



# Energy Cost Monitoring (ECM)

Nomura Lab at Keio Economic Observatory (KEO), Keio University, Tokyo

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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		
	2023Q2	2023Q3	2023Q4	November, 2023	December, 2023	January, 2024
a. RUEC (Real Unit Energy Cost) (=b-c=e-d)	-10.2%	-5.6%	-1.7%	2.2%	-0.2%	-0.2%
b. Real Energy Price (=b1-b2)	-8.1%	-5.9%	-0.8%	0.7%	1.0%	0.3%
b1. Energy Price	-6.5%	-5.2%	0.0%	0.9%	1.0%	0.2%
b2. GDP Price	1.7%	0.7%	0.8%	0.2%	0.0%	-0.1%
c. Energy Productivity (=c1-c2)	2.4%	-0.4%	0.9%	-1.5%	1.2%	0.5%
c1. Real GDP	0.9%	-0.7%	-0.6%	-0.9%	0.8%	-1.6%
c2. Energy Consumption	-1.5%	-0.4%	-1.5%	0.6%	-0.5%	-2.1%
d. Nominal GDP (=b2*c1)	2.6%	0.0%	0.3%	-0.8%	0.7%	-1.7%
e. Energy Cost (=b1+c2)	-7.9%	-5.6%	-1.5%	1.5%	0.5%	-1.9%

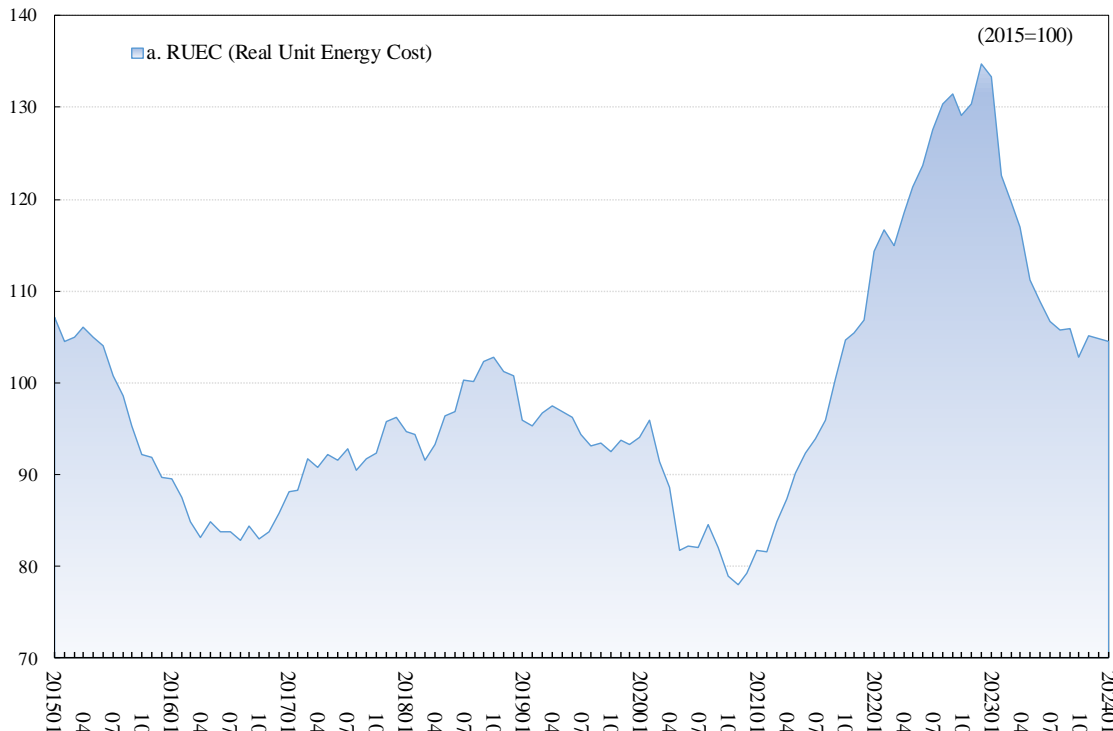
Unit: %. Notes: The most recent month is the forecasts, the previous month is the preliminary estimates, and the last two months or earlier are the final estimates. The aggregate volume indices of real GDP and energy consumption are measured using the translog index, based on the prices and volumes measured at 36 industries and 29 types of energy, respectively. The aggregate price indices of real GDP and energy consumption are defined implicitly.

### 1.2 Indices

	Quarterly index			Monthly index		
	2023Q2	2023Q3	2023Q4	November, 2023	December, 2023	January, 2024
a. RUEC (Real Unit Energy Cost) (=b/c=e/d)	112.3	106.1	104.2	105.1	104.8	104.6
b. Real Energy Price (=b1/b2)	131.7	123.9	122.9	119.5	120.6	121.0
b1. Energy Price	139.4	132.1	132.1	128.5	129.8	130.0
b2. GDP Price	105.8	106.6	107.5	107.6	107.5	107.4
c. Energy Productivity (=c1/c2)	117.2	116.7	117.8	113.6	115.0	115.6
c1. Real GDP	104.5	103.7	103.2	102.6	103.4	101.7
c2. Energy Consumption	89.2	88.9	87.5	90.3	89.9	88.0
d. Nominal GDP (=b2*c1)	110.6	110.6	110.9	110.4	111.2	109.3
e. Energy Cost (=b1*c2)	124.3	117.3	115.6	116.0	116.5	114.3

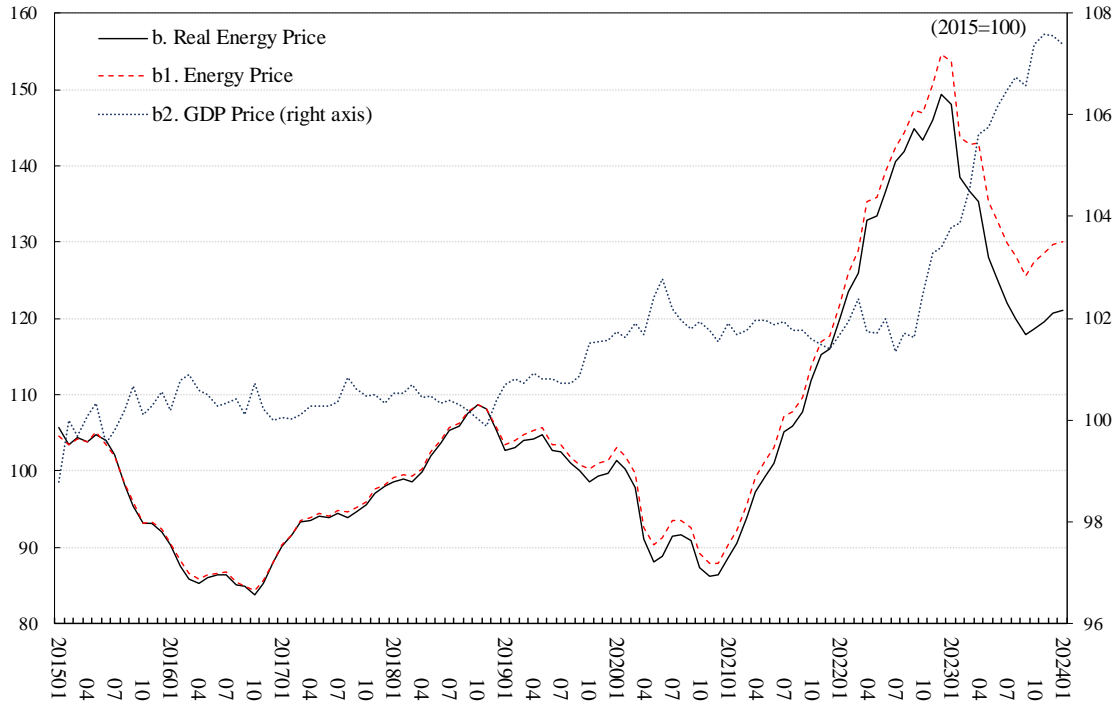
Unit: 2015 average=100.

2 Monthly RUEC (Real Unit Energy Cost)



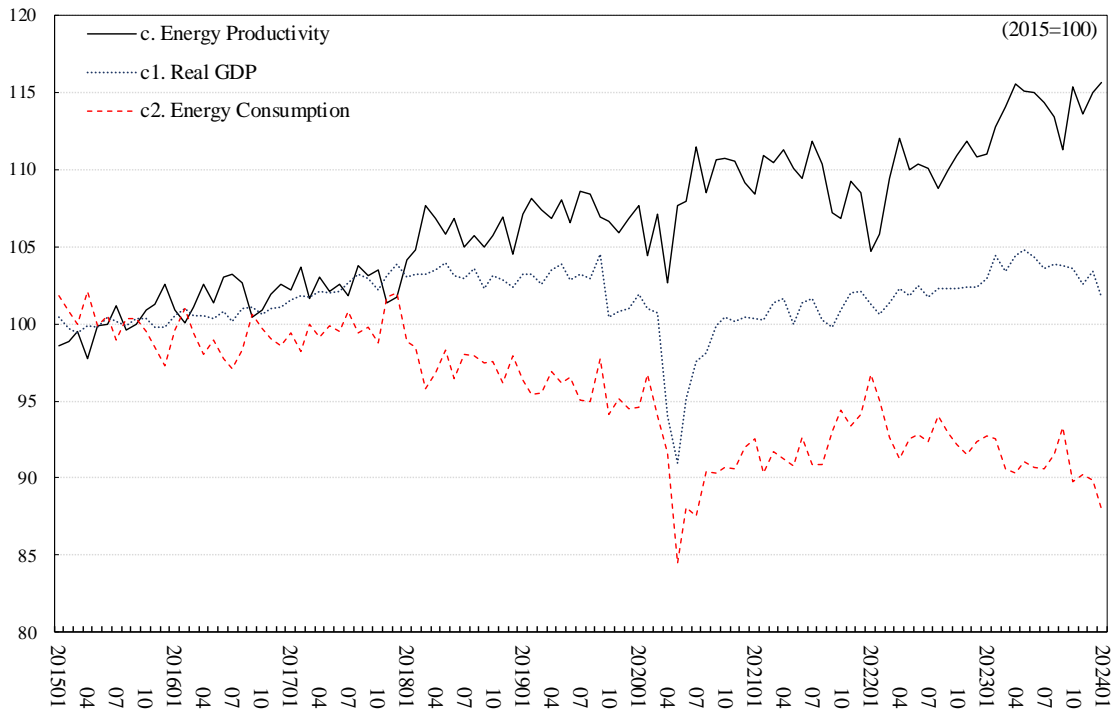
Unit: 2015 average=100. Note: Observation period is from January 2015 to January 2024.

3 Monthly Real Energy Price



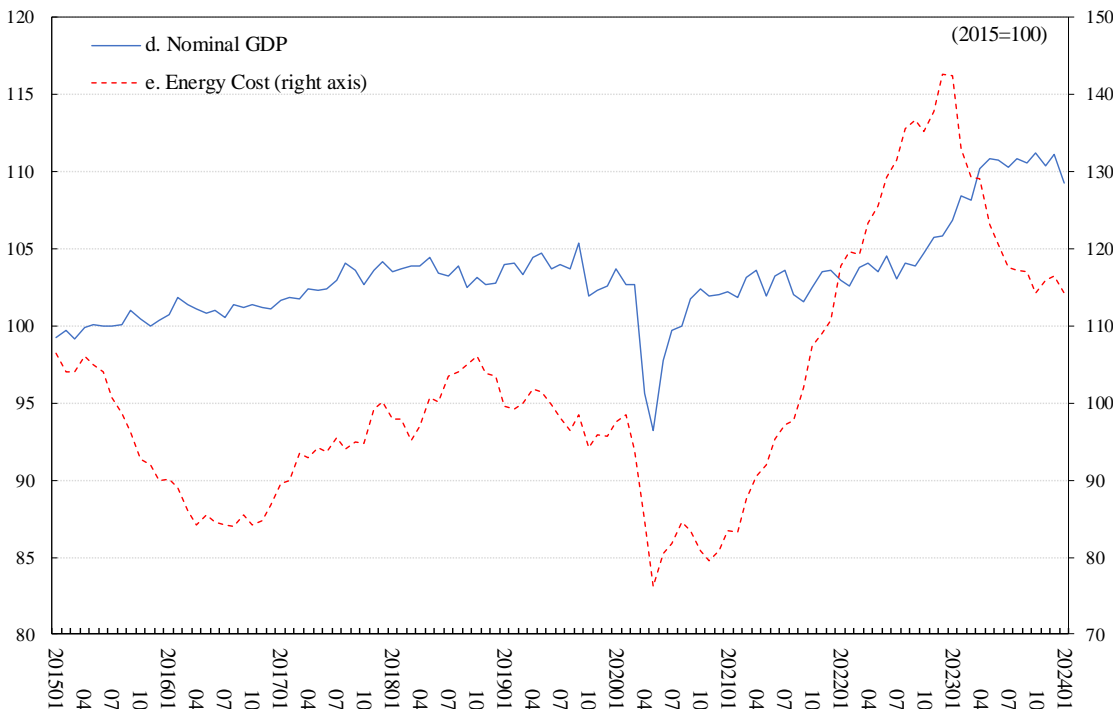
Unit: 2015 average=100. Note: Observation period is from January 2015 to January 2024.

4 Monthly Real GDP and Energy Productivity



Unit: 2015 average=100. Note: Observation period is from January 2015 to January 2024.

5 Monthly Nominal GDP and Energy Cost



Unit: 2015 average=100. Note: Observation period is from January 2015 to January 2024.

## 6 Data Table

	a. RUEC (Real Unit Energy Cost)							d. Nominal GDP	e. Energy Cost
	b. Real Energy Price			c. Energy Productivity					
		b1. Energy Price	b2. GDP Price		c1. Real GDP	c2. Energy Consumption			
2015	100.0 (.073)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
2016	84.8 (.062)	86.5	86.9	100.4	102.1	100.7	98.7	101.1	
2017	91.8 (.067)	94.4	94.7	100.3	102.8	102.4	99.7	102.8	
2018	97.9 (.071)	103.6	104.0	100.3	105.9	103.1	97.3	103.4	
2019	94.9 (.069)	102.3	103.3	101.0	107.7	102.7	95.3	103.7	
2020	84.9 (.062)	93.7	95.5	101.9	110.3	98.4	89.2	100.3	
2021	93.8 (.069)	104.1	105.9	101.8	111.0	101.0	91.0	102.7	
2022	124.5 (.091)	139.5	142.4	102.1	112.1	101.9	91.0	104.1	
2023	111.9 (.082)	130.3	138.2	106.0	116.5	103.8	89.0	110.0	
2020 Q1	93.8 (.069)	100.2	102.0	101.8	106.7	101.2	94.8	103.0	
2020 Q2	84.2 (.062)	91.2	93.3	102.3	108.2	93.4	86.3	95.5	
2020 Q3	82.9 (.061)	94.5	96.4	102.0	114.0	98.5	86.4	100.5	
2020 Q4	78.7 (.057)	88.6	90.2	101.7	112.6	100.4	89.1	102.1	
2021 Q1	82.7 (.060)	92.4	94.0	101.8	111.6	100.6	90.2	102.4	
2021 Q2	89.9 (.066)	100.4	102.3	101.9	111.5	101.0	90.5	103.0	
2021 Q3	96.7 (.071)	107.4	109.4	101.8	111.0	100.6	90.6	102.4	
2021 Q4	105.6 (.077)	116.2	117.9	101.5	109.9	101.7	92.5	103.2	
2022 Q1	115.3 (.084)	125.9	128.4	102.0	109.1	101.1	92.7	103.1	
2022 Q2	121.2 (.089)	137.1	139.6	101.8	113.1	102.2	90.3	104.0	
2022 Q3	129.8 (.095)	145.9	148.2	101.6	112.3	102.1	90.9	103.7	
2022 Q4	131.4 (.096)	149.6	154.1	103.1	113.7	102.3	90.0	105.5	
2023 Q1	125.1 (.091)	143.2	149.1	104.1	114.4	103.6	90.6	107.8	
2023 Q2	112.3 (.082)	131.7	139.4	105.8	117.2	104.5	89.2	110.6	
2023 Q3	106.1 (.077)	123.9	132.1	106.6	116.7	103.7	88.9	110.6	
2023 Q4	104.2 (.076)	122.9	132.1	107.5	117.8	103.2	87.5	110.9	
2020 01	94.0 (.069)	101.4	103.1	101.8	107.7	101.9	94.6	103.7	
2020 02	96.0 (.070)	100.3	101.9	101.6	104.4	101.0	96.7	102.7	
2020 03	91.3 (.067)	97.9	99.8	101.9	107.1	100.7	94.0	102.7	
2020 04	88.7 (.065)	91.1	92.6	101.7	102.6	94.0	91.6	95.6	
2020 05	81.8 (.060)	88.1	90.3	102.4	107.7	91.0	84.5	93.2	
2020 06	82.2 (.060)	88.8	91.3	102.8	108.0	95.2	88.1	97.8	
2020 07	82.0 (.060)	91.5	93.5	102.2	111.5	97.6	87.5	99.7	
2020 08	84.5 (.062)	91.7	93.5	102.0	108.5	98.1	90.4	100.0	
2020 09	82.1 (.060)	90.9	92.5	101.8	110.6	99.9	90.3	101.7	
2020 10	78.9 (.058)	87.4	89.1	101.9	110.7	100.4	90.7	102.4	
2020 11	78.0 (.057)	86.3	87.8	101.8	110.6	100.2	90.6	101.9	
2020 12	79.2 (.058)	86.5	87.8	101.5	109.2	100.4	92.0	102.0	
2021 01	81.7 (.060)	88.6	90.3	101.9	108.4	100.4	92.6	102.3	
2021 02	81.6 (.060)	90.6	92.1	101.7	110.9	100.2	90.3	101.9	
2021 03	84.9 (.062)	93.8	95.5	101.8	110.5	101.3	91.7	103.1	
2021 04	87.3 (.064)	97.2	99.2	101.9	111.3	101.6	91.3	103.6	
2021 05	90.2 (.066)	99.4	101.3	102.0	110.1	100.0	90.8	102.0	
2021 06	92.3 (.067)	101.1	103.0	101.9	109.4	101.4	92.6	103.3	
2021 07	93.9 (.069)	105.1	107.1	101.9	111.9	101.6	90.8	103.6	
2021 08	95.8 (.070)	105.8	107.7	101.8	110.3	100.3	90.9	102.0	
2021 09	100.4 (.073)	107.7	109.7	101.8	107.3	99.8	93.0	101.5	
2021 10	104.7 (.076)	111.9	113.7	101.6	106.9	100.9	94.4	102.5	
2021 11	105.4 (.077)	115.2	116.9	101.5	109.2	102.0	93.4	103.5	
2021 12	106.8 (.078)	116.0	117.6	101.4	108.5	102.1	94.1	103.6	
2022 01	114.4 (.084)	119.9	121.9	101.7	104.7	101.3	96.7	103.0	
2022 02	116.6 (.085)	123.4	125.9	101.9	105.8	100.6	95.1	102.6	
2022 03	115.0 (.084)	125.9	128.9	102.4	109.4	101.4	92.6	103.8	
2022 04	118.5 (.087)	132.9	135.2	101.7	112.1	102.3	91.2	104.0	
2022 05	121.3 (.089)	133.5	135.8	101.7	110.0	101.8	92.6	103.5	
2022 06	123.6 (.090)	136.6	139.3	102.0	110.4	102.5	92.8	104.5	
2022 07	127.6 (.093)	140.5	142.5	101.4	110.1	101.7	92.4	103.1	
2022 08	130.3 (.095)	141.9	144.3	101.7	108.8	102.3	94.0	104.0	
2022 09	131.5 (.096)	144.8	147.2	101.6	110.0	102.2	92.9	103.9	
2022 10	129.1 (.094)	143.4	146.9	102.5	110.9	102.3	92.2	104.8	
2022 11	130.4 (.095)	145.9	150.8	103.3	111.8	102.4	91.5	105.7	
2022 12	134.7 (.098)	149.4	154.5	103.4	110.9	102.4	92.3	105.9	
2023 01	133.3 (.097)	148.0	153.6	103.8	111.0	103.0	92.8	106.9	
2023 02	122.7 (.090)	138.4	143.8	103.9	112.8	104.4	92.6	108.5	
2023 03	119.6 (.087)	136.5	142.8	104.6	114.1	103.4	90.6	108.1	
2023 04	117.0 (.086)	135.3	142.9	105.6	115.5	104.4	90.3	110.2	
2023 05	111.1 (.081)	128.0	135.3	105.7	115.1	104.8	91.1	110.8	
2023 06	108.8 (.080)	125.2	132.9	106.1	115.0	104.3	90.7	110.7	
2023 07	106.7 (.078)	122.0	130.0	106.5	114.3	103.6	90.6	110.3	
2023 08	105.7 (.077)	120.0	128.1	106.7	113.5	103.8	91.5	110.9	
2023 09	105.8 (.077)	117.8	125.6	106.6	111.3	103.8	93.3	110.6	
2023 10	102.8 (.075)	118.6	127.4	107.4	115.4	103.6	89.8	111.2	
2023 11	105.1 (.077)	119.5	128.5	107.6	113.6	102.6	90.3	110.4	
2023 12	104.8 (.077)	120.6	129.8	107.5	115.0	103.4	89.9	111.2	
2024 01	104.6 (.076)	121.0	130.0	107.4	115.6	101.7	88.0	109.3	

Unit: 2015 average=100. Note: The numbers in parentheses are the ratio of final energy consumption cost to GDP at current prices.