

Inflation in a Rising Interest Rate Environment; An Empirical Analysis of Inflation Growth Rate Trends for the Energy Component of CPI, 2022



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YoY Inflation Growth Rates

	January	June	September	October	November	December	January	February
	YoY Change	YoY Change	YoY Change	YoY Change	YoY Change	YoY Change	YoY Change	YoY Change
Change CPI	7.60%	8.93% ✓	8.21%	7.76%	7.14%	6.44%	6.35%	5.99%
Change Crude	60.04%	60.89% ✓	17.60%	7.45%	6.60%	6.60%	-6.13%	-16.16%
Change Gas Price	42.03%	60.87% ✓	16.54%	15.92%	8.54%	-2.93%	0.72%	-3.64%
Change Electricity	10.48%	13.69%	15.44% ✓	14.13%	13.90%	14.38%	11.90%	12.87%
Change Gas Service	24.00%	38.36% ✓	33.02%	20.00%	15.38%	19.28%	26.75%	14.34%
Change Energy Service	13.44%	19.55%	19.75% ✓	15.62%	14.25%	15.60%	15.62%	13.34%

Study Objective:

1. Determine the trend in the energy component of CPI.
2. Determine if the inflation growth rates in CPI All and the energy component are trending together.

Period of Analysis 2022:

Analysis Protocol

- Calculate YoY inflation growth rates by month for key components of energy/CPI
- Calculate 3-month inflation growth rates annualized for energy CPI
- Repeat the process for CPI All

Quarterly Inflation Growth Rates Annualized

	January	June	September	October	November	December	January	February
	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
Change CPI	9.08%	10.49% ✓	2.48%	4.64%	4.51%	3.35%	3.47%	4.15%
Change Crude	8.82%	25.50% ✓	-71.02%	-44.91%	-34.18%	-32.27%	-36.61%	-31.23%
Change Gas Price	2.95%	85.76% ✓	-68.25%	-50.97%	-26.14%	-43.35%	-41.32%	-28.46%
Change Electricity	18.66% ✓	15.74%	14.82%	10.07%	7.16%	9.56%	9.64%	9.91%
Change Gas Service	4.32%	94.63% ✓	7.17%	7.69%	-18.31%	-14.05%	29.84%	6.91%
Change Energy Service	14.71%	33.00% ✓	12.63%	9.42%	-0.34%	2.59%	14.67%	9.48%

Energy Components

1. Crude Oil
2. Gas Price
3. Electricity
4. Gas Service
5. Energy Service

Energy Growth Rate Findings

YoY and quarterly inflation growth rates both peaked in June 2022. Crude oil portion of energy peaked in June 2022 for both yearly and quarterly rates. Gas price portion of energy peaked in June 2022 for both yearly and quarterly rates. Electricity portion of energy (YoY) peaked in September 2022 and (quarterly) in January 2022. Gas service portion of energy (YoY) peaked in June 2022 for both yearly and quarterly rates. Energy Service portion of energy (YoY) peaked in September 2022 and (quarterly) in June 2022. Both CPI All and energy components have similar trend directions, but the peak month is different for some portions.