. When the project was abandoned, the trench from the canal became a chemical industry dumping ground, ultimately contaminating the groundwater and land so irreparably by the 1970s that area residents had to be permanently relocated by the federal government.

Have students discuss the perception and image of Niagara Falls in popular culture and how works like Fidler's overlap with (or even helped create) that perception and image. What entanglements between culture and the falls does Fidler's image capture? To what end? What entanglements doesn't it capture? How does knowing more about the ecological history of the Falls over the course of the twentieth century affect the ideological significance of Fidler's turn-of-the-twentieth-century image?



[\[Trolley Cars in lightning by Niagara Falls\]](#) [Detail], William Crothers Fidler [Object 1991.024]

Ecological and Cultural History cont.

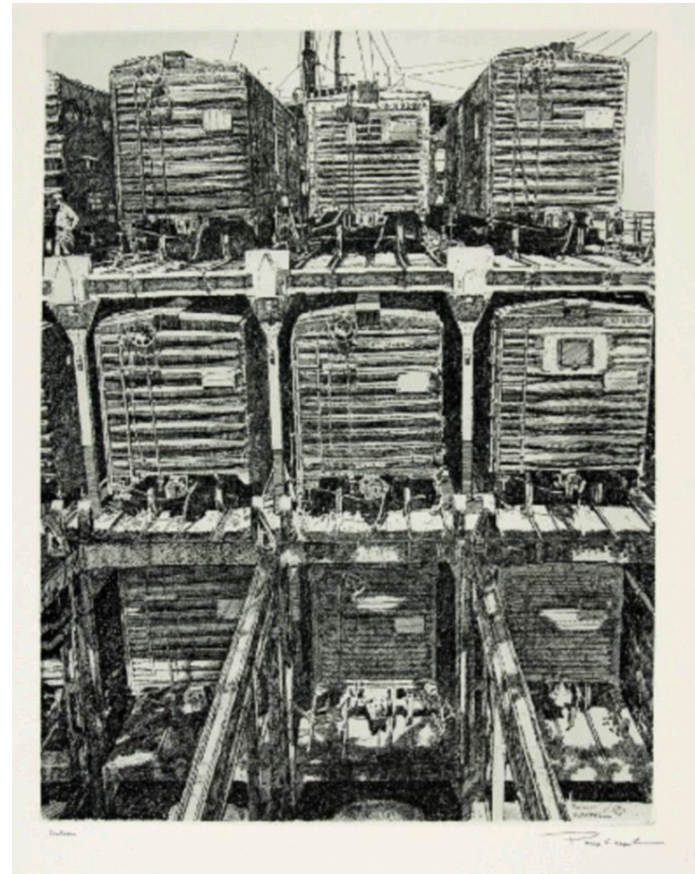
Philip Kappel's 1951 etching [Seatrain](#) [Object 1969.2007] depicts the hold of an ocean-going cargo ship operated by the Over-Seas Shipping Company in the mid-twentieth century. After its founding in 1928, the company, known within the industry as Seatrain Lines, ran a small fleet of ships that transported freight train cars between ports in the eastern United States and Cuba. By obviating the need to unload freight from a ship and then repack it in train cars, Seatrain Lines dramatically reduced shipping times. They also cut transport costs (and broke trade unions), as longshoremen were no longer needed to unload goods from ships before those goods were ready for rail transport.

The success of Seatrain Lines' business model helped pave the way for modern intermodal container shipping, in which freight carriers use standardized, stackable, cellular containers that can be detached and moved interchangeably from truck to train to cargo ship. Eventually, however, the efficiency gains of modern intermodal container shipping also ensured the company's demise. The initial Seatrain vessel could transport 95 loaded freight cars. As cellular container systems became more standardized globally by the late 1960s, new cargo ships were soon capable of carrying as many as 1,000 containers. By 1980, those carrying capacities had risen to 3,000-3,500 containers on the newest ships. Seatrain Lines filed for bankruptcy in 1981.

The development of intermodal container shipping over the course of the twentieth century accelerated and intensified consumerism and fossil fuel usage, thereby making the industry a key driver of climate change. In 2022, fossil fuel-burning container ships were responsible for 3% of global greenhouse gas emissions annually. This is because nearly 90% of all goods sold internationally were transported at some point on an intermodal container ship (the percentage rises to over 95% for all plastic goods sold internationally). Container ships also drive energy- and power-related carbon emissions and pollution indirectly. Fossil fuels and petrochemicals comprise 40% of container ships' cargo weight annually, making fossil fuel industries and the maritime shipping industry mutually dependent on one another.

Have your students describe what stance and feelings they think Kappel's print encourages towards the technology it depicts. What about towards

capitalism? Globalization? Consumerism? The ecological impacts of container shipping? How do students think their feelings about the image compare to the feelings they expect it might have evoked in the early 1950s? How does the presence of the small human figure in the image affect their interpretation of it? Note that Kappel's etching was created on the cusp of the original Seatrain vessels already starting to be rendered technologically obsolete by newer modes of modular maritime shipping, something that Kessel—an avid painter of maritime vessels—undoubtedly knew. Also, the kinds of freight cars depicted in the image are designed to carry dry goods and not fossil fuels. How do these details affect how your students interpret the image's significance?



[Seatrain](#), Philip Kappel [Object 1969.2007]

Artist, Artistic Process, and Audience

You can also ask your students more directed questions based on biographical information about the artist and where they live, or information about the methods, techniques, and technologies used in creating the artwork. Two examples:



[Emanation](#), Barbara Morgan [Object 1984.700b]

American photographer Barbara Morgan's photograph [Emanation](#) [Object 1984.700b], from 1940, records the result of moving an illuminated, incandescent light in front of a camera that had its shutter left open for an extended period (i.e., it is a long-exposure photograph). Taken at a time when Morgan primarily photographed modern dancers and their dynamic movements, *Emanation* looks more abstract than most of Morgan's other works from the same period (her interest in abstract photography became more fully developed in the 1970s and 80s, which is when she developed the print of *Emanation* that is in the Syracuse University Art Museum's collection). At the same time, it is worth having students discuss what relation *Emanation* bears to dance

photography. As a representational photograph, what is it exactly that the photograph represents or records? How is the way that electric light appears in the frame recording space? How is it recording time?

The English word photography, coined in the 1830s at around the time photography was invented, combines the Greek words for "light" (*photo*) and "to write" (*graph*), an idea that Morgan's *Emanation* literalizes. One way of characterizing photography as a medium is that it ecologically transforms light energy into representation using the technologies of apertures, shutters, lenses, and photosensitive receptors. Changes in the history of power technologies thus alter photography's capabilities as a medium, and, in turn, its place within the broader media landscape. Cameras have transformed over time from being large mechanical objects designed to record light information physically on photosensitive papers or glass plates to being small battery-powered objects that record light information digitally via electrical photosensors. Likewise, changes in lighting technologies have necessarily altered photography's capabilities, especially as a medium that can capture light information indoors, at night, at great distances, under great magnification, and from objects moving at high speeds.

Have students interpret Morgan's *Emanation* as an object that records or reflects a particular moment in the history of power and energy. Aside from the movement of light in time and space, what else does the photograph record or reflect or express? To what extent does it make energy visible? What kind or kinds of energy? To what extent do changes in electrical power since 1940 affect our reading of it as an ecological record today?

Artist, Artistic Process, and Audience cont.

American painter and printmaker Robert Cottingham's lithograph [Orph](#) [Object 1979.0069] depicts a portion of the sign and marquee for the Orpheum Theatre in Los Angeles, as it appeared in 1970. After being trained in advertising and graphic design, Cottingham worked in Los Angeles in the early 1960s as the art director for the Young and Rubicam advertising agency, before leaving that post to devote himself full time to painting. Many of Cottingham's works, *Orph* included, document vernacular American urban architecture, with an especial focus on storefronts, lettering, and electrically illuminated commercial signage. To create a painting or print, Cottingham typically works from photographs, though he does not strictly mimic these originals, sometimes playfully changing words or letters in the signage he is reproducing. As in *Or h*, Cottingham often uses the frame to isolate a syllable or part of a word in a sign.

Vaudeville had two major circuits in the late 1920s, including the Orpheum circuit, on which Los Angeles's Orpheum Theatre was a premiere venue. As vaudeville declined, the theater became a music venue and cinema. In addition to appearing in countless films, it has hosted many film premieres. Musicians who performed at the Orpheum in the twentieth century include Billie Holiday, Jack Benny, Josephine Baker, Lena Horne, Duke Ellington, Little Richard, and Stevie Wonder. Intended to convey opulence and modernity at the time it was built, the Orpheum featured marble, large mirrors, electrically lit chandeliers, gilded ceilings, and plush seating in its interiors, while its facade was decorated with incandescent lights. In 1941, its marquee was redesigned to incorporate the neon lighting plainly visible in Cottingham's *Orph*.

Neon lighting was a popular urban aesthetic choice throughout the first half of the twentieth century, used to decorate art deco buildings and to create kinetic commercial displays in Times Square and Las Vegas, among other places. Its heyday had waned, however, by the time Cottingham created *Orph*, and part of Cottingham's attraction

to documenting architectural elements like the Orpheum Theatre's marquee had to do with the extent to which they had become shabby, residual holdovers from an earlier era. As of the 2020s, neon signage has become virtually obsolete due to environmental concerns. In addition to being an energy-intensive, high-voltage form of lighting, neon lights are difficult to dispose of, since they require mercury to manufacture and, when broken, can leach heavy metals into the environment.

Have students interpret Cottingham's *Orph* as an object that records or reflects a particular moment in the history of power and energy. How does knowing that Cottingham had a background in advertising affect how your students react to or understand the print? What commentaries, if any, does the print make on the use of neon lighting in urban display? Is it making an ecological commentary? How so, or how not? What do you make of the decision to crop the sign so that only "Orph" is visible? What other letters can be added to "orph" to create words other than "Orpheum": how might these verbal associations potentially be in play in the work?



[Orph](#), Robert Cottingham [Object 1979.0069]

Visual Analysis

Any of the above approaches can be combined with more targeted questions about elements of form, composition, color, or style, based on student contributions to discussion. For example:

- How do distinct artistic mediums permit different types of engagement with power and energy's visible ecological effects or impacts? For instance, what sorts of thinking about the effects or impacts of different kinds of power or energy does photography enable that is unique from painting (and vice versa)? What do distinct artistic mediums reveal about power and energy?
- Energy is often invisible, especially when it is merely potential energy. What objects in the e-museum make visible energy's invisibility? How do they do this?
- How do the style and colors of this artwork factor into the way that you're experiencing it as an image that codes what it is depicting positively (or negatively)? How might a different style or a different color scheme for the exact same composition have contributed to a different affective experience than the one you're articulating? To what extent would you characterize its colors as "natural" or "unnatural" in context, and how does that matter to your response?"
- What decisions do you see this artist making about what to include and not to include in the frame? What about the angle their work captures? How do these compositional choices contribute to your sense of the kind of ecological statement you see the work making (or failing to make) about the power or energy usage it depicts? Specific to photography, what elements of the photograph appear to be beyond the photographer's control? To what extent (or in what ways) is the subject of the photograph its author?
- How do the figures matter to how you are interpreting this object's ecological project or significance? What about the background? The relation between the two? In the case of works that have multiple figures, what different functions do these figures serve? Or what different relational vectors to other figures, or to their surroundings, do they establish?
- There is a long tradition in art of creating works that try to activate an experience of "the sublime," or a sense of being pleasurably overwhelmed or awed, in relation to natural landscapes (traditional subjects for such art include massive mountains and plunging waterfalls). Art historians refer to depictions of industry and manufacturing that do the same as the "industrial sublime." Would you characterize the image of power and energy supply or capture in this artwork as an instance of "the industrial sublime"? Even when an artwork seemingly tries to make what it depicts "ugly," does it also seem to be trying to overwhelm the viewer or make the viewer experience awe? How does this matter to thinking about the work's commentaries on power and energy technologies or industries? What are alternatives to the "industrial sublime" for engaging with different energy sources, their technological harnessing, and/or their ecological significance?

Pairings and Groupings

Many of the works in the "Power and Energy" e-museum make for critically provocative pairings or groupings. Some of our suggested groupings for discussion include:

- **Wind energy:** Paul Jean Clays's painting [\[Seascape with boats and windmills\]](#) [Object 1975.053]; Frederic Whitaker's watercolor [\[Spanish mill\]](#) [Object 1974.043]; Robert Giard's photograph [Windmill](#) [Object 2007.0022.02]; George A. Tice's photograph [Buggy, Farmhouse and Windmill, Lancaster, PA](#) [Object 2007.0040]; Winslow Homer's engraving [Winter at Sea – Taking in Sail off the Coast](#) [Object 1997.0066]; John Henry Hill's etching, after Otis Weber's painting [\[Figures in a sailboat in a rough sea\]](#) [Object 2017.0017]; and William Crothers Fidler's painting [\[Riverboat scene along the Hudson River\]](#) [Object 1991.017]
- **Animal Power:** William de Montagne Cary's painting [\[The pony express\]](#) [Object 1991.029]; Louis Szanto's etching [Spring Plowing](#) [Object 1965.0988]; John Steuart Curry's lithograph [To the Train](#) [Object 1966.166]; Eugene Atget's photograph [\[Factories along the river\]](#) [Object 1984.111]; Kerr Eby's drypoint [Desert Freight](#) [Object 1963.0718]; George A. Tice's photograph [Three Amish Girls, Lancaster, PA](#) [Object 2007.0041]; Denise Bellon's photograph [Boy with horse-drawn cart, Zagreb, Croatia](#) [Object 2021.0419]; Edward Penfield's lithograph of [a woman in a horse-drawn carriage for Harper's Magazine](#) [Object 1986.019]; Howard Cook's woodcut [Bicycles and Carriage, Bermuda](#) [Object 1999.0006]; and Boris Artzybasheff's drawing [Horses for a World on the Move, AVCO No. 1](#) [Object 1965.1082]
- **Human-powered transport:** Paul Jean Clays's painting [\[Seascape with boats and windmills\]](#) [Object 1975.053]; a Japanese photograph of [rickshaws](#) [Object 1994.082.75]; Hiroshige II's woodcut [River Scene](#) [Object 1967.1591B]; and Howard Cook's woodcut [Bicycles and Carriages, Bermuda](#) [Object 1999.0006]
- **Coal power:** engraving [The "Great Eastern" Steamship at Sea](#) [Object 2010.0008]; William Crothers Fidler's painting of a [riverboat and sailboats on the Hudson River](#) [Object 1991.017]; Reginald Marsh's etching [Tug at Battery](#) [Object 1964.079]; John Steuart Curry's lithograph [To the Train](#) [Object 1966.166]; W. Eugene Smith's photograph [Railroad Cars at Processing Station – Sen. Taft and Ohio](#) [Object 1984.126]; O. Winston Link's photographs [SIA Switcher and Crew, Shaffers Crossing, VA](#) [Object 2006.0052], [The Popes watch the last steam powered passenger train, Max Meadows](#) [Object 2006.0051], and [Hotshot Eastbound, Iaeger, West Virginia](#) [Object 2006.0050]; Richard Florsheim's lithograph of [freight cars](#) [Object 1967.624]; Richard C. Harden's lithograph [Olsztyn West](#) [Object 1992.733]; James J. Penney's [Fuel – Queen's Landscape](#) [Object 1990.106]; and Frederic Whitaker's watercolor [Car Foundry Conemaugh Pennsylvania](#) [Object 2000.0044]



[\[Seascape with boats and windmills\]](#), Paul Jean Clays [Object 1975.053]



[\[Spanish mill\]](#), Frederic Whitaker [Object 1974.043]



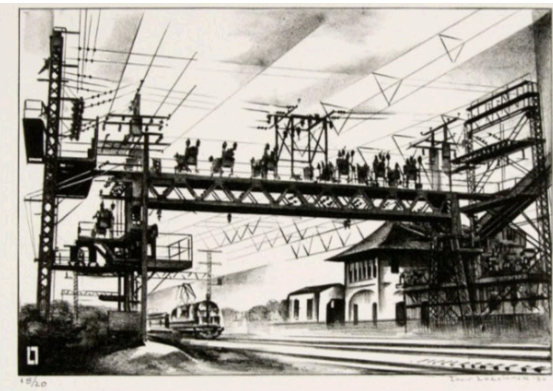
[Buggy, Farmhouse and Windmill, Lancaster, PA](#), 1965, George A. Tice [Object 2007.0040]

Pairings and Groupings cont.

- **Petroleum extraction and distribution:** James J. Penney's lithograph [Fuel – Queen's Landscape](#) [Object 1990.106]; W. D. Kaley's lithograph [\[View of oil tanks\]](#) [Object 2017.0552]; Letterio Calapai's print [Labor in a Diesel Plant](#) [Object 1968.741]; Alan Dunn's cartoon about [a farmer not planting in exchange for power and gas leases](#) [Object 1979.2096]; Richard Florsheim's lithograph [Oil Wells](#) [Object 1982.106]; Ed Kashi's photograph [FINIMA, NIGERIA|2006](#) [Object 2022.0021]; and Ron Kleeman's screenprint [Gas Line](#) [Object 1993.190.09]
- **Water power (dams, waterwheels):** photograph of [a mill and waterwheel in Japan](#) [Object 1987.252]; Otto Kuhler's etching [Harnessing the Susquehanna at Conowingo, Maryland](#) [Object 2017.0505]; and Berenice Abbott's photograph [Norris Dam](#) [Object 1981.2378]
- **Nuclear and solar power:** Boris Artzybasheff's drawing [Nuclear Umbrella](#) [Object 1965.1038]; Alan Saret's drawing [Solar Power Brought](#) [Object 1984.848]; and Don Tobin's cartoon about [atomic energy taking away the “drudgery” of housework](#) [Object 1989.045]
- **Electrical grid and power lines:** Otto Kuhler's etching [Harnessing the Susquehanna at Conowingo, Maryland](#) [Object 2017.0505]; Berenice Abbott's photograph [Norris Dam](#) [Object 1981.2378]; William Crothers Fidler's gouache painting [\[Trolley cars in lightning by Niagara Falls\]](#) [Object 1991.024]; Edward Hopper's etching [The Railroad](#) [Object 1998.082]; Richard C. Harden's lithograph [Olsztyn West](#) [Object 1992.733]; Louis Lozowick's lithograph [High Voltage – Cos Cob](#) [Object 1997.0042]; Berenice Abbott's photograph of [an electrical substation](#) [Object 1981.2356]; Dong Kingman's watercolor of [a farm house and electrical wires](#) [Object 1966.388]; Alan Dunn's cartoon about [a farmer not planting in exchange for power and gas leases](#) [Object 1979.2096]; and Amando Doronila's photograph [Travel Power](#) [Object 2021.0555]
- **City lights:** Berenice Abbott's photograph [Night at Amusement Park, Daytona Beach, Daytona, Florida](#) [Object 1981.2256]; Richard Florsheim's lithographs [Incandescent City](#) [Object 1977.046] and [Jet Approaches](#) [Object 1977.053]; and Robert Cottingham's lithograph [Orph](#) [Object 1979.0069]
- **Indoor lighting:** Giovanni Mataloni's lithograph [Poster for Societa Anonima per la Incandescenza a gas brevetto aver](#) [Object 1965.0343.072]; Maurice Realier-Dumas's lithograph [Poster for Incandescence Par le Gaz](#) [Object 1965.0343.023]; Stuart Davis's oil painting [Stove and Electric Light](#) [Object 1982.073]; and Paul Almásy's photograph [Production of light bulbs, Korea](#) [Object 2021.0327]
- **Appliances and circuitry:** Lee Friedlander's photograph of [a factory worker wiring a vacuum cleaner](#) [Object 2007.0077]; Mary Petty's cartoon of [a maid plugging in an electric blanket](#) [Object 1979.0720]; Berenice Abbott's photograph [\[Burgess, the Electronic and Transistor Circuits\]](#) [Object 1992.223]; W. Eugene Smith's photograph [Worker with Circuits, Hitachi](#) [Object 1985.262]; animation still for an [Eveready Batteries advertisement](#) [Object 1994.515]; and Don Tobin's cartoon about [atomic energy taking away the “drudgery” of housework](#) [Object 1989.045]



[\[Farmhouse and wires\]](#), Dong Kingman [Object 1966.388]



[High Voltage – Cos Cob](#), Louis Lozowick [Object 1997.0042]



[\[et Approaches\]](#), Richard Florsheim [Object 1977.053]

Pairings and Groupings cont.

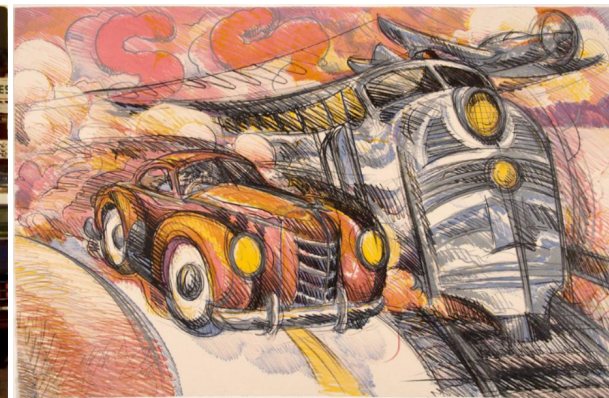
- **Electrical artwork:** Barbara Morgan's photograph [Emanation](#) [Object 1984.700b]; and Phyllis Mark's [Orange Constellation with Lights](#) [Object 1967.41]
- **Trolleys:** William Crothers Fidler's gouache painting [\[Trolley cars in lightning by Niagara falls\]](#) [Object 1991.024]; Louis Lozowick's lithograph [High Voltage – Cos Cob](#) [Object 1997.0042]; and Amando Daronila's photograph [Travel Power](#) [Object 2021.0555]
- **Automobiles:** Frederic Whitaker's watercolor [Car Foundry Conemaugh Pennsylvania](#) [Object 2000.0044]; O. Winston Link's [Hotshot Eastbound, Jaeger, West Virginia](#) [Object 2006.0050]; Luis Jimenez's lithograph [Progress Suite](#) [Object 2005.0113d]; John Salt's oil painting [Riviera II](#) [Object 1970.035]; and Ron Kleeman's screenprint [Gas Line](#) [Object 1993.190.09]
- **Aircraft and rockets:** O. Winston Link's photograph [Hotshot Eastbound, Jaeger, West Virginia](#) [Object 2006.0050]; Luis Jimenez's lithograph [Progress Suite](#) [Object 2005.0113d]; John Battenberg's sculpture [World War I Fighter Plane](#) [Object 1968.311]; W. Eugene Smith's photograph [U.S.S. Bunker Hill](#) [Object 1985.271]; Richard Florsheim's lithograph [Jet Approaches](#) [Object 1977.053]; Boris Artzybasheff's drawing [Horses for a World on the Move, AVCO No. 1](#) [Object 1965.1082]; and Boris Margo's cellocut [Blast Off](#) [Object 1967.1916]
- **Hot-air balloons:** Charles Meryon's engraving [Le Pont au Change, Paris](#) [Object 2011.0280]; and Michael Oelman's etching [Air – Silent Passage](#) [Object 1990.155]
- **Petroleum-powered ships:** Berenice Abbott's photograph [Dockyards Jacksonville](#) [Object 1981.2567]; Philip Kappel's etching [Seatrain](#) [Object 1969.2007]; W. Eugene Smith's photograph [U.S.S. Bunker Hill](#) [Object 1985.271]; and Barry Winiker's photograph [Crow's Nest, Costa Cruises, Costa Riviera](#) [Object 1999.0084]
- **Freight and shipping:** Paul Jean Clays's painting [\[Seascape with boats and windmills\]](#) [Object 1975.053]; photograph of [Japanese junks](#) [Object 1996.0388]; Kerr Eby's drypoint [Desert Freight](#) [Object 1963.0718]; Reginald Marsh's etching [Tug at Battery](#) [Object 1964.079]; engraving by an unidentified artist [The "Great Eastern" Steamship at Sea](#) [Object 2010.0008]; Berenice Abbott's photograph [Dockyards Jacksonville](#) [Object 1981.2567]; W. Eugene Smith's photograph [Railroad Cars at Processing Station – Sen. Taft and Ohio](#) [Object 1984.126]; O. Winston Link's photograph [SIA Switcher and Crew, Shaffers Crossing, VA](#) [Object 2006.0052]; Richard Florsheim's lithograph of [freight cars](#) [Object 1967.624]; Philip Kappel's etching [Seatrain](#) [Object 1969.2007]; Shigeru Kimura's etching [Freight Cars](#) [Object 1961.29]; Richard C. Harden's lithograph [Olsztyn West](#) [Object 1992.733]; and O. Winston Link's [Hotshot Eastbound, Jaeger, West Virginia](#) [Object 2006.0050]



[Riviera II](#), John Salt [Object 1970.035]



[Gas Line](#), Ron Kleeman [Object 1993.190.09]



[Progress Suite](#), Luis Jimenez [Object 2005.0113d]

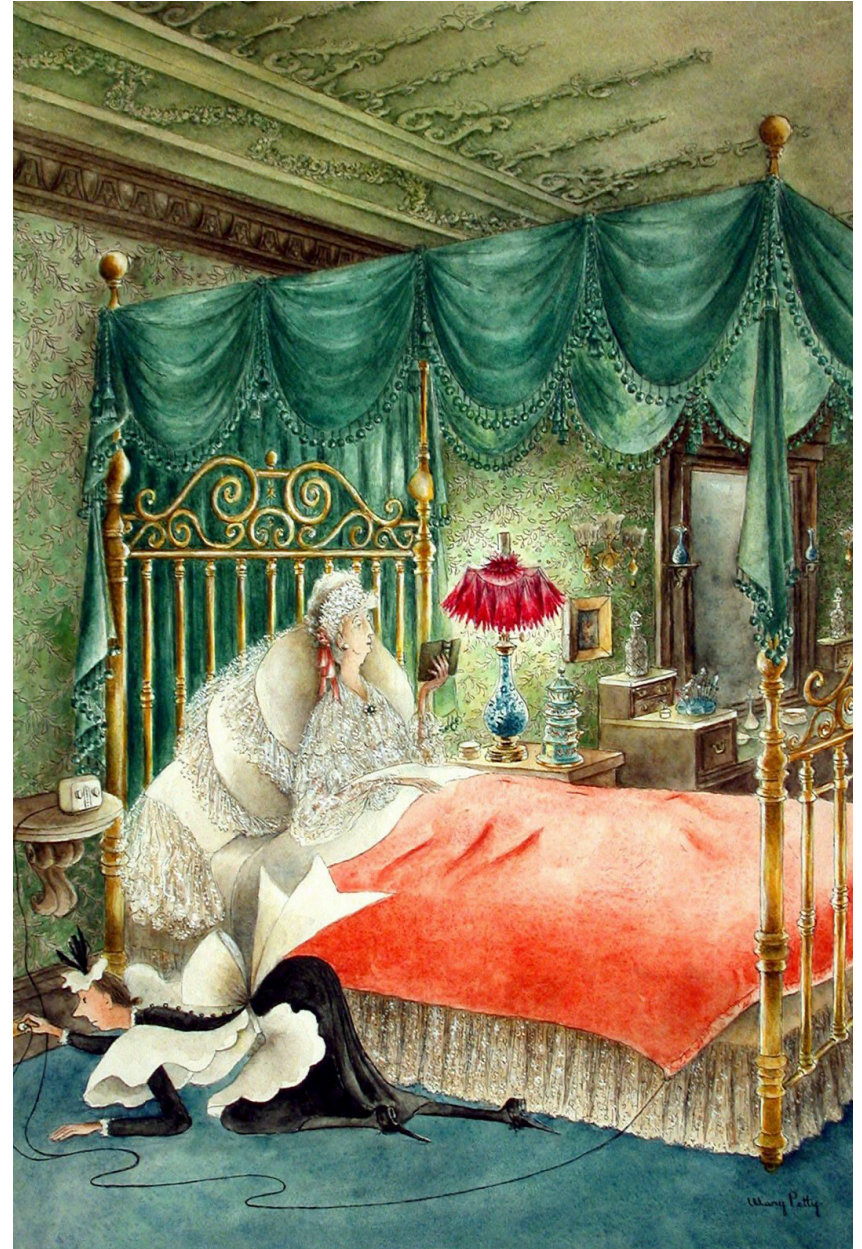
Assignments and Further Resources

For general assignments related to this and other e-museums, consult “Art, Ecology, and Climate E-Museums: A Teaching Guide.” You can access the guide via the Project’s webpage (under the “Learn” pulldown menu on the Syracuse University Art Museum’s website).

Additional context for a few other artworks in this e-museum can be found in the teaching guides for other e-museums in the Art, Ecology, and Climate Project. For the following works, consult the relevant AEC Project-produced teaching guide on the Project’s webpage. The relevant guide is listed in parentheses after the work:

- Ron Kleemann, [Gas Line](#) (The Anthropocene)
- Robert Giard, [Windmill](#) (Bewilderment)
- Ed Kashi, [FINIMA, NIGERIA|2006](#) (Entanglement)
- Mary Petty, [\[No caption \(Fay plugging in electric blanket\)\]](#) (Extraction)

Many of the other e-museums in this project contain artworks related to power and energy, including “The Anthropocene,” “Environmental Justice,” “Extraction,” “Food Systems,” and “Pollution and Contamination.”



[\[No caption \(Fay plugging in electric blanket\)\]](#), Mary Petty (Object 1979.0720)

Further Reading on Art, Power, and Energy

- Apter, Andrew. *The Pan-African Nation: Oil and the Spectacle of Culture in Nigeria*. The University of Chicago Press, 2005.
- Behrends, Andrea, Stephen P. Reyna, and Gunther Schlee. Eds. *Crude Domination: The Anthropology of Oil*. Bergahn, 2011.
- Bond, David. *Negative Ecologies: Fossil Fuels and the Discovery of the Environment*. University of California Press, 2022.
- Calder, Barnabas. *Architecture: From Prehistory to Climate Emergency*. Penguin, 2022.
- Carpenter, Ele. *The Nuclear Culture Sourcebook*. Black Dog Publishing, 2016.
- Clarke, Bruce, and Linda Dalrymple Henderson. Eds. *From Energy to Information: Representation in Science and Technology, Art and Literature*. Stanford University Press, 2002.
- Clayson, Hollis. *Illuminated Paris: Essays on Art and Lighting in the Belle Époque*. The University of Chicago Press, 2019.
- Daggett, Cara N., *The Birth of Energy: Fossil Fuels, Thermodynamics, & the Politics of Work*. Duke, 2019.
- Demos, T. J. *Against the Anthropocene: Visual Culture and Environment Today*. MIT Press, 2017.
- Goodstein, David. *Out of Gas: The End of the Age of Oil*. W. W. Norton, 2005.
- Hein, Carola. Ed. *Oil Spaces: Exploring the Global Petroleumscape*. Routledge, 2021.
- Higgins, Hannah B. *The Grid Book*. MIT Press, 2009.
- Isenstadt, Sandy. *Electric Light: An Architectural History*. MIT Press, 2018.
- Jones, Jamie L. *Rendered Obsolete: Energy Culture and the Afterlife of US Whaling*. University of North Carolina Press, 2023.
- Kahn, Douglas. Ed. *Energies in the Arts*. MIT Press, 2019.
- Lord, Barry. *Art and Energy: How Culture Changes*. American Alliance of Museums, 2014.
- Malm, Andreas, and The Zetkin Collective. *White Skin, Black Fuel: On the Danger of Fossil Fascism*. Verso, 2021.
- Marder, Michael. *Energy Dreams: Of Actuality*. Columbia University Press, 2017.
- Misrach, Richard, and Kate Orff, *Petrochemical America*. Aperture, 2014.
- Mitchell, Timothy. *Carbon Democracy: Political Power in the Age of Oil*. Verso, 2013.
- Nathanson, Alex. *A History of Solar Power Art and Design*. Routledge, 2021.
- Neumann, Dietrich. *Architecture of the Night: The Illuminated Building*. Prestel, 2002.
- Nye, David. *American Technological Sublime*. MIT Press, 1994.
- Nye, David. *Electrifying America: Social Meanings of a New Technology, 1880-1940*. MIT Press, 1990.
- Pinkus, Karen. *Fuel: A Speculative Dictionary*. University of Minnesota Press, 2016.
- Stoll, Mark. *Profit: An Environmental History*. Polity, 2023.
- Szeman, Imre, and Jeff Diamanti. *Energy Culture: Art and Theory on Oil and Beyond*. West Virginia University Press, 2019.
- Szeman, Imre, and Dominic Boyer. Eds. *Energy Humanities: An Anthology*. Johns Hopkins University Press, 2017.
- Wenonah, Hauter. *Frackopoly: The Battle for the Future of Energy and the Environment*. The New Press, 2016.
- Volkmar, Anna. *Art and Nuclear Power: The Role of Culture in the Environmental Debate*. Lexington Books, 2022
- Zallen, Jeremy. *American Lucifers: The Dark History of Artificial Light, 1750-1865*. University of North Carolina Press, 2019.
- Zaretsky, Natasha. *Radiation Nation: Three Mile Island and the Political Transformation of the 1970s*. Columbia University Press, 2018.

Art, Ecology, & Climate Project

Project Team and Sponsors

Professor Mike Goode

Professor of English and William P. Tolley Distinguished Professor in the Humanities

Kate Holohan

Curator of Education and Academic Outreach, Syracuse University Art Museum

Jeffrey Adams

Ph.D Student in English

Jeanelle Cho

'24 (Architecture)

Abigail Greenfield

'25 (History and Political Philosophy)

William P. Tolley
Distinguished Teaching Professorship
in the Humanities

 **Syracuse University**
Art Museum



 **Syracuse University**
Office of Undergraduate Research
& Creative Engagement

 **Syracuse University**
College of Arts & Sciences

 **Syracuse University**
Graduate School