



Energy Cost Monitoring (ECM)

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ECM_JPN_202208

August 31, 2022

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1 Recent Estimates

1.1 Growth Rates

	Quarter-over-quarter growth rate			Month-over-month growth rate		
	2021Q4	2022Q1	2022Q2	May, 2022	June, 2022	July, 2022
a. RUEC (Real Unit Energy Cost) (=b-c=e-d)	8.5%	10.7%	3.3%	2.9%	4.8%	0.8%
b. Real Energy Price (=b1-b2)	7.3%	7.9%	8.5%	0.9%	3.8%	2.2%
b1. Energy Price	6.7%	8.2%	7.7%	0.5%	3.3%	2.5%
b2. GDP Price	-0.6%	0.3%	-0.8%	-0.3%	-0.5%	0.2%
c. Energy Productivity (=c1-c2)	-1.2%	-2.9%	5.2%	-2.0%	-1.0%	1.4%
c1. Real GDP	1.0%	-0.1%	0.9%	0.0%	0.5%	0.5%
c2. Energy Consumption	2.2%	2.7%	-4.3%	2.0%	1.5%	-1.0%
d. Nominal GDP (=b2+c1)	0.3%	0.2%	0.1%	-0.3%	0.0%	0.7%
e. Energy Cost (=b1+c2)	8.9%	10.9%	3.4%	2.5%	4.8%	1.5%

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.

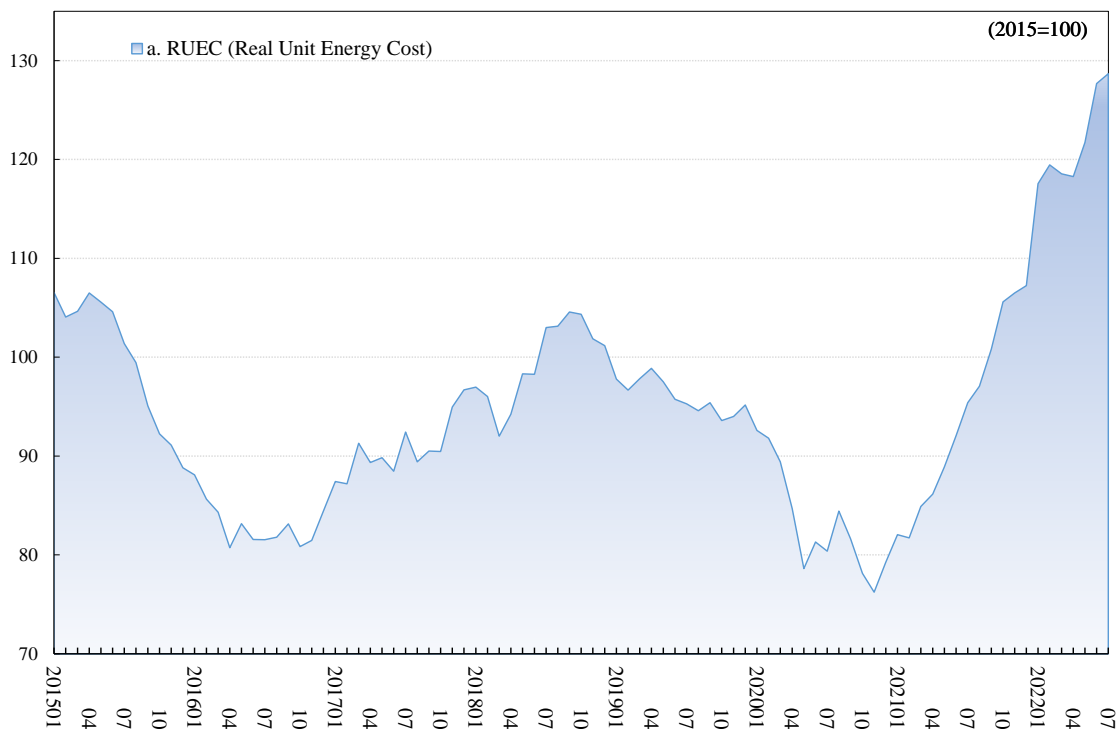
1.2 Indices

	Quarterly index			Monthly index		
	2021Q4	2022Q1	2022Q2	May, 2022	June, 2022	July, 2022
a. RUEC (Real Unit Energy Cost) (=b/c=e/d)	106.5	118.5	122.6	121.7	127.7	128.7
b. Real Energy Price (=b1/b2)	115.8	125.3	136.4	135.0	140.3	143.4
b1. Energy Price	116.1	126.0	136.1	134.8	139.3	142.8
b2. GDP Price	100.3	100.6	99.8	99.8	99.3	99.5
c. Energy Productivity (=c1/c2)	108.7	105.6	111.3	110.9	109.8	111.4
c1. Real GDP	100.3	100.1	101.0	100.9	101.4	101.9
c2. Energy Consumption	92.2	94.8	90.8	91.0	92.3	91.4
d. Nominal GDP (=b2*c1)	100.6	100.7	100.8	100.7	100.7	101.4
e. Energy Cost (=b1*c2)	107.1	119.4	123.5	122.6	128.6	130.5

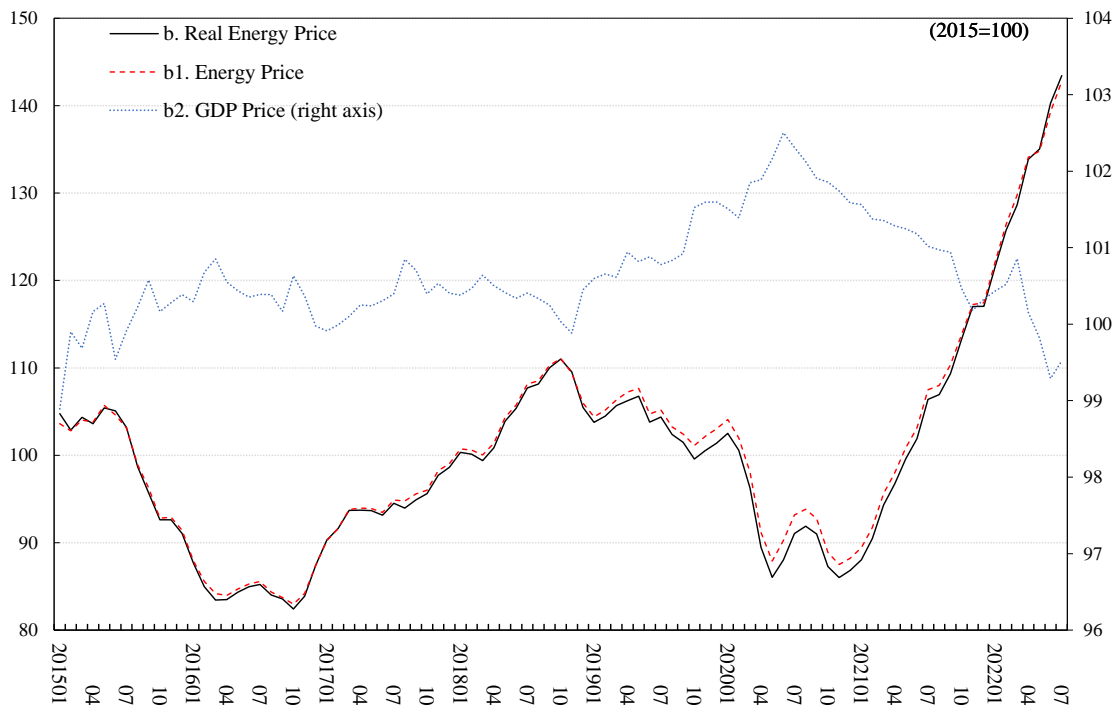
Unit: 2015 average=100.

2 Time-series Estimates

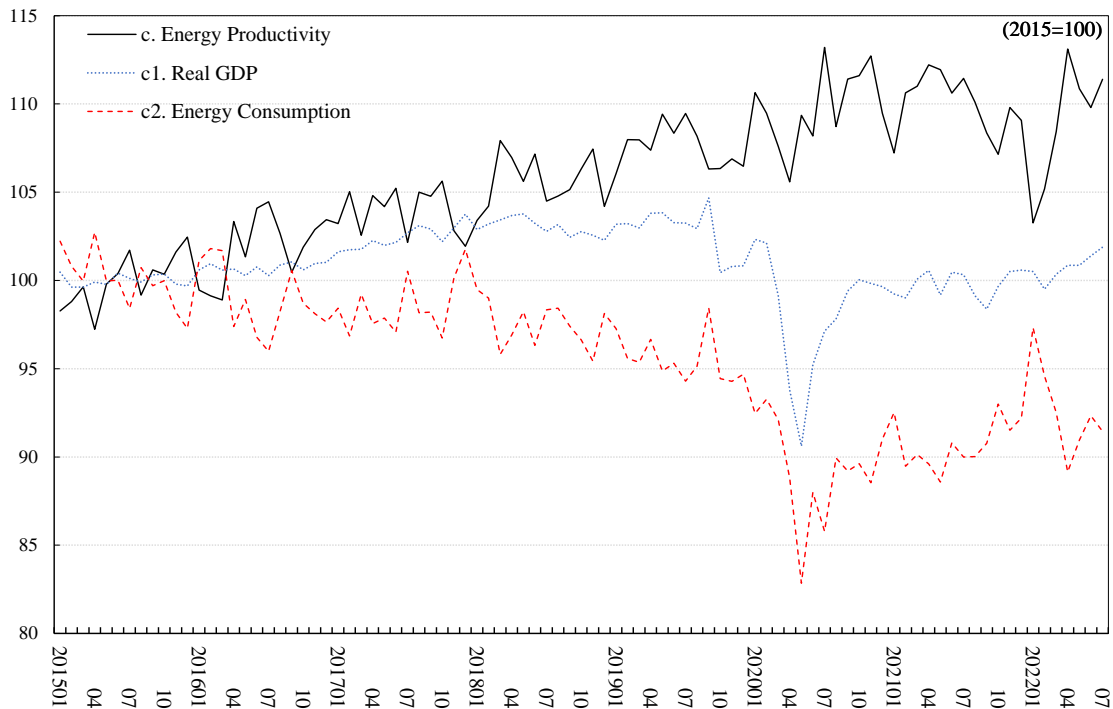
2.1 Monthly RUEC (Real Unit Energy Cost)



2.2 Monthly Real Energy Price

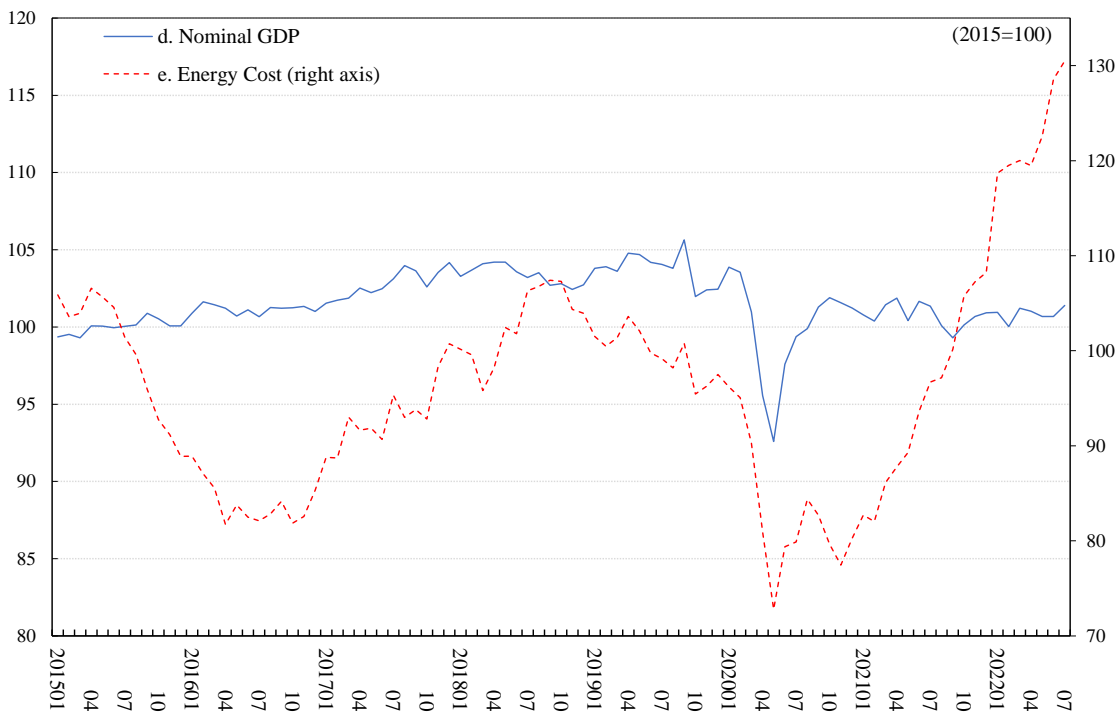


2.3 Monthly Real GDP and Energy Productivity



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

2.4 Monthly Nominal GDP and Energy Cost



Unit: 2015 average=100. Note: Observation period is from January 2015 to July 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 (.063)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	
2016	83.1 (.053)	84.6	85.0	100.4	101.8	100.7	98.9	101.1	
2017	90.7 (.058)	94.3	94.6	100.3	104.0	102.4	98.5	102.8	
2018	99.5 (.063)	105.1	105.5	100.3	105.6	103.0	97.5	103.4	
2019	96.1 (.061)	103.3	104.4	101.0	107.6	102.8	95.5	103.8	
2020	83.3 (.053)	91.5	93.2	101.9	109.8	98.1	89.3	99.9	
2021	94.0 (.060)	103.4	104.4	101.0	110.0	99.8	90.7	100.8	
2020 Q1	91.3 (.058)	99.8	101.4	101.6	109.2	101.2	92.6	102.8	
2020 Q2	81.6 (.052)	87.9	89.9	102.2	107.7	93.2	86.5	95.2	
2020 Q3	82.2 (.052)	91.3	93.3	102.1	111.1	98.1	88.3	100.2	
2020 Q4	77.9 (.049)	86.7	88.2	101.7	111.3	99.8	89.7	101.6	
2021 Q1	82.9 (.053)	90.9	92.2	101.4	109.6	99.4	90.7	100.9	
2021 Q2	89.0 (.057)	99.4	100.7	101.2	111.6	100.1	89.7	101.3	
2021 Q3	97.7 (.062)	107.6	108.6	101.0	110.0	99.3	90.3	100.2	
2021 Q4	106.5 (.068)	115.8	116.1	100.3	108.7	100.3	92.2	100.6	
2022 Q1	118.5 (.075)	125.3	126.0	100.6	105.6	100.1	94.8	100.7	
2022 Q2	122.6 (.078)	136.4	136.1	99.8	111.3	101.0	90.8	100.8	
2018 01	97.0 (.062)	100.3	100.7	100.4	103.4	102.9	99.5	103.3	
2018 02	96.0 (.061)	100.1	100.6	100.5	104.2	103.2	99.0	103.7	
2018 03	92.0 (.058)	99.4	100.0	100.6	107.9	103.4	95.8	104.1	
2018 04	94.2 (.060)	100.9	101.4	100.5	107.0	103.7	96.9	104.2	
2018 05	98.3 (.062)	103.9	104.3	100.4	105.6	103.8	98.2	104.2	
2018 06	98.3 (.062)	105.4	105.7	100.3	107.2	103.2	96.3	103.6	
2018 07	103.0 (.065)	107.7	108.1	100.4	104.5	102.8	98.3	103.2	
2018 08	103.1 (.065)	108.1	108.5	100.3	104.8	103.2	98.4	103.5	
2018 09	104.6 (.066)	110.0	110.3	100.3	105.1	102.4	97.4	102.7	
2018 10	104.3 (.066)	111.0	111.1	100.0	106.3	102.8	96.6	102.8	
2018 11	101.9 (.065)	109.5	109.4	99.9	107.5	102.6	95.4	102.4	
2018 12	101.2 (.064)	105.5	106.0	100.5	104.2	102.3	98.1	102.7	
2019 01	97.8 (.062)	103.8	104.4	100.6	106.1	103.2	97.3	103.8	
2019 02	96.7 (.061)	104.5	105.2	100.7	108.0	103.2	95.6	103.9	
2019 03	97.8 (.062)	105.7	106.4	100.6	108.0	103.0	95.4	103.6	
2019 04	98.9 (.063)	106.2	107.2	100.9	107.4	103.8	96.7	104.8	
2019 05	97.5 (.062)	106.8	107.7	100.8	109.4	103.8	94.9	104.7	
2019 06	95.8 (.061)	103.8	104.7	100.9	108.3	103.3	95.3	104.2	
2019 07	95.3 (.060)	104.4	105.2	100.8	109.5	103.3	94.3	104.1	
2019 08	94.6 (.060)	102.4	103.3	100.8	108.2	102.9	95.1	103.8	
2019 09	95.4 (.061)	101.5	102.4	100.9	106.3	104.7	98.4	105.6	
2019 10	93.6 (.059)	99.6	101.1	101.5	106.3	100.4	94.4	102.0	
2019 11	94.0 (.060)	100.5	102.2	101.6	106.9	100.8	94.3	102.4	
2019 12	95.2 (.060)	101.4	103.0	101.6	106.5	100.8	94.7	102.4	
2020 01	92.6 (.059)	102.5	104.1	101.5	110.6	102.3	92.5	103.9	
2020 02	91.8 (.058)	100.6	102.0	101.4	109.5	102.1	93.3	103.5	
2020 03	89.4 (.057)	96.3	98.1	101.8	107.6	99.1	92.1	101.0	
2020 04	84.7 (.054)	89.5	91.2	101.9	105.6	93.8	88.8	95.6	
2020 05	78.6 (.050)	86.0	87.9	102.2	109.4	90.6	82.8	92.6	
2020 06	81.3 (.052)	88.0	90.2	102.5	108.2	95.2	88.0	97.6	
2020 07	80.4 (.051)	91.1	93.2	102.3	113.2	97.1	85.8	99.4	
2020 08	84.4 (.054)	91.9	93.8	102.1	108.7	97.8	89.9	99.9	
2020 09	81.6 (.052)	91.0	92.8	101.9	111.4	99.4	89.2	101.3	
2020 10	78.1 (.050)	87.3	88.9	101.9	111.6	100.0	89.6	101.9	
2020 11	76.2 (.048)	86.0	87.5	101.7	112.7	99.8	88.5	101.6	
2020 12	79.3 (.050)	86.8	88.2	101.6	109.5	99.6	91.0	101.2	
2021 01	82.0 (.052)	88.0	89.4	101.6	107.2	99.2	92.5	100.8	
2021 02	81.7 (.052)	90.5	91.7	101.4	110.6	99.0	89.5	100.4	
2021 03	84.9 (.054)	94.3	95.6	101.4	111.0	100.1	90.1	101.4	
2021 04	86.1 (.055)	96.7	98.0	101.3	112.2	100.6	89.6	101.9	
2021 05	88.9 (.056)	99.6	100.9	101.2	111.9	99.2	88.6	100.4	
2021 06	92.1 (.058)	101.9	103.1	101.2	110.6	100.5	90.8	101.7	
2021 07	95.4 (.061)	106.4	107.5	101.0	111.5	100.3	90.0	101.4	
2021 08	97.1 (.062)	106.9	108.0	101.0	110.1	99.1	90.0	100.1	
2021 09	100.8 (.064)	109.3	110.4	100.9	108.4	98.4	90.8	99.3	
2021 10	105.6 (.067)	113.2	113.8	100.5	107.1	99.7	93.0	100.1	
2021 11	106.5 (.068)	117.0	117.2	100.2	109.8	100.5	91.5	100.7	
2021 12	107.2 (.068)	117.0	117.4	100.3	109.1	100.6	92.2	100.9	
2022 01	117.6 (.075)	121.5	122.0	100.4	103.3	100.5	97.3	100.9	
2022 02	119.5 (.076)	125.7	126.4	100.5	105.2	99.5	94.6	100.0	
2022 03	118.6 (.075)	128.6	129.8	100.9	108.4	100.3	92.5	101.2	
2022 04	118.3 (.075)	133.9	134.1	100.2	113.1	100.9	89.1	101.0	
2022 05	121.7 (.077)	135.0	134.8	99.8	110.9	100.9	91.0	100.7	
2022 06	127.7 (.081)	140.3	139.3	99.3	109.8	101.4	92.3	100.7	
2022 07	128.7 (.082)	143.4	142.8	99.5	111.4	101.9	91.4	101.4	

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