



# Energy Cost Monitoring (ECM)

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(This report was prepared by Koji Nomura, Sho Inaba, Mansaku Yoshida.)

## 1 Recent Estimates

### 1.1 Growth Rates

	Quarter-over-quarter growth rate			Month-over-month growth rate		
	2023Q1	2023Q2	2023Q3	August, 2023	September, 2023	October, 2023
a. RUEC (Real Unit Energy Cost) (=b-c=e-d)	-5.4%	-11.2%	-4.0%	-0.4%	1.7%	-5.1%
b. Real Energy Price (=b1-b2)	-3.7%	-8.2%	-7.0%	-1.6%	-1.9%	0.8%
b1. Energy Price	-2.4%	-6.8%	-6.3%	-1.4%	-2.2%	1.0%
b2. GDP Price	1.4%	1.6%	0.7%	0.2%	-0.3%	0.2%
c. Energy Productivity (=c1-c2)	1.8%	3.4%	-3.1%	-1.2%	-3.5%	6.2%
c1. Real GDP	0.8%	1.2%	-0.1%	0.3%	0.0%	-0.1%
c2. Energy Consumption	-0.9%	-2.1%	3.1%	1.5%	3.7%	-5.9%
d. Nominal GDP (=b2*c1)	2.2%	2.7%	0.7%	0.5%	-0.3%	0.1%
e. Energy Cost (=b1*c2)	-3.3%	-8.8%	-3.4%	0.1%	1.4%	-5.0%

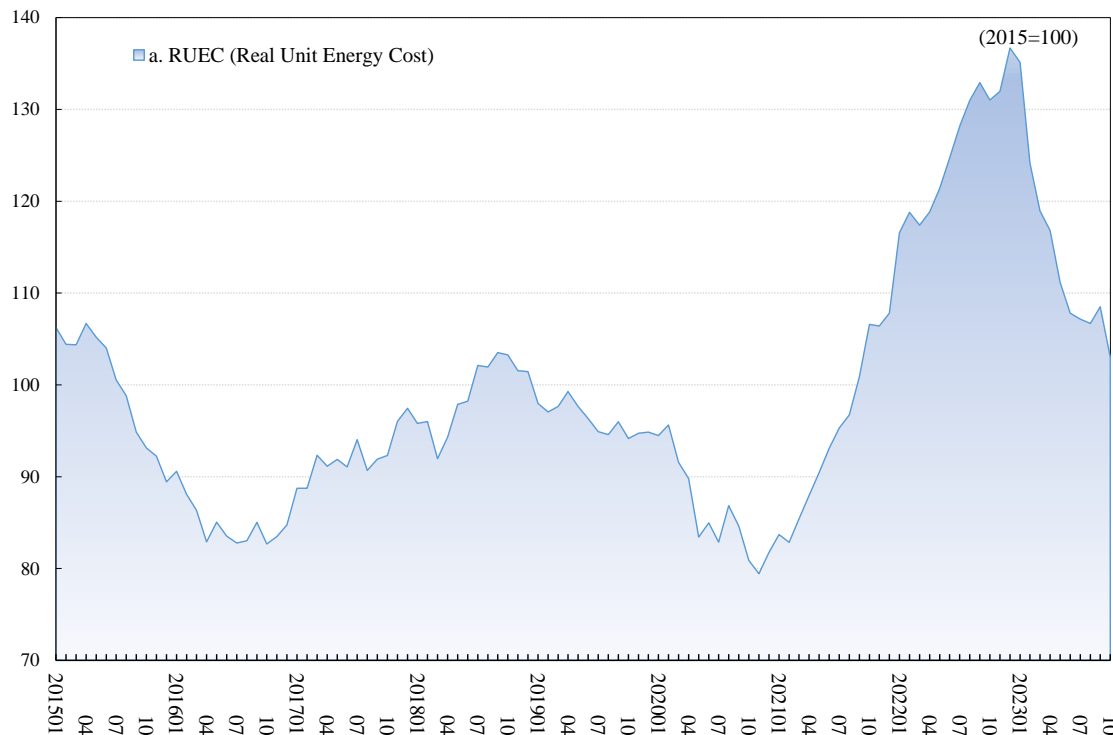
Unit: %. Notes: The most recent month is the forecasts, the previous month is the preliminary estimates, and the last two months or earlier are the final estimates. The aggregate volume indices of real GDP and energy consumption are measured using the translog index, based on the prices and volumes measured at 36 industries and 21 types of energy, respectively. The aggregate price indices of real GDP and energy consumption are defined implicitly.

### 1.2 Indices

	Quarterly index			Monthly index		
	2023Q1	2023Q2	2023Q3	August, 2023	September, 2023	October, 2023
a. RUEC (Real Unit Energy Cost) (=b/c=e/d)	126.0	111.9	107.5	106.7	108.5	103.0
b. Real Energy Price (=b1/b2)	141.0	129.5	120.4	120.5	118.2	119.2
b1. Energy Price	146.6	136.6	128.0	128.4	125.6	126.8
b2. GDP Price	103.9	105.5	106.3	106.5	106.2	106.4
c. Energy Productivity (=c1/c2)	111.8	115.6	112.0	112.9	108.9	115.6
c1. Real GDP	102.6	103.8	103.7	103.8	103.8	103.7
c2. Energy Consumption	91.8	89.8	92.6	92.0	95.3	89.7
d. Nominal GDP (=b2*c1)	106.6	109.6	110.3	110.6	110.3	110.4
e. Energy Cost (=b1*c2)	134.4	122.6	118.5	118.0	119.7	113.7

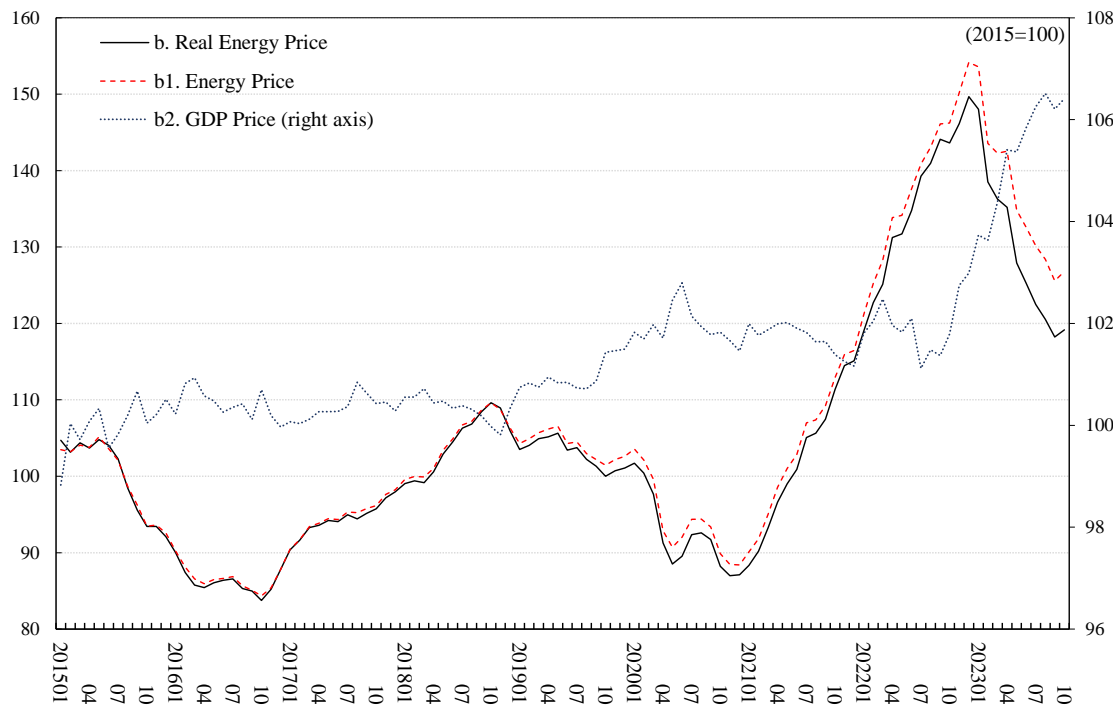
Unit: 2015 average=100.

### 2 Monthly RUEC (Real Unit Energy Cost)



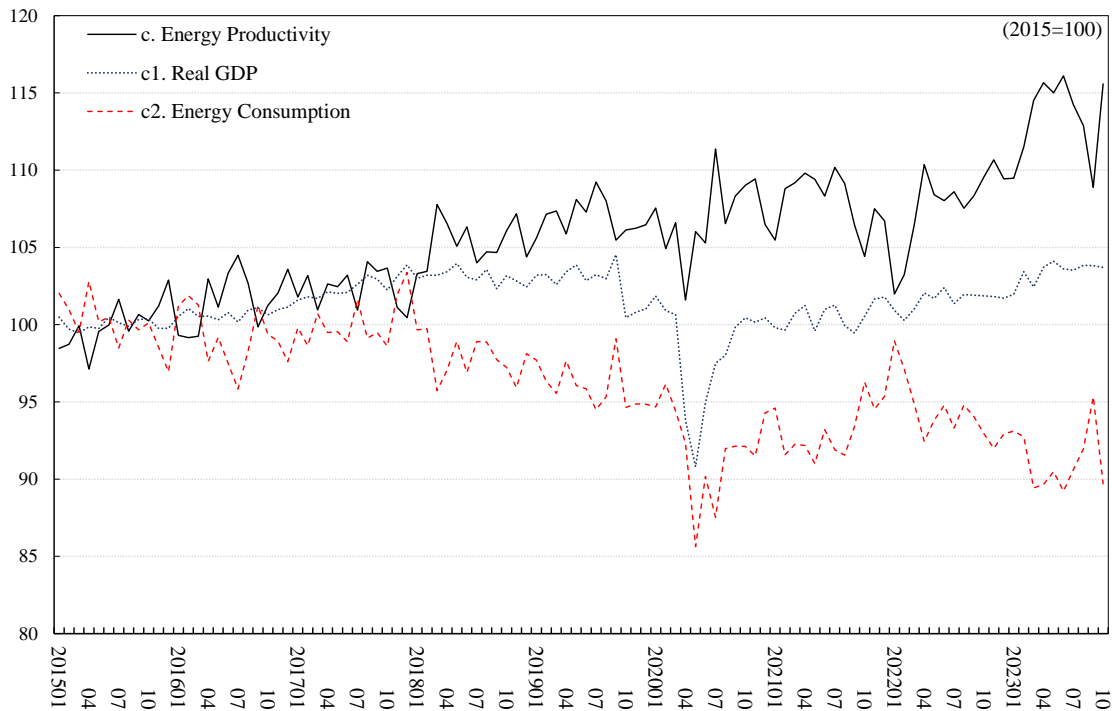
Unit: 2015 average=100. Note: Observation period is from January 2015 to October 2023.

### 3 Monthly Real Energy Price



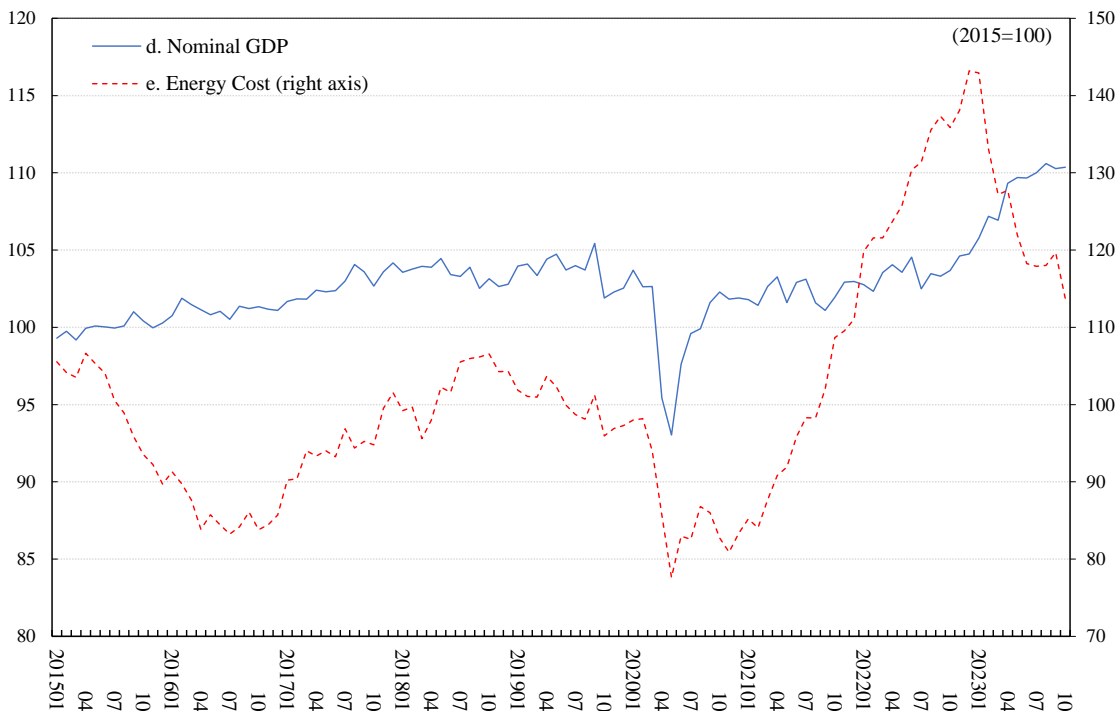
Unit: 2015 average=100. Note: Observation period is from January 2015 to October 2023.

4 Monthly Real GDP and Energy Productivity



Unit: 2015 average=100. Note: Observation period is from January 2015 to October 2023.

5 Monthly Nominal GDP and Energy Cost



Unit: 2015 average=100. Note: Observation period is from January 2015 to October 2023.

