



# Energy Cost Monitoring (ECM)

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## 1 Recent Estimates

### 1.1 Growth Rates

	Quarter-over-quarter growth rate			Month-over-month growth rate		
	2021Q4	2022Q1	2022Q2	June, 2022	July, 2022	August, 2022
a. RUEC (Real Unit Energy Cost) (=b-c-e-d)	8.7%	10.9%	2.3%	4.5%	1.1%	0.2%
b. Real Energy Price (=b1-b2)	7.0%	8.2%	7.1%	2.9%	2.9%	1.1%
b1. Energy Price	6.5%	8.6%	6.8%	3.2%	2.8%	1.5%
b2. GDP Price	-0.5%	0.4%	-0.2%	0.2%	-0.1%	0.4%
c. Energy Productivity (=c1-c2)	-1.7%	-2.7%	4.8%	-1.5%	1.8%	0.9%
c1. Real GDP	0.9%	0.1%	0.9%	0.6%	0.0%	0.4%
c2. Energy Consumption	2.7%	2.8%	-3.9%	2.1%	-1.8%	-0.4%
d. Nominal GDP (=b2+c1)	0.4%	0.4%	0.6%	0.8%	-0.2%	0.8%
e. Energy Cost (=b1+c2)	9.1%	11.3%	2.9%	5.2%	0.9%	1.0%

Unit: %. Note: Growth rates are defined as log differences. 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 Chained-Laspeyres index, based on the prices and volumes measured at 32 industries and 21 types of energy, respectively. The aggregate price indices of real GDP and energy consumption are defined implicitly.

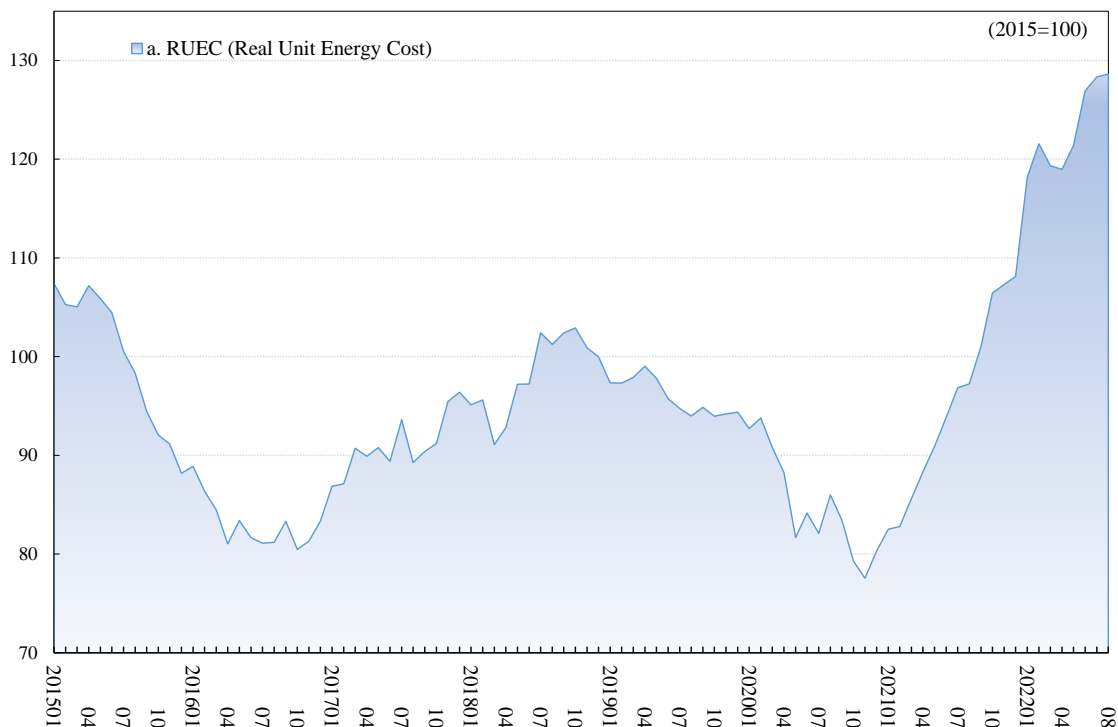
### 1.2 Indices

	Quarterly index			Monthly index		
	2021Q4	2022Q1	2022Q2	June, 2022	July, 2022	August, 2022
a. RUEC (Real Unit Energy Cost) (=b/c=e/d)	107.3	119.7	122.5	126.9	128.3	128.6
b. Real Energy Price (=b1/b2)	113.5	123.3	132.3	135.0	138.9	140.5
b1. Energy Price	114.1	124.4	133.1	135.9	139.7	141.8
b2. GDP Price	100.5	100.9	100.6	100.7	100.6	100.9
c. Energy Productivity (=c1/c2)	105.7	102.9	107.9	106.2	108.2	109.1
c1. Real GDP	100.2	100.2	101.1	101.5	101.5	101.9
c2. Energy Consumption	94.7	97.4	93.7	95.5	93.8	93.4
d. Nominal GDP (=b2*c1)	100.7	101.1	101.8	102.2	102.0	102.9
e. Energy Cost (=b1*c2)	108.1	121.1	124.6	129.8	131.0	132.4

Unit: 2015 average=100.

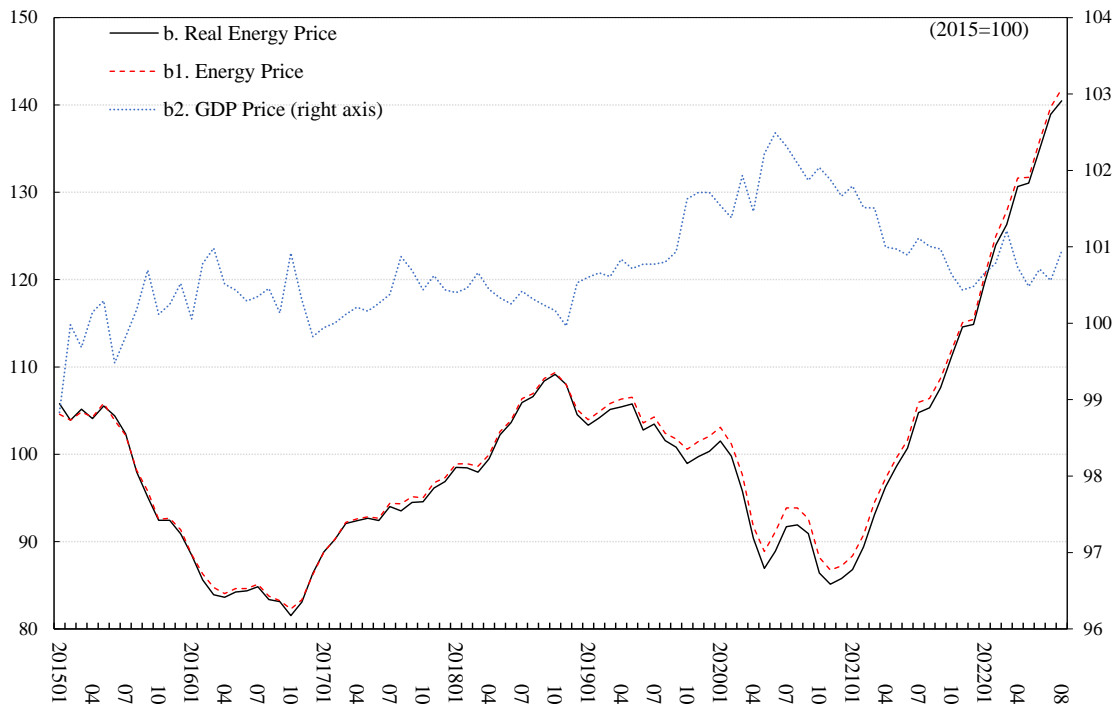
2 Time-series Estimates

2.1 Monthly RUEC (Real Unit Energy Cost)



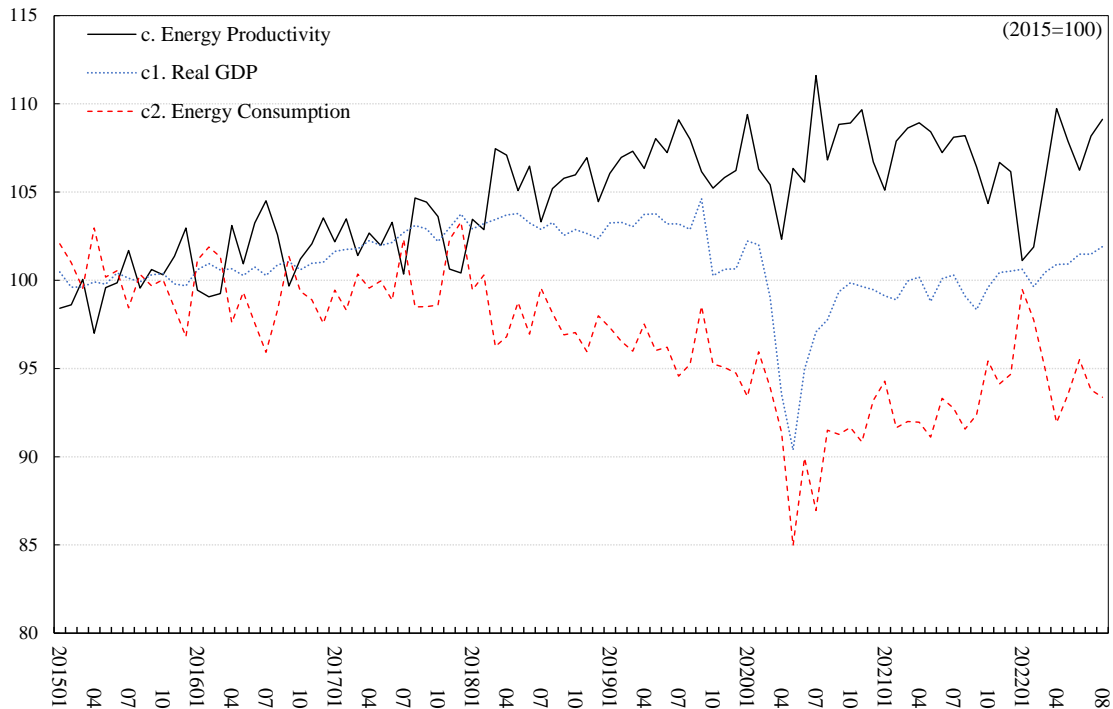
Unit: 2015 average=100. Note: Observation period is from January 2015 to August 2022.

2.2 Monthly Real Energy Price



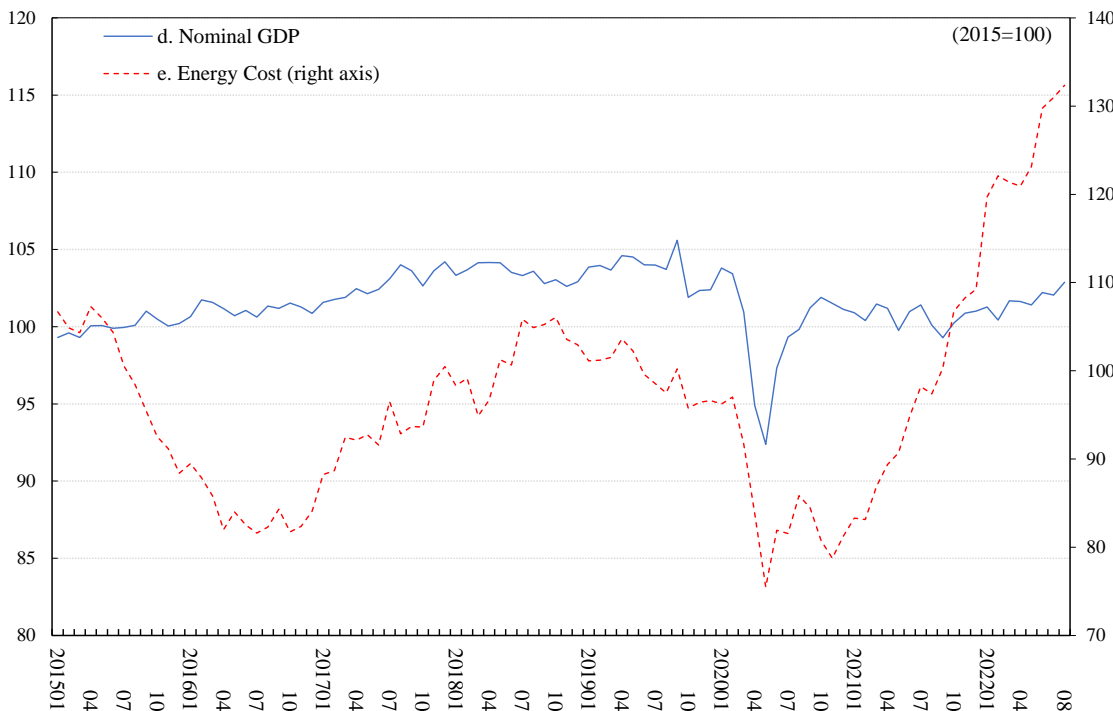
Unit: 2015 average=100. Note: Observation period is from January 2015 to August 2022.

### 2.3 Monthly Real GDP and Energy Productivity



Unit: 2015 average=100. Note: Observation period is from January 2015 to August 2022.

### 2.4 Monthly Nominal GDP and Energy Cost



Unit: 2015 average=100. Note: Observation period is from January 2015 to August 2022.

## 3 Time-series Data

	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	83.1 (.060)	84.3	84.7	100.4	101.5	100.7	99.2	101.1	
2017	91.0 (.066)	93.2	93.5	100.3	102.4	102.4	100.0	102.8	
2018	98.2 (.071)	103.5	103.9	100.3	105.4	103.1	97.8	103.4	
2019	96.0 (.070)	102.6	103.6	101.0	106.9	102.7	96.1	103.7	
2020	85.1 (.062)	91.3	93.1	101.9	107.3	97.9	91.2	99.8	
2021	95.1 (.069)	101.9	103.0	101.0	107.2	99.6	92.9	100.6	
2020 Q1	92.4 (.067)	99.0	100.6	101.6	107.0	101.1	94.4	102.7	
Q2	84.7 (.062)	88.8	90.7	102.1	104.7	92.9	88.7	94.9	
Q3	83.9 (.061)	91.5	93.5	102.1	109.1	98.1	89.9	100.1	
Q4	79.0 (.057)	85.8	87.4	101.9	108.4	99.7	91.9	101.5	
2021 Q1	83.7 (.061)	89.7	91.2	101.6	107.2	99.3	92.6	100.9	
Q2	91.0 (.066)	98.5	99.5	101.0	108.2	99.7	92.1	100.6	
Q3	98.4 (.072)	105.9	107.0	101.0	107.6	99.2	92.2	100.3	
Q4	107.3 (.078)	113.5	114.1	100.5	105.7	100.2	94.7	100.7	
2022 Q1	119.7 (.087)	123.3	124.4	100.9	102.9	100.2	97.4	101.1	
Q2	122.5 (.089)	132.3	133.1	100.6	107.9	101.1	93.7	101.8	
2018 01	95.1 (.069)	98.5	98.9	100.4	103.5	102.9	99.5	103.3	
02	95.6 (.070)	98.4	98.9	100.5	102.9	103.2	100.3	103.7	
03	91.1 (.066)	98.0	98.6	100.7	107.5	103.5	96.3	104.1	
04	92.8 (.067)	99.5	99.9	100.4	107.1	103.7	96.8	104.2	
05	97.2 (.071)	102.2	102.6	100.3	105.1	103.8	98.7	104.1	
06	97.2 (.071)	103.6	103.9	100.3	106.5	103.2	96.9	103.5	
07	102.4 (.074)	105.9	106.4	100.4	103.3	102.9	99.6	103.3	
08	101.2 (.074)	106.6	106.9	100.3	105.2	103.3	98.1	103.6	
09	102.4 (.074)	108.4	108.7	100.2	105.8	102.5	96.9	102.8	
10	102.9 (.075)	109.1	109.3	100.2	106.0	102.9	97.0	103.0	
11	100.9 (.073)	108.0	108.0	100.0	107.0	102.7	96.0	102.6	
12	100.0 (.073)	104.5	105.1	100.5	104.5	102.4	98.0	102.9	
2019 01	97.3 (.071)	103.3	104.0	100.6	106.1	103.2	97.3	103.9	
02	97.3 (.071)	104.2	104.9	100.7	107.0	103.3	96.5	104.0	
03	97.9 (.071)	105.1	105.8	100.6	107.3	103.0	96.0	103.7	
04	99.0 (.072)	105.4	106.3	100.8	106.3	103.7	97.5	104.6	
05	97.8 (.071)	105.8	106.5	100.7	108.0	103.8	96.0	104.5	
06	95.8 (.070)	102.8	103.6	100.8	107.2	103.2	96.2	104.0	
07	94.7 (.069)	103.4	104.3	100.8	109.1	103.2	94.6	104.0	
08	94.0 (.068)	101.6	102.4	100.8	108.0	102.9	95.3	103.7	
09	94.9 (.069)	100.8	101.8	100.9	106.2	104.6	98.5	105.6	
10	94.0 (.068)	98.9	100.6	101.6	105.2	100.3	95.3	101.9	
11	94.2 (.068)	99.7	101.5	101.7	105.8	100.6	95.1	102.3	
12	94.4 (.069)	100.3	102.1	101.7	106.2	100.7	94.7	102.4	
2020 01	92.7 (.067)	101.5	103.1	101.5	109.4	102.2	93.4	103.8	
02	93.8 (.068)	99.8	101.2	101.4	106.3	102.0	95.9	103.4	
03	90.8 (.066)	95.8	97.7	101.9	105.4	99.0	93.9	101.0	
04	88.3 (.064)	90.4	91.7	101.5	102.3	93.5	91.4	94.9	
05	81.7 (.059)	86.9	88.9	102.2	106.3	90.4	85.0	92.4	
06	84.1 (.061)	88.9	91.1	102.5	105.6	95.0	89.9	97.3	
07	82.1 (.060)	91.7	93.8	102.3	111.6	97.1	87.0	99.3	
08	86.0 (.063)	91.9	93.9	102.1	106.8	97.8	91.5	99.8	
09	83.5 (.061)	90.9	92.6	101.9	108.8	99.4	91.3	101.2	
10	79.3 (.058)	86.4	88.2	102.0	108.9	99.9	91.7	101.9	
11	77.6 (.056)	85.1	86.7	101.9	109.7	99.6	90.8	101.5	
12	80.3 (.058)	85.8	87.2	101.7	106.7	99.5	93.2	101.1	
2021 01	82.5 (.060)	86.8	88.4	101.8	105.1	99.1	94.3	100.9	
02	82.8 (.060)	89.4	90.8	101.5	107.9	98.9	91.6	100.4	
03	85.6 (.062)	93.1	94.5	101.5	108.6	100.0	92.0	101.5	
04	88.3 (.064)	96.3	97.2	101.0	108.9	100.2	92.0	101.2	
05	90.9 (.066)	98.6	99.6	101.0	108.4	98.8	91.1	99.8	
06	93.8 (.068)	100.7	101.6	100.9	107.2	100.1	93.3	101.0	
07	96.8 (.070)	104.8	105.9	101.1	108.1	100.3	92.8	101.4	
08	97.3 (.071)	105.3	106.4	101.0	108.2	99.1	91.6	100.1	
09	101.0 (.073)	107.6	108.7	101.0	106.4	98.3	92.4	99.3	
10	106.5 (.077)	111.2	111.9	100.6	104.3	99.6	95.4	100.2	
11	107.3 (.078)	114.6	115.1	100.4	106.7	100.4	94.1	100.9	
12	108.1 (.079)	114.9	115.4	100.5	106.2	100.5	94.7	101.0	
2022 01	118.2 (.086)	119.6	120.4	100.7	101.1	100.6	99.5	101.3	
02	121.6 (.088)	123.9	124.9	100.8	101.9	99.6	97.8	100.4	
03	119.3 (.087)	126.3	127.9	101.2	105.8	100.5	95.0	101.7	
04	119.0 (.087)	130.6	131.6	100.7	109.7	100.9	91.9	101.6	
05	121.4 (.088)	131.1	131.7	100.5	107.9	100.9	93.5	101.4	
06	126.9 (.092)	135.0	135.9	100.7	106.2	101.5	95.5	102.2	
07	128.3 (.093)	138.9	139.7	100.6	108.2	101.5	93.8	102.1	
08	128.6 (.094)	140.5	141.8	100.9	109.1	101.9	93.4	102.9	

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