KEY TAKEAWAY

While the transition to cleaner energy sources is underway, coal continues to play a crucial role in energy generation. It is a necessary raw material used in various industrial processes, like steel production. American coal exports contribute to these sectors globally. Railroads provide efficient and reliable transportation for this changing market and, today, account for about 70% of coal deliveries to power plants.

DATA POINTS

- Freight railroads account for around 70% of U.S. coal deliveries to power plants.
- One rail car carries enough coal to power 20 homes for an entire year.
- Just five states account for more than 70% of U.S. coal production.
- Freight railroads moved 3.4 million carloads of coal in 2022.

Although rail coal shipments have declined in recent years, coal is still an essential part of the nation’s industrial economy and a key rail market. Well over 90% of U.S. coal consumption is for electricity generation, while some coal is used to produce coke and for other industrial purposes. U.S. coal is also exported to countries all over the world for steelmaking and power generation.

Just five states account for nearly 70% of U.S. coal production, but coal is consumed all over the country — a feat made possible by freight railroads. Thanks in part to innovative service solutions and ongoing investments, railroads continue to provide efficient and cost-effective transportation to coal shippers throughout the country. In 2022 alone, U.S. railroads moved 3.4 million carloads of coal, with each rail car carrying enough coal to power 20 homes for an entire year.

Today, most coal is used to generate electricity. It is also used to produce coke and for other industrial purposes. U.S. coal is also exported to markets abroad. In the past few years, U.S. coal exports have been equivalent to around 14% of U.S. coal production, more than double the percentage of ten years ago.

Why Have Coal Shipments Dropped?

Historically, coal has been the single most important commodity carried by U.S. railroads. In recent years, technological advances in natural gas extraction and greater reliance on renewables like wind and solar have led to a sharp decline in coal’s share of U.S. electricity generation — resulting in a precipitous drop in the amount of coal moved by railroads.
Because electricity generation accounts for so much U.S. coal consumption, the electricity market is key to coal’s fortunes. For decades, total U.S. electricity generation rose steadily, more in less in tandem with economic growth. Over the past 15 years, though, total U.S. electricity generation has been roughly flat while coal’s share has plunged.

Concerns about the environmental impact of coal have played a major role in its decline, but market forces have been even more important. Rapid increases in natural gas production brought about by technological advances in natural gas extraction, especially hydraulic fracturing, or fracking, have meant that natural gas is much more plentiful and cheaper for electricity producers than it used to be.