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# Trends in Energy Efficiency

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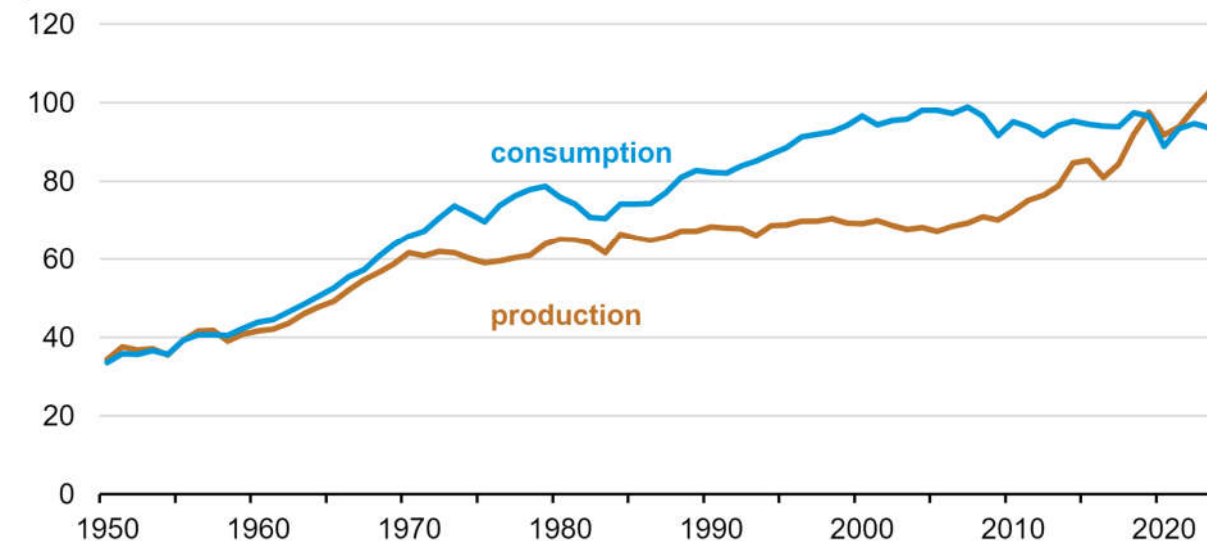


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# Historical Supply and Demand

- Overall consumption is trending downward
- Supply surpassed demand in the Covid era
- Production still outpacing consumption

U.S. primary energy production and consumption (1950–2023)  
quadrillion British thermal units

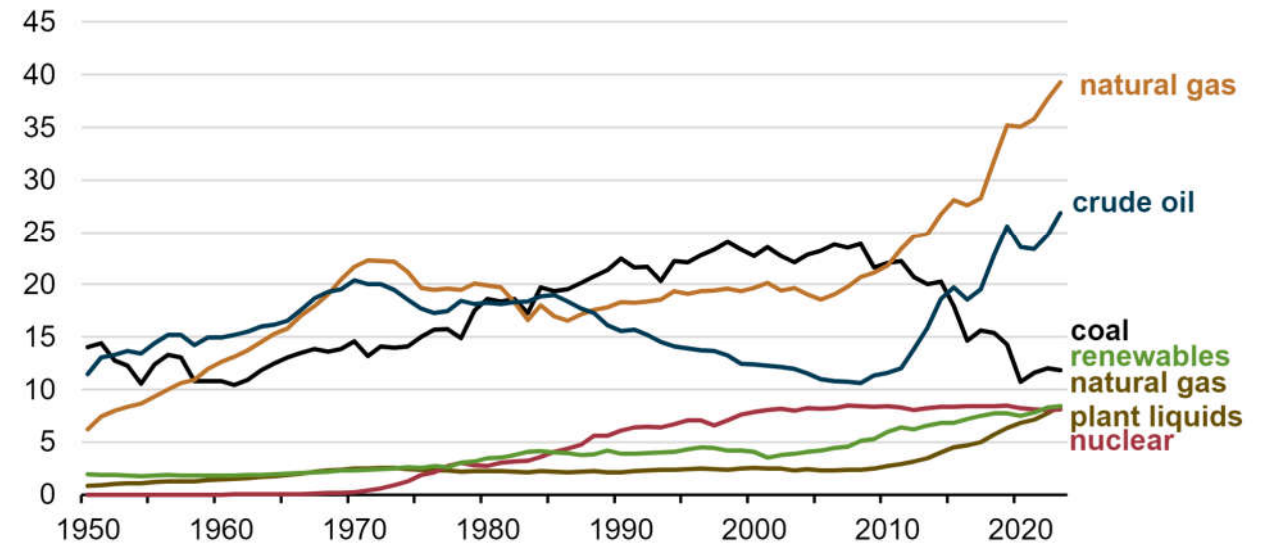


Source: U.S. Energy Information Administration, June 2024

# Historical Supply & Demand by Source

- Heavily reliant on fossil fuels
- Renewables are growing
- Solar and wind leading renewables growth
- Renewable energy projects driving job growth in energy sector

U.S. primary energy production by source (1950–2023)  
quadrillion British thermal units



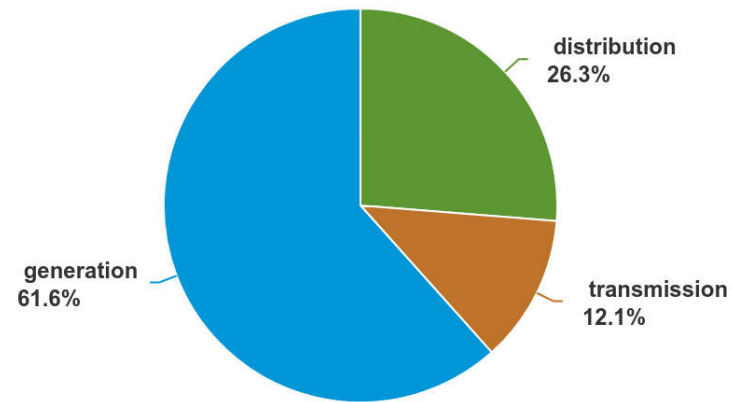
Source: U.S. Energy Information Administration, June 2024



# Energy Price Breakdown

Major components of the U.S. average price of electricity, 2022

- Overall consumption is trending downward
- Prices are still going up for a variety of reasons
- Generation is the driver of price



Data source: U.S. Energy Information Administration, *Annual Energy Outlook 2023*, Reference case, Table 8, March 2023  
Source: U.S. Energy Information Administration, February 2023

# How this affects us

- Energy accounts for 7% to 15% of a manufacturer's overhead costs
- Make energy efficiency a focus now, it makes sense (and cents)
- No one can predict the future
- Government goals for net 0 emissions



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# Immediate Actions

- Take advantage of grants
- Focus on waste streams in your manufacturing processes
  - ◆ Explore smart energy monitoring systems
- Set standards for your team
  - ◆ Incentivize for identifying wasted resources
  - ◆ Compressed air, electricity, water, gas
- Talk to your power provider to understand your bill and discuss rebate programs
- Control what you can control



# Strategic Actions

- Diversify your energy
  - ◆ Explore options to purchase renewable energy
- Set annual goals for energy reduction
  - ◆ How can you recover wasted heat or other resources to reduce your utility bills
- Find a partner who can help you on your journey
  - ◆ Calculate your carbon footprint
- Advertise your improvements!





# Resources

- Manufacturers Resource Center (MRC)  
[www.mrcpa.org](http://www.mrcpa.org)
- Pennsylvania Technical Assistance Program (PennTAP)  
[www.penntap.psu.edu](http://www.penntap.psu.edu)
- Clean Air Council <https://cleanair.org/climate-energy/climate-policy-decarbonizing-pennsylvania>
- Energy Efficiency Alliance (EEA)  
[www.energyefficiencyalliance.org](http://www.energyefficiencyalliance.org)
- Energy & Industrial Consulting [www.engageeic.com](http://www.engageeic.com)

Thank you!

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