

Oil Market Review in Japan No. 29/2017

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Overview

The key WTI (West Texas Intermediate) crude oil futures contract on the NYMEX (New York Mercantile Exchange) in the October 19-25 week moved within a firmer range between \$51.29 per barrel and \$52.47/bbl.

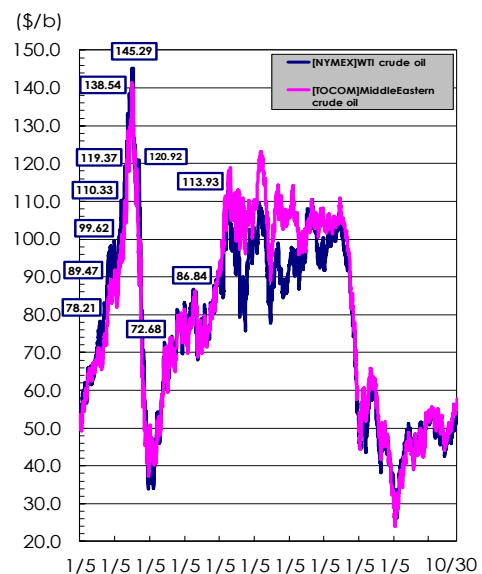
On October 26, the December contract rallied on expectations of oil demand growth through a global economic pickup next year as well as a media report that Saudi Arabia and Russia agreed to extend major oil producing countries' coordinated production cut for nine months from next April. The key contract closed at \$52.64/bbl, up \$0.46/bbl from the previous day. On October 27, the key contract rose further on OPEC (Organization of the Petroleum Exporting Countries) Secretary General Mohammed Barkindo's reported remark supporting the Saudi Arabia-Russia agreement, as well as the dollar's depreciation amid speculation that Federal Reserve Board Governor Jerome Powell would be nominated as Fed chairman. The rise was restricted by the relaxation of tensions in Iraq on a ceasefire agreement between the Iraqi government forces and the Peshmerga armed forces of the Kurdish autonomous government. A Baker Hughes report that the number of operating U.S. oil-drilling rigs rose by one from a week earlier to 737 for the first increase in four weeks exerted little impact on the crude oil futures market. The December contract rose by \$1.26/bbl to \$53.90/bbl.

On October 30, the key contract rose for the third straight market day on expectations of the extension of the coordinated production cut by OPEC and non-OPEC oil producing countries as United Arab Emirates Energy Minister Suhail bin Mohammed al-Mazroui supported the extension. While the upward revision of a forecast crude oil price in 2018 by JP Morgan supported the rise, downward pressure on crude oil futures prices came from the Iraqi government's announcement to increase crude oil export capacity at Basra in southern Iraq by 900,000 barrels per day to make up for a decline in supply from the Kirkuk oil field in northern Iraq. The December contract finished at \$54.15/bbl, up \$0.25/bbl. On October 31, the key contract increased for the fourth straight market day on expectations of the extension of the coordinated production cut by OPEC and non-OPEC oil producing countries. However, month-end profit taking selling came. Market players took a wait-and-see attitude before the U.S. private and government sectors announced weekly oil inventory reports in the evening and the next day. The contract gained \$0.23/bbl to \$54.38/bbl. On November 1, the December contract turned down for the first time in five market days on profit taking selling as the EIA (Energy Information Administration) reported a slower crude oil inventory decline than released by the API (American Petroleum Institute). The contract lost \$0.08/bbl to \$54.30/bbl.

The Asian benchmark crude oil of Dubai for December delivery on the Tokyo market moved in a range between \$55.60/bbl and \$56.40/bbl in the October 19-25 week. It closed at \$56.20/bbl on October 26, at \$57.30/bbl on October 27, at \$58.10/bbl on October 30, at \$58.50/bbl on October 31 and at \$59.30/bbl on November 1. On the foreign exchange market in the October 19-25 week, the dollar moved within a higher range between 112.77 and 113.92 yen. It changed hands at 113.57 yen in late trading on October 26, at 114.16 yen on October 27, at 113.78 yen on October 30, at 113.16 yen on October 31 and at 113.86 yen on November 1. According to preliminary 10-day trade statistics released by the Ministry of Finance on October 31, the average crude oil import CIF price in the October 1-10 period stood at 37,946 yen/kl (kiloliter), up 2,018 yen/kl from the previous 10-day period. In dollars, the price was \$53.83/bbl, up \$1.67/bbl. The average exchange rate was 112.07 yen to the dollar.

Wholesale prices that major Motouri (petroleum products wholesalers) applied to the second week of November were raised by 1.0 yen/l for gasoline and diesel oil and by 1.5 yen/l for kerosene. Crude oil acquisition cost rose as crude oil prices increased, with the yen depreciating against the dollar. Japan's average retail price on October 30 rose by 0.2 yen/l from a week earlier for gasoline, by 0.2 yen/l for diesel oil and by 0.3 yen/l for kerosene (heating oil). The gasoline and diesel prices rose for the seventh straight week. The kerosene price increased for the sixth consecutive week. While crude oil cost rose in the first week of November, Motouri companies kept their wholesale gasoline prices unchanged or raised them by 0.5-1.0 yen/l, increased diesel prices by 0.5-1.0 yen/l and raised kerosene prices by 1.0-1.5 yen/l.

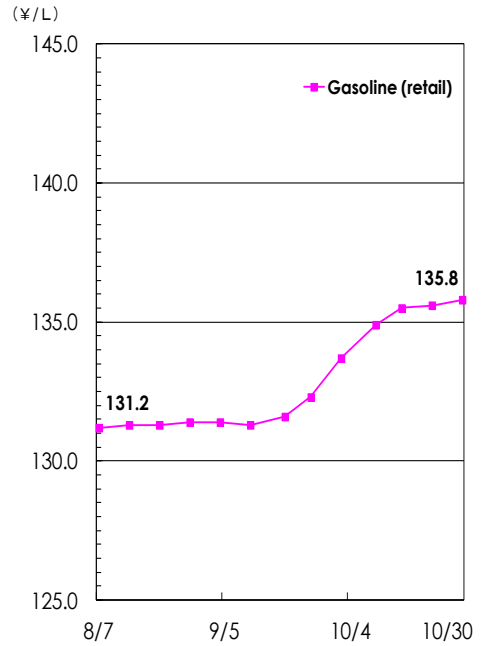
| Crude oil | | | This week | From a week earlier | From a year earlier |
|---------------|---|---------------|-----------|---------------------|---------------------|
| Supply/Demand | Crude oil runs (1,000 kl) | 10/22 ~ 10/28 | 3,171 | ➡ 0 | ▲ - |
| | Topper capacity utilization rate (%) | " | 81.0 | ➡ 0.0 | ▲ - |
| | Crude oil inventories (1,000 kl) | 10/28 | 13,119 | ▼ -374 | ▼ - |
| Prices | Middle Eastern crude oil (TOCOM) (\$/bbl) | 10/30 | 57.69 | ▲ 2.37 | ▲ 10.6 |
| | WTI crude oil (NYMEX) (\$/bbl) | 10/30 | 54.15 | ▲ 2.25 | ▲ 7.3 |
| | Crude oil import CIF price (\$/bbl) | Early Oct | 53.83 | ▲ 1.67 | ▲ 8.53 |
| | ① Crude oil import CIF price (yen/kl) | " | 37,946 | ▲ 2,018 | ▲ 8,765 |
| | ② Yen-dollar exchange rate (yen/dollar) | " | 112.07 | ▼ -2.56 | ▼ -9.65 |
| | TTS exchange rate (yen/dollar) | 10/30 | 114.78 | ▲ 0.11 | ▼ -8.92 |



(Unit: 1,000 kl, yen/l)

| Gasoline | | This week | | From a week earlier | From a year earlier | |
|-------------------|---|-------------------|---------------|---------------------|---------------------|--------|
| Supply/ Demand | Production | 10/22 ~ 10/28 | 930 | ▼ -48 | ▼ - | |
| | Imports | " | n.a. | n.a. | n.a. | |
| | Shipments | " | 1,004 | ▲ 52 | ▲ - | |
| | Exports | " | 43 | ▲ 18 | ▼ - | |
| | Inventories | 10/28 | 1,578 | ▼ -117 | ▲ - | |
| Prices | Gyoten (spot) [4-district average lorry rack price] (RIM) | 10/24 ~ 10/30 | 54.1 | ▲ 0.3 | ▲ 10.1 | |
| | Futures [front-month contract/closing price] | (TOCOM/Tokyo Bay) | 10/24 ~ 10/30 | 55.3 | ▲ 0.8 | ▲ 11.8 |
| | | (TOCOM/Chubu) | 10/30 | 55.5 | ▲ 1.0 | ▲ 12.5 |
| | Retail prices [weekly trend] (published by ANRE) | 10/30 | 135.8 | ▲ 0.2 | ▲ 9.5 | |

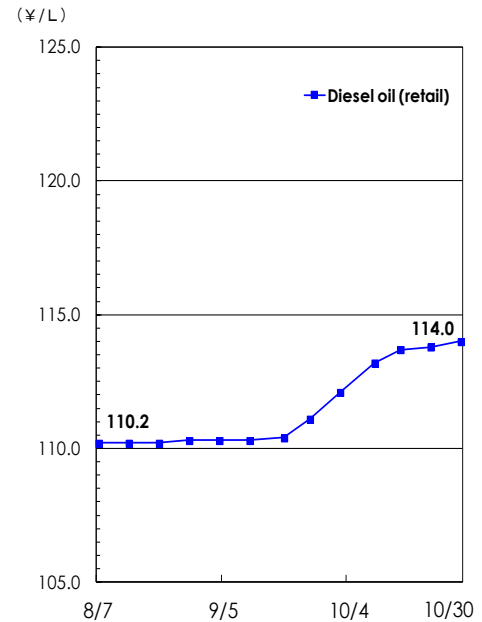
*Gyoten and futures prices are before tax



(Unit: 1,000 kl, yen/l)

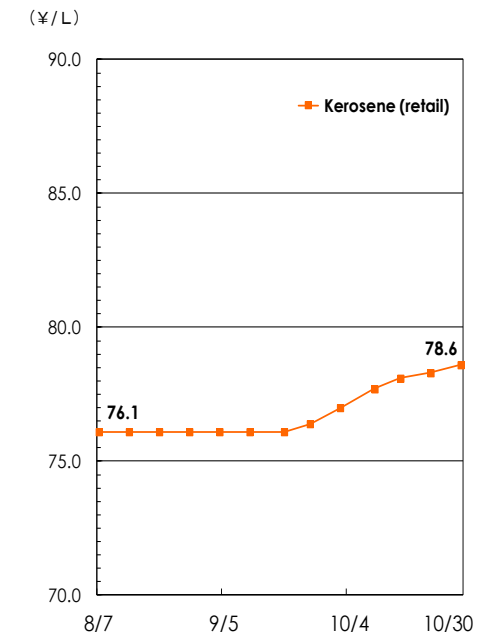
| Diesel oil | | This week | | From a week earlier | From a year earlier | |
|-------------------|---|-------------------|---------------|---------------------|---------------------|--------|
| Supply/ Demand | Production | 10/22 ~ 10/28 | 783 | ▲ 60 | ▲ - | |
| | Imports | " | n.a. | n.a. | n.a. | |
| | Shipments | " | 698 | ▲ 85 | ▲ - | |
| | Exports | " | 130 | ▼ -17 | ▼ - | |
| | Inventories | 10/28 | 1,363 | ▼ -46 | ▼ - | |
| Prices | Gyoten (spot) [4-district average lorry rack price] (RIM) | 10/24 ~ 10/30 | 53.5 | ▲ 0.3 | ▲ 11.7 | |
| | Futures [front-month contract/closing price] | (TOCOM/Tokyo Bay) | 10/24 ~ 10/30 | 52.2 | ▲ 2.0 | ▲ 11.2 |
| | | (TOCOM/Chubu) | 10/30 | - | - | - |
| | Retail prices [weekly trend] (published by ANRE) | 10/30 | 114.0 | ▲ 0.2 | ▲ 9.0 | |

*Gyoten and futures prices are before tax



(Unit: 1,000 kl, yen/l)

| Kerosene | | This week | | From a week earlier | From a year earlier | |
|-------------------|---|-------------------|---------------|---------------------|---------------------|--------|
| Supply/ Demand | Production | 10/22 ~ 10/28 | 283 | ▲ 44 | ▲ - | |
| | Imports | " | n.a. | n.a. | n.a. | |
| | Shipments | " | 377 | ▲ 121 | ▲ - | |
| | Exports | " | 1 | ▼ -49 | ▲ - | |
| | Inventories | 10/28 | 2,559 | ▼ -94 | ▼ - | |
| Prices | Gyoten (spot) [4-district average lorry rack price] (RIM) | 10/24 ~ 10/30 | 55.8 | ▲ 0.8 | ▲ 13.3 | |
| | Futures [front-month contract/closing price] | (TOCOM/Tokyo Bay) | 10/24 ~ 10/30 | 56.2 | ▲ 1.1 | ▲ 11.6 |
| | | (TOCOM/Chubu) | 10/30 | 56.7 | ▲ 0.7 | ▲ 12.7 |
| | Retail prices [weekly trend] (published by ANRE) | 10/30 | 78.6 | ▲ 0.3 | ▲ 13.2 | |



Relevant Information

1 Overseas crude oil prices

On November 1, the most frequently traded WTI crude oil futures contract on the NYMEX dropped for the first time in five market days as profit taking selling came on a weekly EIA oil inventory report that crude oil inventories posted a decline of 2.4 million barrels from a week earlier, slower than a fall of 5.1 million barrels as reported by the API on the previous day, though faster than a market-forecast drop of 1.8 million barrels. Before closing slightly lower, however, the key contract soared to \$55.25/bbl temporarily as Reuters reported that October OPEC crude oil production decreased by 80,000 bpd from the previous month. The December contract lost \$0.08/bbl to \$54.30/bbl. The January contract fell by \$0.08/bbl to \$54.51/bbl.

According to the EIA, the average U.S. retail price of gasoline as of October 30 rose by 0.9 cents per gallon from a week earlier to \$2.488/gal (75.3 yen/l). The average diesel oil price rose by 2.2 cents/gal to \$2.819/gal (85.4 yen/l). The gasoline price increased for the first time in seven weeks. The diesel price rose for the third consecutive week.

2 Petroleum products supply and demand in Japan (1) Shipments

According to a weekly report by the PAJ (Petroleum Association of Japan), inactive topper capacity in the October 22-28 week stood at 385,000 bpd, down 20,000 bpd from the previous week (total capacity stood at 3,519,000 bpd).

Crude oil throughput in the week remained unchanged from the previous week at 3,171,000 kl. From a year earlier, it increased by 110,000 kl. The topper capacity utilization rate stood at 81.0%, unchanged from the previous week and up 6.2 points from a year earlier.

Output decreased from the previous week only for gasoline while increasing for other petroleum products. Output was down 4.9% for gasoline, up 27.7% for jet fuel, up 18.4% for kerosene, up 8.3% for diesel oil, up 3.6% for Fuel Oil A and up 13.5% for Fuel Oil C. Fuel Oil C imports in the week totaled 26,000 kl, up 21,000 kl from the previous week. Diesel oil exports aggregated 130,000 kl, down 17,000 kl.

Shipments (excluding imports) in the week decreased from the previous week for jet fuel and Fuel Oil A and increased for other petroleum products. From a year earlier, shipments increased for gasoline, kerosene and diesel oil and decreased for other petroleum products.

Gasoline shipments increased by 5.5% from the previous week to 1,004,000 kl. They increased week on week for the second straight week and year on year for the first time in three weeks, topping 1 million kl for the first time in three weeks.

Shipments totaled 47,000 kl for jet fuel (down 39.1% from the previous week), 377,000 kl for kerosene (up 47.1%), 698,000 kl for diesel oil (up 13.8%), 178,000 kl for Fuel Oil A (down 6.4 %) and 248,000 kl for Fuel Oil C (up 40.3%).

(Unit: 1,000 kl)

| | This week (10/22 ~ 10/28) | Previous week (10/15 ~ 10/21) | From a week earlier |
|------------------------|------------------------------|----------------------------------|------------------------|
| Gasoline | 1,004 | 952 | ▲ 52 (5%) |
| Jet fuel | 47 | 77 | ▼ -30 (-39%) |
| Kerosene (heating Oil) | 377 | 256 | ▲ 121 (47%) |
| Diesel oil | 698 | 613 | ▲ 85 (14%) |
| Fuel oil A | 178 | 190 | ▼ -12 (-6%) |
| Fuel Oil C | 248 | 177 | ▲ 71 (40%) |
| Total | 2,552 | 2,265 | ▲ 287 (13%) |

This week's shipments = (Previous weekend inventories + This week's production + This week's imports) - (This week's exports + This weekend inventories)

2 Petroleum products supply and demand in Japan (2) Inventories

Inventories as of October 28 increased from a week earlier only for jet fuel and decreased for other petroleum products. From a year earlier, inventories increased for gasoline, jet fuel and Fuel Oil C and decreased for other petroleum products.

Gasoline inventories totaled 1,578,000 kl, down 117,000 kl from a week earlier and up 76,000 kl from a year earlier.

Kerosene inventories totaled 2,559,000 kl, down 94,000 kl from a week earlier and down 161,000 kl from a year earlier.

Diesel oil inventories totaled 1,363,000 kl, down 46,000 kl from a week earlier and down 51,000 kl from a year earlier.

Fuel Oil A inventories totaled 690,000 kl, down 25,000 kl from a week earlier and down 45,000 kl from a year earlier.

Fuel Oil C inventories totaled 2,031,000 kl, down 16,000 kl from a week earlier and up 157,000 kl from a year earlier.

(Unit: 1,000 kl)

| | This week (10/28) | Previous week (10/21) | From a week earlier |
|------------------------|----------------------|--------------------------|------------------------|
| Gasoline | 1,578 | 1,695 | ▼ -117 (-7%) |
| Jet fuel | 1,052 | 981 | ▲ 71 (7%) |
| Kerosene (heating Oil) | 2,559 | 2,653 | ▼ -94 (-4%) |
| Diesel oil | 1,363 | 1,409 | ▼ -46 (-3%) |
| Fuel oil A | 690 | 715 | ▼ -25 (-3%) |
| Fuel Oil C | 2,031 | 2,047 | ▼ -16 (-1%) |
| Total | 9,273 | 9,500 | ▼ -227 (-2.4%) |

3 Petroleum products wholesale prices in Japan (1) Wholesale price revision trend

Between October 24 and 30, crude oil cost apparently increased as crude oil prices rose, with the yen depreciating against the dollar.

Onshore cargo spot prices slightly weakened to a 107-109 yen/l range for gasoline, remained almost unchanged in a 53-54 yen/l range for diesel oil and stayed almost flat in a 55-56 yen/l range for kerosene.

Offshore barge spot prices rose sharply to a 110-112 yen/l range for gasoline, to a 55-58 yen/l range for diesel oil and to a 54-58 yen/l range for kerosene.

The key futures price increased steeply to a 108-111 yen/l range for gasoline, to a 51-54 yen/l range for diesel oil and to a 55-58 yen/l range for kerosene.

Motouri companies raised their wholesale prices by 1.0 yen/l for gasoline and diesel oil and by 1.5 yen/l for kerosene.

3 Petroleum products wholesale prices in Japan (2) Spot (Gyoten) and futures price trend

As crude oil cost increased in the October 24-30 week, spot prices rose for all petroleum products.

The latest onshore cargo spot price (the average onshore rack price for four districts -- Chiba, Kawasaki, Chukyo and Hanshin -- for the October 24-30 week) that influences Motouri's wholesale prices applied to the second week of November (November 2-8) rose by 0.3 yen/l from the previous week for gasoline, by 0.8 yen/l for kerosene and by 0.3 yen/l for diesel oil. The average offshore barge spot price in Tokyo Bay increased by 1.3 yen/l for gasoline, by 0.9 yen/l for kerosene and by 0.9 yen for diesel oil. The key futures price rose by 0.8 yen/l for gasoline and by 1.1 yen/l for kerosene and dropped by 2.0 yen/l for diesel oil. Crude oil cost increased as crude oil prices rose, with the yen depreciating against the dollar.

For the second week of November, Motouri companies raised gasoline and diesel oil prices by 1.0 yen/l and kerosene prices by 1.5 yen/l. Motouri based wholesale price revisions on crude oil and petroleum products market prices and each other's prices from 2010 and have adopted an approach giving greater priority to crude oil acquisition costs since June 2014.

| (RIM) [4-district average lorry rack price] | | (Unit: yen/l) | | |
|--|------------|------------------------------|----------------------------------|------------------------|
| | | This week (10/24 ~ 10/30) | Previous week (10/17 ~ 10/23) | From a week earlier |
| Spot Prices | Regular | 54.1 | 53.8 | ▲ 0.3 |
| | Kerosene | 55.8 | 55.0 | ▲ 0.8 |
| | Diesel oil | 53.5 | 53.2 | ▲ 0.3 |

| (TOCOM) [Front-month contract/closing price] [Average] | | (Unit: yen/l) | | |
|--|------------|------------------------------|----------------------------------|------------------------|
| | | This week (10/24 ~ 10/30) | Previous week (10/17 ~ 10/23) | From a week earlier |
| Futures Price | Regular | 55.3 | 54.5 | ▲ 0.8 |
| | Kerosene | 56.2 | 55.1 | ▲ 1.1 |
| | Diesel oil | 52.2 | 50.2 | ▲ 2.0 |

Above prices are before tax.

| Reference (October 24 - October 30 actual data) | | | | (Unit: yen/l) | | |
|---|-------|---------|---------|---------------|--|--|
| Products | Spot | Futures | Average | | | |
| Gasoline | ▲ 0.3 | ▲ 0.8 | ▲ 0.5 | | | |
| Kerosene | ▲ 0.8 | ▲ 1.1 | ▲ 0.9 | | | |
| Diesel oil | ▲ 0.3 | ▲ 2.0 | ▲ 1.2 | | | |
| Fuel Oil A | ▲ 0.1 | | | | | |

(Source) Spot: RIM 4-district average lorry rack price (Chiba, Kawasaki, Chukyo, Hanshin)
Futures: TOCOM average offshore barge spot price for Keihin District

4 Retail prices of petroleum products in Japan

The average retail service station price as of October 30 rose by 0.2 yen/l from a week earlier to another year-to-date high of 135.8 yen/l for gasoline, by 0.2 yen/l to 114.0 yen/l for diesel oil and by 0.3 yen/l to 78.6 yen/l for kerosene. The gasoline price rewrote a year-to-date high for the fourth straight week. The gasoline and diesel prices increased for the seventh straight week. The kerosene price rose for the sixth consecutive week. Gasoline prices increased in 32 of Japan's 47 prefectures, remained unchanged in nine and dropped in six. The lowest gasoline price among the prefectures was 130.8 yen/l in Saitama Prefecture (up 0.4 yen/l from a week earlier). The second lowest was 131.9 yen/l in Chiba (up 0.1 yen/l). The highest price was 145.0 yen/l in Okinawa (down 0.3 yen/l). Posting the largest price hike of 1.0 yen/l was Aichi (134.0 yen/l).

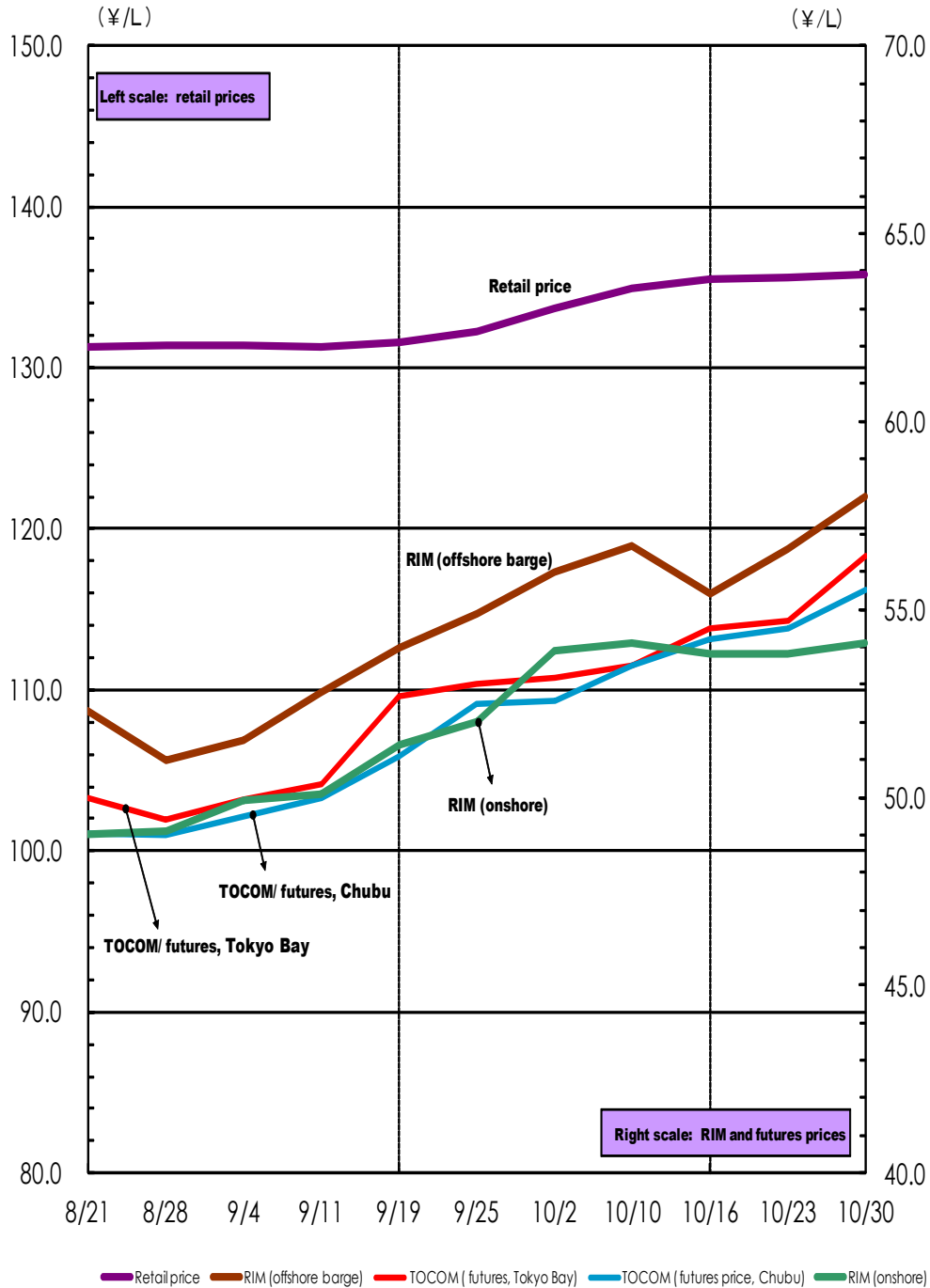
While crude oil cost increased last week, Motouri companies kept wholesale gasoline prices unchanged or raised them by 0.5-1.0 yen/l. The average retail gasoline price rose for the seventh straight week. This week, crude oil cost increased as crude oil prices rose, with the yen depreciating against the dollar. Motouri companies raised gasoline and diesel oil prices by 1.0 yen/l and kerosene prices by 1.5 yen/l. Retail gasoline and kerosene prices are likely to rise next week (as of November 6).

| (Published by ANRE)[Weekly trend] | | (Unit: yen/l) | | | |
|---|------------|----------------------|--------------------------|------------------------|---------------|
| | | This week (10/30) | Previous week (10/23) | From a week earlier | Latest high |
| Retail Price | Regular | 135.8 | 135.6 | ▲ 0.2 | 08/8/4 185.1 |
| | Kerosene | 78.6 | 78.3 | ▲ 0.3 | 08/8/11 132.1 |
| | Diesel oil | 114.0 | 113.8 | ▲ 0.2 | 08/8/4 167.4 |

Nationwide average cash retail price (including consumption tax)
Since April 2007, 2,000 service stations have been covered.
Latest highs are highest levels since October 2003.

Gasoline price trend

(2017/8/21 ~ 2017/10/30)



(Note) ① Retail price includes consumption Tax, RIM, TOCOM prices are before tax.

② RIM (onshore) is the average of four district .

■ Announcement

This report is available at the center's website (<http://eneken.ieej.or.jp/en/>).
The next issue (No. 30 for 2017) will be announced at 14:00 on November 17.

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Weekly Oil Market Review

In an interim report compiled in May 2004 by a petroleum products market trend study panel sponsored by the Petroleum Distribution and Retail Division of the Natural Resources and Fuel Department at the Agency for Natural Resources and Energy, the panel stated, "We hope that the Japanese oil industry will solidify its market and price-finding functions and that the oil industry as a mainstay industry in Japan will further enhance its rationality and vitality over a medium term as industry people deepen their understanding of the need for rational price recognition based on market and price-finding functions to be established in the oil industry and for business decisions based on recognition under the principle of self-responsibility."

In response to the report, this Center has published the Weekly Oil Market Review as a tool for oil-related people, business administrators (particularly service station managers) and ordinary consumers to accurately understand crude oil and petroleum products supply and demand and price trends, in cooperation with relevant organizations such as the Petroleum Association of Japan and the Zensekiren (Japan's Dealers Association) since May 2005.

Sources of data provided in this report

① [Crude oil and petroleum products supply and demand] (weekly PAJ report)

Data in weekly statistics on crude oil and petroleum product supply by the Petroleum Association of Japan are calculated in terms of 1,000 kiloliters. Shipments are estimated by this Center.

② [Crude oil and futures prices] (WTI crude and Middle Eastern crude)

For the WTI crude, the front-month WTI crude futures contract's daily closing price on the New York Mercantile Exchange (NYMEX) is adopted.

For the Middle Eastern crude, the front-month Middle Eastern crude futures contract's closing price on the Tokyo Commodity Exchange (TOCOM) is adopted. * "Second-month (next-month) contract"

Underlying the Middle Eastern crude price is the average price for the Dubai and Oman crude oil. The telegraphic transfer middle rate (TTM) released by the Bank of Tokyo-Mitsubishi UFJ is adopted as the foreign exchange rate.

The crude oil import CIF price is a dollar-denominated reference price estimated by the PAJ based on the average crude oil price (on a 10-day basis) in the Ministry of Finance trade statistics.

③ [Motouri wholesale prices of petroleum products in Japan]

Motouri wholesale prices are prices for transactions between Motouri petroleum products wholesalers (primary wholesalers) and their affiliates (secondary wholesalers).

Motouri companies modified their new pricing system in April 2010 to decide specific policies in comprehensive consideration of crude oil and petroleum products market prices, each other's prices and other data. In June 2014, they modified the system further to give greater priority to crude oil cost.

④ [Gyoten spot prices of petroleum products in Japan] (RIM gyoten)

Onshore cargo spot prices are the average onshore lorry rack prices for the four districts of Tokyo, Kawasaki, Chukyo and Hanshin in the Lorry Rack Report of RIM Intelligence Co.

⑤ [Futures prices of petroleum products in Japan] (TOCOM)

Front-month petroleum products futures contracts' daily closing prices for TOCOM Tokyo Bay and Chubu are adopted.

TOCOM Tokyo Bay prices are the average offshore barge prices for the Keihin district. TOCOM Chubu prices are the average lorry rack prices in the Chubu district.

⑥ [Retail prices of petroleum products in Japan] (Weekly trend survey)

Average cash retail prices at some 2,000 service stations subject to a weekly nationwide survey are adopted (as released by the Agency for Natural Resources and Energy). The survey covers prices on Monday and is released at 14:00 on Wednesday (available on the website of the Agency for Natural Resources and Energy).