

✓ Question ^[2]

What is the photograph's date, title, & creator? What does this suggest? 2016. Farm scene including a bright-red barn, three silos (one vintage, two modern), and quite modern wind turbines in Hardin County, Iowa. Carol Highsmith. The photograph is very recent and displays a few features of modern farming juxtaposed with much older features of farming. The farm is nearly in the very center of Iowa in the Midwestern United States.

What type of person might have taken this photograph? For what purpose? Carol Highsmith is an American professional photographer and author who has devoted her career to creating a permanent record of the United States. She took over 100,000 photographs of all 50 states, the District of Washington, and Puerto Rico and donated her entire collection to the Library of Congress. She wrote more than 50 coffee-table books and was recognized with many artistic awards.^[3]

Was it random or posed, amateur or professional, private or published? Nearly everything in the photograph is on permanent display and therefore, "posed" in a sense. Still, Highsmith made several decisions about what to include in the viewfinder and what to exclude. The corn at the bottom of the photograph and much of the sky at the top could have been omitted from the viewfinder; however, they intentionally comprise the photograph.

This landowner seems to be participating in sustainable development, a term defined in 1987 by the United Nations (the Brundtland Report) as "development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs."^[6] **What are some ways a nation can practice sustainable development?** A few years later, in 1992, the United Nations held a conference in Rio de Janeiro and issued the "Rio Declaration" signed by 175 nations. The declaration is the foundational document for sustainable development and has underpinned literally hundreds of treaties, resolutions, and agreements. The second principle of the declaration coheres with the compelling question at the center of this activity: nations have sovereignty over their domestic affairs and nations have a responsibility to the international community. The balance between a nation's sovereignty and its concern for international law is a dynamic that many nations are discussing, especially as it concerns potential economic impact. In 2015, the United Nations developed 17 "sustainable development goals," and this farm illustrates Goal #7, to Promote Clean Energy (i.e., renewable the energy sources: wind, solar, hydroelectric). Also, in 2015, the Paris Agreement was a treaty and international conference where 196 nations pledged to "contribute to the reduction of greenhouse gases and support sustainable development."^[7] "Sustainable development has become a... paradigm that should, as commonly accepted, underpin most, if not all, human action(s). It pervades the environmental, social, political, economic, and cultural discourses from the local through to the 'global' level by both the public and private sectors."^[8]

These appear to be power lines of the traditional variety. 84% of all energy consumed in the US in 2019 was from fossil fuels (16% was from renewable/sustainable sources of energy: wind, solar, hydroelectric). Fossil fuels are materials containing hydrogen and carbon that were formed naturally over millions of years in the earth's crust from decomposing plants and animals. These materials can be burned to release energy for electricity, heat, or transportation. Coal, oil, and natural gas are the main fossil fuels humans use. Since the 18th century and its Industrial Revolution, fossil fuels have been used at an ever-increasing rate and, although new areas of fossil fuels are sometimes discovered, they are a limited, one-use resource that cannot be replaced. **What are the drawbacks to using fossil fuels as an energy source?** The problem with using fossil fuels as an energy source is that when they burn they emit carbon dioxide (CO₂) which, when added to the Earth's atmosphere, absorbs heat energy and re-directs it back to the Earth's surface. This warming of the lowest layer of the Earth's atmosphere by way of gases that trap heat is called the "greenhouse effect" and gases, like CO₂ and methane, that contribute to the effect are called "greenhouse gases." The dramatic rise in greenhouse gas throughout the world has led many nations to attempt to reduce their dependence on fossil fuels (i.e., called a "fossil fuel phase out") and increase their use of "renewable" or "sustainable" energy sources: wind, solar, hydroelectric.^[5]

✓ Observe

Highsmith, Carol. (2016). *Farm scene including a bright-red barn, three silos (one vintage, two modern), and quite modern wind turbines in Hardin County, Iowa.* Library of Congress,



This is a "quite modern" wind turbine; it creates electricity without requiring fuel and without creating air pollution. Wind turns large propeller-blades, which turn a rotor, which spins a generator and creates electricity. Wind turbines are built on land and offshore, anywhere with a strong consistent wind flow pattern. A large wind turbine, like the one here, stands about 200 feet tall and have blades about 100 feet long. **Are wind turbines an effective energy source?** The majority of wind turbines in the US are in the midwest and the central plains; the state with the highest overall percentage of wind energy consumed is Iowa (40% of all energy consumed in Iowa in 2019 was from wind turbines).^[4] The start-up cost for each wind turbine is about \$1 million and the average profit for each is about \$100,000 a year; so, it takes about 10 years for a wind turbine to pay for its own cost to manufacture, transport, and build. Because the startup costs are prohibitive for most landowners, large companies in the wind turbine business often approach landowners and pay for an easement onto the property. The typical large wind turbine produces enough electricity to power about 2,000 homes for a month (about 2,000,000 watts of power each year). A wind turbine collects the produced electricity and its owner often sells that electricity to the local power company who then makes it available—sells it—to customers. The downsides to a wind farm, a location with multiple wind turbines, include: deaths of birds and bats tend to rise when a wind farm is new to an area and the visual impact on the landscape is usually seen as a detriment (i.e., panoramic views can be blocked, which may affect tourism). While there is no scientific backing, some people claim the low frequency sound created by the wind turbine adversely affects their health (called "wind turbine syndrome").

✓ Reflect

How does this photograph compare with other information? Much of the information gathered from this photograph coheres with some of the text from actionable elements of the Rio Declaration. This photograph explores international law as it concerns "sustainable development," other photographs may explore conduct of war, national sovereignty, outer space, or the environment.

Why might other information agree or disagree with this photograph? Other photographs or texts may explore international law from different perspectives that answer the overarching question differently. Other sources may have different reasons for presenting data, such as to make their perspective seem more reasonable, or to present the "other side" in a worse way.

What else do you need or want to know about this photograph? To what degree was international law followed after 1992 and the Rio Declaration's concentration on sustainable development? What subsequent conventions (i.e., Kyoto, Paris) have met and what requirements have they added to international law? What should policy-makers do when international concern (law) conflicts with their state's national interests?

Highsmith, Carol. (2016). *Farm scene including a bright-red barn, three silos (one vintage, two modern), and quite modern wind turbines in Hardin County, Iowa.* Library of Congress.



Citations →

Citations: [#] throughout the primer and lesson

1. Highsmith, Carol. 2016. Farm scene including a bright-red barn, three silos (one vintage, two modern), and quite modern wind turbines in Hardin County, Iowa. Library of Congress, Prints and Photographs Division. <https://www.loc.gov/item/2016630471/>
2. Adapted from the “Teacher’s Guides and Analysis Tools” from the Library of Congress, see <https://www.loc.gov/programs/teachers/getting-started-with-primary-sources/guides/?loclr=blogtea>
3. <http://carolhighsmithamerica.com/me/>
4. <https://iub.iowa.gov/regulated-industries/wind-powered-electric-generation-iowa>
5. <https://www.britannica.com/science/fossil-fuel>
6. <https://www.britannica.com/topic/Brundtland-Report>
7. <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>
8. Virginie Barral, Sustainable Development in International Law: Nature and Operation of an Evolutive Legal Norm, *European Journal of International Law*, Volume 23, Issue 2, May 2012, Pages 377–400
9. United Nations Fact Sheet #5, https://treaties.un.org/doc/source/events/2008/Press_kit/-fact_sheet_5_english.pdf
10. Article 1, Paragraph 1 of the UN Charter
11. <https://www.britannica.com/topic/International-Criminal-Court>
12. Hakimi, M. (2019). Why should we care about international law. *Mich. L. Rev.*, 118, p. 1286.
13. Pickering, H. (2016). Why do states mostly obey International Law. *E-International Relations*.
14. Unknown Photographer. (2021). Solar panels. License held by Creative Commons Attribution-Share Alike 3.0 Unported: <https://creativecommons.org/licenses/by-sa/3.0/deed.en>
15. <https://www.energy.gov/eere/solar/how-does-solar-work>
16. Stone, M. 2020. Solar panels are starting to die, leaving behind toxic trash. *Wired*. <https://www.wired.com/story/solar-panels-are-starting-to-die-leaving-behind-toxic-trash/>
17. Prendergast, C. (2020). Solar Panel Waste: The Dark Side of Clean Energy. *Discover*. <https://www.discover-magazine.com/environment/solar-panel-waste-the-dark-side-of-clean-energy>