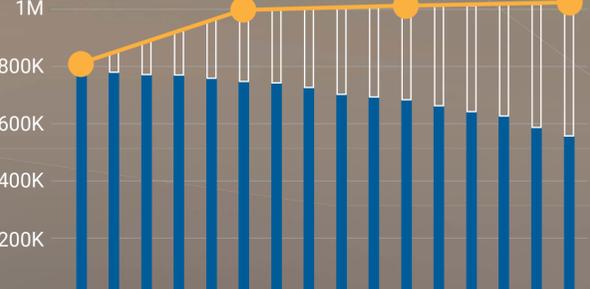
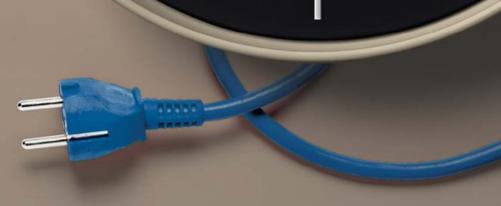
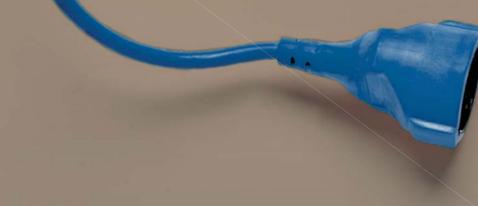


Dark by 2050



Electrical workers build and maintain our power grid. But as the workforce dwindles in the coming decades, it'll struggle to meet the needs of our nation's electrical infrastructure. That could mean a future for the nation that's vastly different from what we know today.



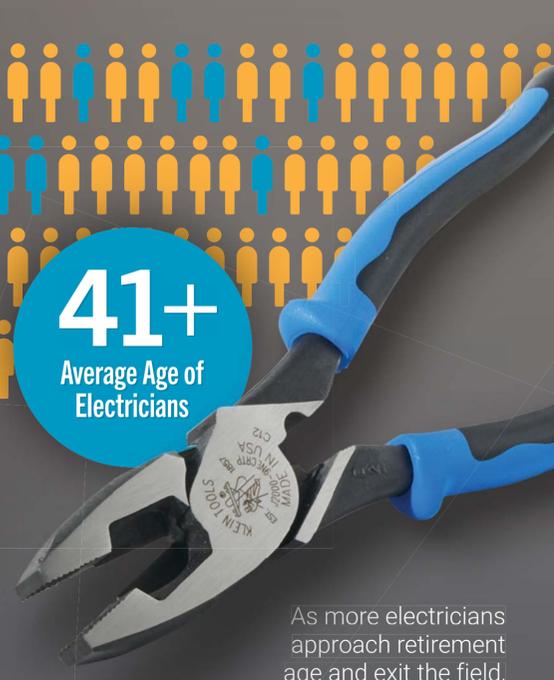
WORKFORCE GAP

To meet the near-future demands for clean energy growth, more than 250,000 new electricians will need to join the field in the next decade.

By 2050 we'll need 462,183 more electricians



41+
Average Age of Electricians



As more electricians approach retirement age and exit the field, the number of younger professionals joining isn't sustaining the workforce total.

Factors leading young people away from skilled electrical work:

- Stigma surrounding blue collar work
- Lack of trade advocacy in high school
- Societal push toward 4-year colleges

WHAT COULD HAPPEN WITHOUT MORE ELECTRICIANS

Between 2030 and 2040

Multi-day outages become the norm for the majority of the United States

Blackouts that last weeks or months



3 Months

Millions of residents experience outages lasting 3 months or longer

Permanent outages



Electricians have to prioritize life-critical facilities and services and cannot address every outage

THE COSTLY TOLL OF ROLLING BLACKOUTS

Businesses, homes, transportation, health and public safety will all face the devastating impacts of prolonged periods without power.

Duration of outage

1 HOUR

- Electric power transit stops
- Manufacturing facilities halt production
- Schools cancel classes
- Payment systems stop working and stores close

12 HOURS

- Banks close
- Food begins to spoil
- Police back-up generators exhaust fuel and critical power is routed to medical care

24 HOURS

- Hydrants lose pressure
- Long-term care facilities are forced to shut down life support systems
- Gas supply to homes and businesses is interrupted

36 HOURS

- Fuel shortage
- Cell towers shut down
- Hospital generators exhaust fuel supply and may face delays refueling

- Water towers begin to lose capacity and pressure
- First responder and police communications are shut off

48 HOURS

- Supply chain issues affect food, water and fuel
- Shelters are no longer able to maintain adequate climate control, putting the most vulnerable at risk

72 HOURS

- Local telecommunication infrastructure begins to shut down

DARK BY 2050: THE GRID IS GONE

The 2040s could resemble the 1840s

We may see the return of manual kitchens and work tools with kerosene-powered stoves, grills and lamps, and wood-burning and oil- and propane-fueled open fires for warmth.

Fresh and frozen food is limited without at-home refrigeration.

Households can only access dry foods and produce that's local and in-season.

Large-scale meat, dairy and produce processing shuts down.

Traditional retail stores are relics of the past.

THE TIME TO ADDRESS THE SKILLS GAP IS NOW

Klein Tools actively works to help grow the pipeline of young workers entering the electrical field. Through partnerships with impactful organizations, our initiatives aim to promote careers in skilled trades and provide educational resources and tools to trade schools and underserved communities.



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