Energy Cost Monitoring (ECM)

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

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Koji Nomura, Sho Inaba, and Mansaku Yoshida

1 Recent Estimates

1.1 Growth Rates

	Quarter-over-quarter growth rate			Month-over-month growth rate		
	2023Q4	2024Q1	2024Q2	April, 2024	May, 2024	June, 2024
a. RUEC (Real Unit Energy Cost) (=b–c=e–d)	-2.2%	1.3%	5.0%	-4.3%	6.4%	3.5%
b. Real Energy Price (=b1–b2)	-1.0%	1.3%	4.4%	-0.2%	7.1%	1.3%
b1. Energy Price	-0.4%	1.8%	5.4%	0.1%	7.4%	1.5%
b2. GDP Price	0.6%	0.5%	1.0%	0.3%	0.2%	0.1%
c. Energy Productivity (=c1–c2)	1.2%	0.0%	-0.5%	4.3%	0.7%	-2.1%
c1. Real GDP	0.0%	-0.7%	1.1%	1.7%	0.7%	-1.4%
c2. Energy Consumption	-1.1%	-0.7%	1.6%	-2.5%	0.0%	0.7%
d. Nominal GDP (=b2+c1)	0.6%	-0.2%	2.0%	2.0%	0.9%	-1.3%
e. Energy Cost (=b1+c2)	-1.6%	1.1%	7.1%	-2.4%	7.4%	2.2%

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.

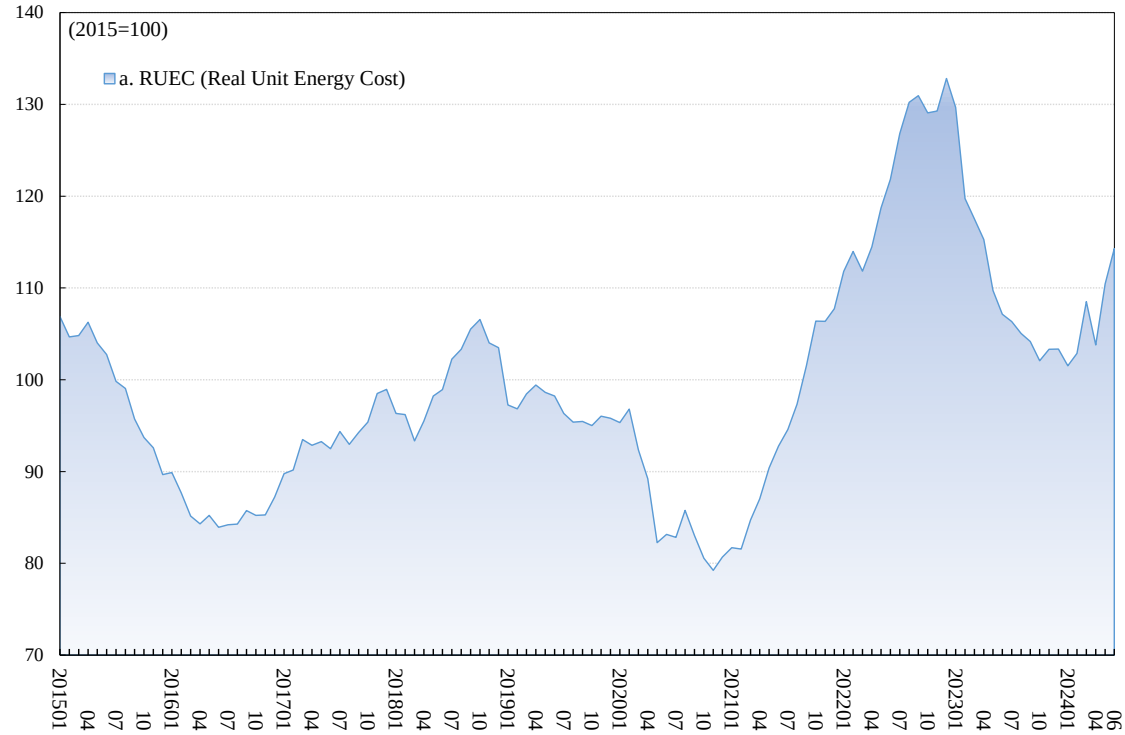
1.2 Indices

	Quarterly index			Monthly index		
	2023Q4	2024Q1	2024Q2	April, 2024	May, 2024	June, 2024
a. RUEC (Real Unit Energy Cost) (=b/c=e/d)	102.9	104.3	109.5	103.8	110.4	114.3
b. Real Energy Price (=b1/b2)	121.9	123.5	128.9	119.2	127.7	129.4
b1. Energy Price	130.6	133.0	140.2	129.4	138.9	140.9
b2. GDP Price	107.2	107.7	108.8	108.6	108.8	108.9
c. Energy Productivity (=c1/c2)	118.4	118.3	117.7	114.8	115.6	113.2
c1. Real GDP	103.8	103.1	104.2	104.2	104.9	103.5
c2. Energy Consumption	87.7	87.1	88.5	90.8	90.8	91.4
d. Nominal GDP (=b2*c1)	111.3	111.0	113.3	113.1	114.1	112.7
e. Energy Cost (=b1*c2)	114.5	115.8	124.1	117.4	126.1	128.8

Unit: 2015 average=100.

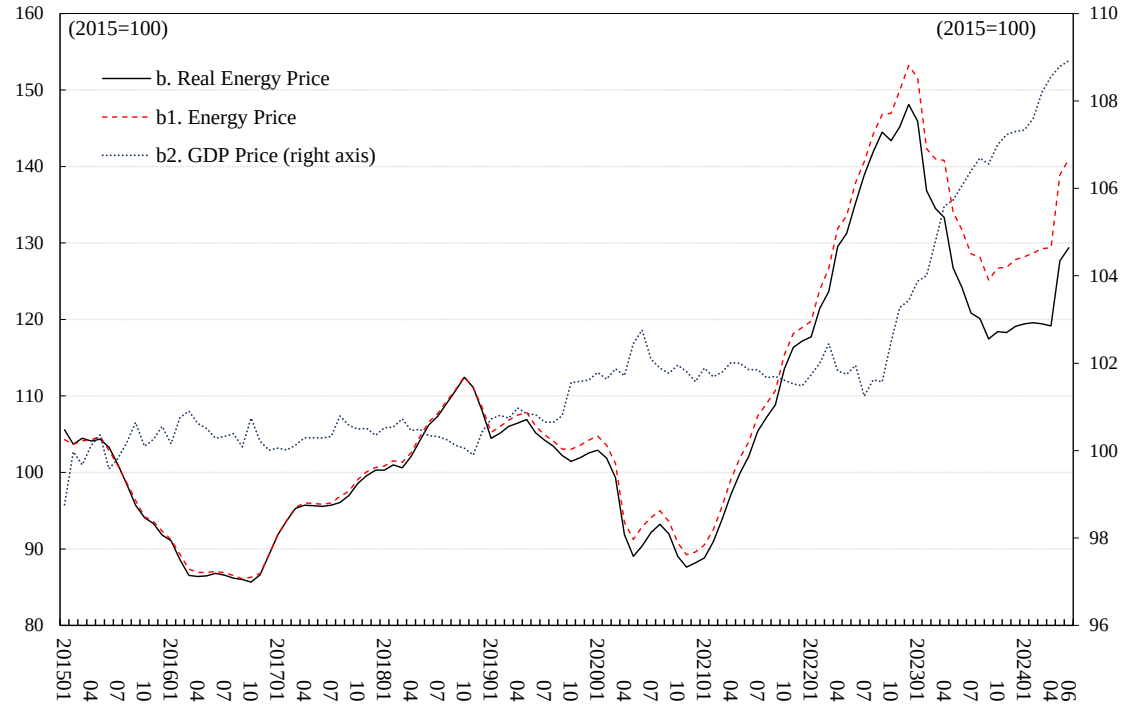
[1] ECM_JPN_202406a was revised following the release of the revised JSNA quarterly GDP estimates published on July 1, 2024.

2 Monthly RUEC (Real Unit Energy Cost)



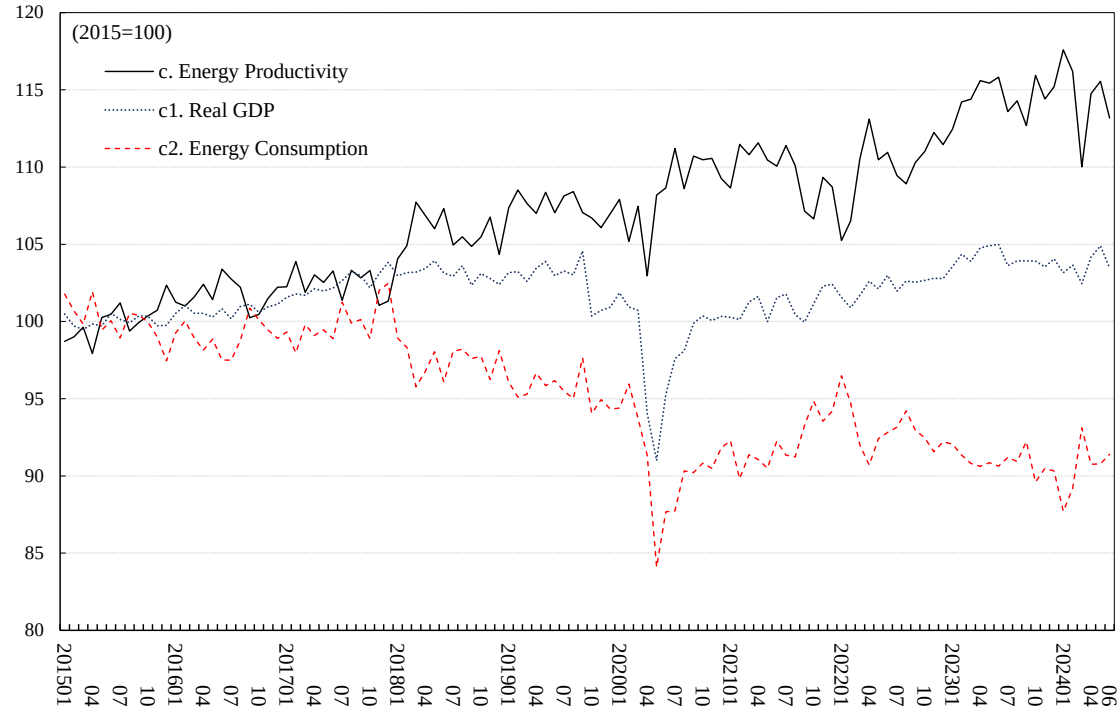
Unit: 2015 average=100. Note: Observation period is from January 2015 to June 2024.

3 Monthly Real Energy Price



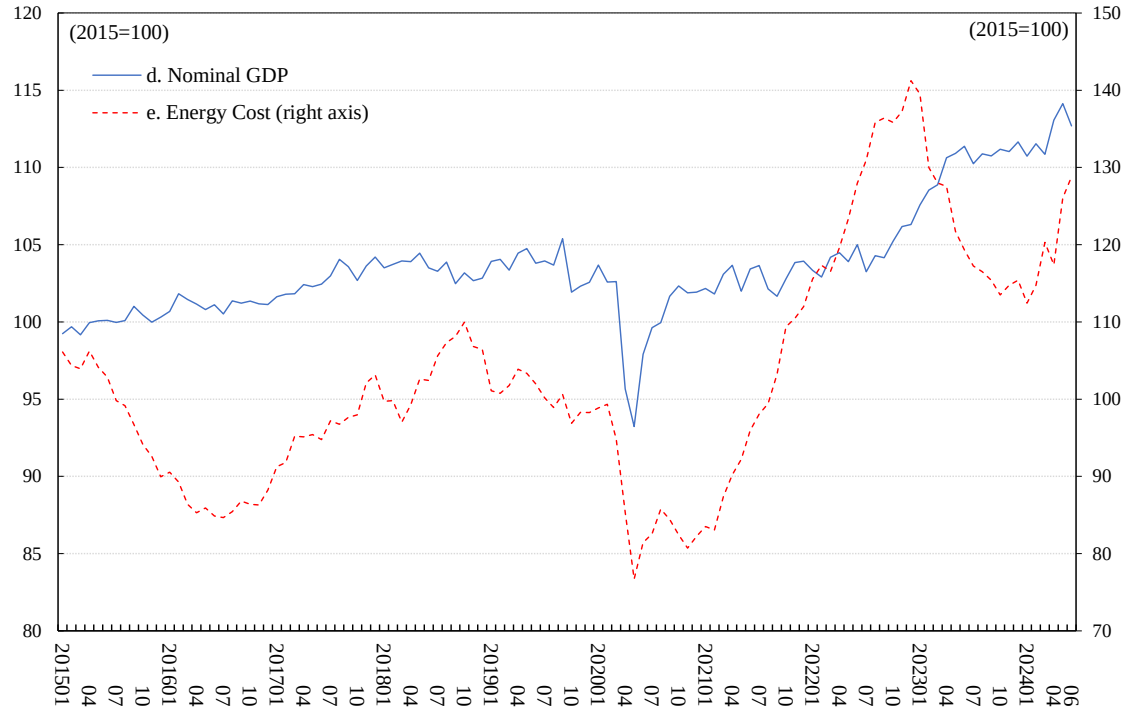
Unit: 2015 average=100. Note: Observation period is from January 2015 to June 2024.

4 Monthly Real GDP and Energy Productivity



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

5 Monthly Nominal GDP and Energy Cost



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

6 Data Table

	a. RUEC (Real Unit Energy Cost)	b. Real Energy Price			c. Energy Productivity			d. Nominal GDP	e. Energy Cost
			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	100.0
2016	85.7 (.063)	87.5	87.9	100.4	102.1	100.7	98.7	101.1	86.7
2017	93.9 (.069)	96.5	96.8	100.3	102.8	102.4	99.7	102.8	96.5
2018	100.3 (.073)	106.2	106.6	100.3	105.9	103.1	97.3	103.4	103.8
2019	96.9 (.071)	104.4	105.4	101.0	107.7	102.7	95.3	103.7	100.5
2020	86.0 (.063)	94.9	96.7	101.9	110.3	98.3	89.2	100.3	86.2
2021	94.4 (.069)	104.9	106.7	101.8	111.1	101.1	90.9	102.8	97.1
2022	122.7 (.090)	138.2	141.1	102.1	112.6	102.3	90.8	104.4	128.2
2023	110.2 (.081)	129.4	137.1	105.9	117.4	104.1	88.7	110.3	121.6
2020 Q1	94.8 (.069)	101.9	103.7	101.8	107.4	101.2	94.2	103.0	97.7
Q2	84.9 (.062)	92.6	94.8	102.3	109.0	93.4	85.7	95.6	81.2
Q3	83.9 (.061)	95.0	96.8	101.9	113.2	98.5	87.1	100.4	84.2
Q4	80.2 (.059)	89.6	91.2	101.8	111.8	100.3	89.7	102.0	81.8
2021 Q1	82.7 (.060)	92.7	94.4	101.8	112.1	100.6	89.7	102.4	84.6
Q2	90.0 (.066)	100.9	102.9	102.0	112.0	101.1	90.2	103.0	92.8
Q3	97.8 (.072)	108.2	110.1	101.7	110.6	100.7	91.1	102.5	100.2
Q4	106.8 (.078)	117.5	119.3	101.5	109.9	102.0	92.8	103.5	110.6
2022 Q1	112.5 (.082)	123.8	126.4	102.1	110.0	101.4	92.2	103.5	116.5
Q2	118.4 (.087)	135.0	137.5	101.8	114.0	102.6	90.0	104.5	123.7
Q3	129.3 (.095)	145.4	147.6	101.5	112.4	102.4	91.1	103.9	134.4
Q4	130.4 (.095)	148.9	153.5	103.1	114.2	102.8	90.0	105.9	138.1
2023 Q1	122.3 (.089)	141.9	148.0	104.2	116.0	103.9	89.6	108.3	132.5
Q2	110.7 (.081)	130.9	138.5	105.8	118.2	104.9	88.7	111.0	122.9
Q3	105.2 (.077)	123.1	131.2	106.5	117.0	103.8	88.7	110.6	116.4
Q4	102.9 (.075)	121.9	130.6	107.2	118.4	103.8	87.7	111.3	114.5
2024 Q1	104.3 (.076)	123.5	133.0	107.7	118.3	103.1	87.1	111.0	115.8
Q2	109.5 (.080)	128.9	140.2	108.8	117.7	104.2	88.5	113.3	124.1
2021 01	81.7 (.060)	88.8	90.5	101.9	108.6	100.3	92.3	102.2	83.5
02	81.6 (.060)	90.9	92.5	101.7	111.5	100.1	89.8	101.8	83.0
03	84.7 (.062)	93.9	95.6	101.8	110.8	101.3	91.4	103.1	87.4
04	87.0 (.064)	97.1	99.1	102.0	111.6	101.6	91.1	103.7	90.2
05	90.4 (.066)	99.9	101.9	102.0	110.5	100.0	90.5	102.0	92.2
06	92.7 (.068)	102.1	104.0	101.8	110.1	101.5	92.3	103.4	95.9
07	94.6 (.069)	105.4	107.4	101.9	111.4	101.8	91.3	103.7	98.1
08	97.3 (.071)	107.2	109.0	101.7	110.1	100.5	91.2	102.1	99.4
09	101.5 (.074)	108.8	110.7	101.7	107.2	100.0	93.3	101.7	103.2
10	106.4 (.078)	113.5	115.4	101.6	106.7	101.2	94.8	102.8	109.4
11	106.4 (.078)	116.3	118.1	101.5	109.3	102.3	93.5	103.8	110.5
12	107.7 (.079)	117.2	118.9	101.5	108.7	102.4	94.2	103.9	112.0
2022 01	111.8 (.082)	117.7	119.8	101.7	105.3	101.6	96.5	103.3	115.5
02	114.0 (.083)	121.5	123.9	102.0	106.5	100.9	94.7	102.9	117.3
03	111.8 (.082)	123.7	126.7	102.4	110.5	101.7	92.0	104.2	116.5
04	114.5 (.084)	129.5	131.9	101.8	113.1	102.6	90.7	104.5	119.6
05	118.7 (.087)	131.2	133.5	101.7	110.5	102.1	92.4	103.9	123.4
06	121.8 (.089)	135.2	137.9	102.0	110.9	103.0	92.8	105.0	128.0
07	126.8 (.093)	138.9	140.6	101.2	109.5	102.0	93.2	103.2	131.0
08	130.2 (.095)	141.9	144.2	101.6	108.9	102.6	94.2	104.3	135.8
09	130.9 (.096)	144.5	146.8	101.6	110.3	102.5	93.0	104.2	136.4
10	129.1 (.094)	143.4	147.0	102.5	111.0	102.7	92.5	105.2	135.8
11	129.3 (.095)	145.2	149.9	103.3	112.2	102.8	91.6	106.2	137.3
12	132.8 (.097)	148.1	153.2	103.4	111.5	102.8	92.2	106.3	141.2
2023 01	129.7 (.095)	145.9	151.6	103.9	112.5	103.5	92.1	107.6	139.5
02	119.7 (.088)	136.8	142.3	104.0	114.2	104.4	91.4	108.5	130.0
03	117.5 (.086)	134.5	141.0	104.8	114.4	103.9	90.8	108.9	128.0
04	115.3 (.084)	133.3	140.8	105.6	115.6	104.8	90.6	110.6	127.6
05	109.7 (.080)	126.7	134.0	105.7	115.4	104.9	90.9	110.9	121.7
06	107.1 (.078)	124.1	131.7	106.1	115.8	105.0	90.6	111.4	119.3
07	106.3 (.078)	120.8	128.6	106.4	113.6	103.6	91.2	110.2	117.2
08	105.0 (.077)	120.1	128.2	106.7	114.3	103.9	90.9	110.9	116.5
09	104.2 (.076)	117.5	125.2	106.6	112.7	103.9	92.2	110.7	115.4
10	102.1 (.075)	118.4	126.7	107.0	115.9	103.9	89.6	111.2	113.5
11	103.3 (.076)	118.3	126.8	107.2	114.4	103.5	90.5	111.0	114.7
12	103.3 (.076)	119.1	127.8	107.3	115.2	104.1	90.3	111.7	115.4
2024 01	101.5 (.074)	119.4	128.2	107.3	117.6	103.2	87.7	110.7	112.4
02	102.9 (.075)	119.6	128.7	107.6	116.2	103.7	89.2	111.5	114.7
03	108.5 (.079)	119.4	129.2	108.2	110.0	102.5	93.1	110.9	120.3
04	103.8 (.076)	119.2	129.4	108.6	114.8	104.2	90.8	113.1	117.4
05	110.4 (.081)	127.7	138.9	108.8	115.6	104.9	90.8	114.1	126.1
06	114.3 (.084)	129.4	140.9	108.9	113.2	103.5	91.4	112.7	128.8

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