

# Economic and Power System Impacts of the Quad Cities Clean Energy Center in Illinois

## BACKGROUND

The Quad Cities Clean Energy Center (QCCEC) is a two-unit nuclear plant located in Rock Island County, Illinois. The two units generate energy continuously in all weather conditions and all times of day, together producing about 15.6 TWh of emissions-free energy annually to serve Illinois and Iowa's needs. That is enough electricity to power the equivalent of more than 1.4 million homes.<sup>1</sup>

## ANALYSIS

A 2026 study published by The Brattle Group estimated the impacts of renewing QCCEC's license for an additional 20 years beyond its current scheduled expiration in 2032. The analysis shows that in contrast to a retirement scenario, if QCCEC continues to operate between 2033-2050, it would provide \$14 billion in incremental economic activity in Illinois, preserve \$3.2 billion in state and federal tax revenue, avoid \$6.7 billion in increased ratepayer costs, and support up to 979 jobs in Illinois on average for another two decades.<sup>2</sup>

## IMPACT

Renewing the license for QCCEC will be critical for Illinois to meet its goals to combat climate change, as the plant produces as

much energy annually as 55% of Illinois' current in-state renewable generation. Continuing to operate the plant will also help support a reliable and affordable grid amidst surging demand and rising energy infrastructure costs, given that the share of QCCEC serving Illinois accounts for around 9% of Illinois' annual electricity needs. Retiring QCCEC in the near-term would impede progress in achieving the clean energy and emissions reduction goals outlined in the Climate and Equitable Jobs Act (CEJA) and increases the challenge of meeting growing electricity demand reliably.

Relicensing QCCEC guarantees reliable, carbon-free power and will displace a significant amount of fossil generation and emissions in the near-term. Securing this clean power is pivotal to achieving Illinois' 2045 electric sector decarbonization targets, as well as limiting emissions in neighboring states with less stringent policies, where fossil generation would increase in the absence of QCCEC. Additionally, Illinois customers would likely face lower electric bills with relicensing, as retail electricity prices are estimated to be 0.7% higher on average in Illinois from 2033 to 2050 in the event of plant shutdown.

## Key Metrics | Continuing to operate QCCEC through 2050 will:

### 💰 Add \$14 Billion in State GDP (cumulative)

#### 🔧 Support 979 Jobs in Illinois

- 792 direct jobs at the facilities
- Plus an additional 187 indirect jobs (average 2033–2050)

### 🏛️ Provide \$3.2 Billion in Tax Revenue (cumulative) from Illinois

- \$752 million in Illinois state tax revenue
- \$2.4 billion in federal tax revenue

### 🕒 Provide Reliable, Baseload Supply, Reducing the Challenge of Meeting Growing Electricity Demand

- Losing QCCEC would require replacing 15.6 TWh of firm, emissions-free generation annually, driving up electricity prices and resulting in \$6.7 billion in increased ratepayer costs by 2050 in Illinois.
- License renewal will provide enough energy to offset around 50% of the output of the existing coal plants that are mandated to retire by state policy.<sup>3</sup>

### ⚡ Reduce CO<sub>2</sub> Emissions

- QCCEC reduces annual emissions by 4.8 MMT (average across 2033-2050); this is around 93% of Chicago's annual on-road emissions.<sup>4</sup>
- Losing the plant would make it much more difficult to cut emissions and meet the Climate and Equitable Jobs Act emissions targets.

### 🔄 Offer Flexibility and Foster Progress in Meeting Illinois' Clean Energy Goals

- The 75% share of QCCEC output that serves Illinois accounts for about 9% of Illinois' annual electricity needs.<sup>5</sup>
- Its annual generation is equivalent to 55% of current in-state wind and solar generation.<sup>6</sup>

<sup>1</sup> According to the [Energy Information Administration](#), in 2022 the average annual amount of electricity purchased by US residential customers was 10,791 kWh.

<sup>2</sup> These impacts do not account for any policy support, environmental attribute payments, or other mechanisms that the plant may require to continue operating.

<sup>3</sup> Scheduled plant closures will result in 31 TWh of annual coal generation losses ([IL Department of Labor](#)).

<sup>4</sup> On-road vehicles produced 5.11 MMT of GHG emissions in Chicago in 2022 ([Regional GHG Emissions Inventory](#)).

<sup>5</sup> QCCEC produces approximately 15.6 TWh/year. Actual output varies slightly from year to year, mostly due to refueling schedules. 75% of QCCEC participates in the PJM wholesale electricity market and the remaining 25% participates in MISO's wholesale electricity market as an external resource.

<sup>6</sup> 2024 retail electricity sales in Illinois were 133 TWh and in-state wind and solar generation was 28 TWh ([EIA State Electricity Profile](#)).