SPECIFIC INDICES PUBLISHED BY OPCOM SA
PRICES AND PRICE/VOLUM INDICES

Day Ahead Market (DAM)	
Prices hourly [lei/MWh] / [euro/MWh] ROPEX_DAM_H	The sequence of the 24 hourly Day Ahead Market (DAM) clearing prices: $$ROPEX\_DAM\_H$$ This price index is associated to each hourly interval of the day. For the day of daylight switching from summer to winter hour, OPCOM publishes the ROPEX_DAM_H for 25 hourly intervals. For the day of daylight switching from winter to summer hour, OPCOM publishes the ROPEX_DAM_H for 23 hourly intervals.
Price base [lei/MWh] / [euro/MWh] ROPEX_DAM_Base	This price index represents the daily arithmetic average of the Day Ahead Market (DAM) clearing prices: $$ROPEX\_DAM\_BASE = \frac{\sum_{j=1}^{24} p_j}{24}$$ This price index is determined for every day of the year as the arithmetic mean of the prices corresponding to the 24 hourly intervals. For the day of daylight switching from summer to winter hour, OPCOM publishes the ROPEX_DAM_BASE calculated for 25 hourly intervals: $$ROPEX\_DAM\_BASE = \frac{\sum_{j=1}^{25} p_j}{25}$$ For the day of daylight switching from winter to summer hour, OPCOM publishes the ROPEX_DAM_BASE calculated for 23 hourly intervals: $$ROPEX\_DAM\_BASE = \frac{\sum_{j=1}^{23} p_j}{23}$$

Volume $_{base}$ [MWh]	This index represents the sum of the hourly volumes traded on Day Ahead Market: $$volume_{base} = \sum_{j=1}^{24} volume_j$$ This volume is determined for every day of the year by adding up all hourly traded volumes (for 24 intervals). For the day of daylight switching from summer to winter hour, OPCOM publishes the volume calculated for 25 hourly intervals: $$volume_{base} = \sum_{j=1}^{25} volume_j$$ For the day of daylight switching from winter to summer hour, OPCOM publishes the volume calculated for 23 hourly intervals: $$volume_{base} = \sum_{j=1}^{23} volume_j$$
Price for peak hours [lei/MWh] / [euro/MWh] ROPEX_DAM_Peak	This price index represents the arithmetic average of the DAM clearing prices corresponding to the peak hours: $$ROPEX\_DAM\_PEAK = \frac{\sum_{j=9}^{20} p_j}{12}$$ This price index is determined for every day of the year as the arithmetic mean of the prices corresponding to the 12 hourly intervals, considered as *peak* hours (including 9th and 20th intervals). For the day of daylight switching from summer to winter hour, OPCOM publishes the average price calculated for 12 hourly intervals: $$ROPEX\_DAM\_PEAK = \frac{\sum_{j=10}^{21} p_j}{12}$$ For the day of daylight switching from winter to summer hour, OPCOM publishes the average price calculated for 12 hourly intervals: $$ROPEX\_DAM\_PEAK = \frac{\sum_{j=8}^{19} p_j}{12}$$

Volume for peak hours [MWh] (*volume* $_{peak}$)	This index represents the sum of the hourly volumes traded on Day Ahead Market, corresponding to peak hours: $$volume_{peak} = \sum_{j=9}^{20} volume_j$$ This volume is determined for every day of the year by adding up the hourly traded volumes corresponding to the 12 hourly intervals, considered as peak hours (including 9th and 20th intervals). For the day of daylight switching from summer to winter hour, OPCOM publishes the volume calculated for 12 hourly intervals: $$volume_{peak} = \sum_{j=10}^{21} volume_j$$ For the day of daylight switching from winter to summer hour, OPCOM publishes the volume calculated for 12 hourly intervals: $$volume_{peak} = \sum_{j=8}^{19} volume_j$$
Price for off-peak hours [lei/MWh] / [euro/MWh] ROPEX_DAM_Off-Peak	This price index represents the arithmetic average of the DAM clearing prices corresponding to off-peak hours: $$ROPEX\_DAM\_OFF-PEAK = \frac{\sum_{j=1}^{8} p_j + \sum_{j=21}^{24} p_j}{12}$$ This price index is determined for every day of the year as the arithmetic mean of the prices corresponding to the 12 hourly intervals, considered as *off-peak* hours (including 1st-8th and 21st-24th intervals). For the day of daylight switching from summer to winter hour, OPCOM publishes the average price calculated for 13 hourly intervals: $$ROPEX\_DAM\_OFF-PEAK = \frac{\sum_{j=1}^{9} p_j + \sum_{j=22}^{25} p_j}{13}$$ For the day of daylight switching from winter to summer hour, OPCOM publishes the average price calculated for 11 hourly intervals: $$ROPEX\_DAM\_OFF-PEAK = \frac{\sum_{j=1}^{7} p_j + \sum_{j=20}^{23} p_j}{11}$$

Volume for off-peak hours [MWh] ($volume_{off\text{-}peak}$)	This index represents the sum of the hourly volumes traded on Day Ahead Market, corresponding to off-peak hours: $$volume_{off-peak} = \sum_{j=1}^{8} volume_j + \sum_{j=21}^{24} volume_j$$ This volume is determined for every day of the year by adding up the hourly traded volumes corresponding to the 12 hourly intervals, considered as off-peak hours (including 1st-8th and 21st-24th intervals). For the day of daylight switching from summer to winter hour, OPCOM publishes the volume calculated for 13 hourly intervals: $$volume_{off-peak} = \sum_{j=1}^{9} volume_j + \sum_{j=22}^{25} volume_j$$ For the day of daylight switching from winter to summer hour, OPCOM publishes the volume calculated for 11 hourly intervals: $$volume_{off-peak} = \sum_{j=1}^{7} volume_j + \sum_{j=20}^{23} volume_j$$

Forward Market (FM) for electricity

Weighted average price calculated for contracts with delivery in month M [lei/MWh] **ROPEX_FM_M**	This index represents the weighted average of prices resulted from bilateral contracts with delivery in month M traded on forward markets administrated by OPCOM SA: $$ROPEX\_FM\_M = \frac{\sum_{i=1}^{n} p_{Mi(CMBC-EA)} * q_{Mi(CMBC-EA)} + \sum_{i=1}^{n} p_{Mi(CMBC-CN)} * q_{Mi(CMBC-CN)} + \sum_{i=1}^{n} p_{Mi(CM-OTC)} * q_{Mi(CM-OTC)}}{\sum_{i=1}^{n} q_{Mi(CMBC-EA)} + \sum_{i=1}^{n} q_{Mi(CMBC-CN)} + \sum_{i=1}^{n} q_{Mi(CM-OTC)}}$$ For the moment this price index is custom for Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA), Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism (CMBC-CN) and Centralised market with double continuous negotiation (CM-OTC) for electricity bilateral contract, being calculated as weighted average of all contracts with delivery for month M, on these three markets. For each delivery month, the average price in Euro is calculated as weighted average of the bilateral contracts prices converted to Euros taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).
Weighted average price calculated for contracts with delivery in year Y [lei/MWh] **ROPEX_FM_Y**	This index represents the weighted average of prices resulted from bilateral contracts with delivery in year Y traded on forward markets administrated by OPCOM SA: $$ROPEX\_FM\_Y = \frac{\sum_{i=1}^{n} p_{Yi(CMBC-EA)} * q_{Yi(CMBC-EA)} + \sum_{i=1}^{n} p_{Yi(CMBC-CN)} * q_{Yi(CMBC-CN)} + \sum_{i=1}^{n} p_{Yi(CM-OTC)} * q_{Yi(CM-OTC)}}{\sum_{i=1}^{n} q_{Yi(CMBC-EA)} + \sum_{i=1}^{n} q_{Yi(CMBC-CN)} + \sum_{i=1}^{n} q_{Yi(CM-OTC)}}$$ For the moment this index is custom for Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA), Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism (CMBC-CN) and Centralised market with double continuous negotiation (CM-OTC) for electricity bilateral contract, being calculated as weighted average of all contracts with delivery in year Y on CMBC-EA, CMBC-CN and CM-OTC. For each delivery year, average price in Euro is calculated as weighted average of the bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).

Centralised Market for Electricity Bilateral Contracts

Weighted average price of those bilateral contracts with delivery for month M on the CMBC [lei/MWh]	The weighted average price of those bilateral contracts with delivery for month M that are traded on the Centralised Market for Electricity Bilateral Contracts administrated by OPCOM SA: $$\mathrm{Pr}ice_{CMBC} = \frac{\sum\limits_{i=1}^{n} p_{Mi(CMBC-EA)} * q_{Mi(CMBC-EA)} + \sum\limits_{i=1}^{n} p_{Mi(CMBC-CN)} * q_{Mi(CMBC-CN)}}{\sum\limits_{i=1}^{n} q_{Mi(CMBC-EA)} + \sum\limits_{i=1}^{n} q_{Mi(CMBC-CN)}}$$ For the moment this price is singularized for the Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA) and the Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism (CMBC-CN) being calculated as weighted average of the prices of all contracts with delivery for month M traded on both markets. For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).
Sum of volumes of those contracts with delivery for month M on the CMBC [MWh]	Sum of volumes of those bilateral contracts with delivery for month M traded on the Centralised Market for Electricity Bilateral Contracts administrated by OPCOM SA: $$Volume_{CMBC} = \sum\limits_{i=1}^{n} q_{Mi(CMBC-EA)} + \sum\limits_{i=1}^{n} q_{Mi(CMBC-CN)}$$ For the moment this volume is singularized for the Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA) and the Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism (CMBC-CN) being calculated as sum of the volumes of all contracts with delivery for month M traded on both markets.

	Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA)	
Weighted average price calculated for contracts with delivery for month M [lei/MWh]	The weighted average of the prices from the bilateral contracts concluded by extended auction for the delivery month (p_M) on the Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA):
	$$\mathrm{Pr}ice = \frac{\sum_{i=1}^{n} p_{Mi} * q_{Mi}}{\sum_{i=1}^{n} q_{Mi}}$$
	This price is determined as the weighted average of the prices of all contracts' with delivery in the month M, regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month is traded.
	For each delivery month, the average price is converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).
Price $_{base}$ [lei/MWh]	The weighted average of the prices from the bilateral contracts concluded by extended auction for the delivery month for base load electricity on the Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA):
	$$\mathrm{Pr}ice_{base} = \frac{\sum_{i=1}^{n} p_i * q_{i(\mathrm{int}.1-24)}}{\sum_{i=1}^{n} q_{i(\mathrm{int}.1-24)}}$$
	This price is calculated as the weighted average of the prices of all contracts with delivery in a month for base load electricity, regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month is traded.
	For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).

Price _{peak} [lei/MWh]	The weighted average of the prices from the bilateral contracts concluded by extended auction for the delivery month for peak load electricity on the Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA): $$\mathrm{Pr}ice_{peak} = \frac{\sum_{i=1}^{n} p_i * q_{i(\mathrm{int}.7-22M-F)}}{\sum_{i=1}^{n} q_{i(\mathrm{int}.7-22M-F)}}$$ This price is calculated as the weighted average of the prices of all contracts with delivery for the peak intervals (intervals 7-22 from Monday to Friday) of the respective month, regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month is traded. For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).
Price _{off-peak} [lei/MWh]	The weighted average of the prices from the bilateral contracts concluded by extended auction for the delivery month for off-peak load electricity on the Centralised Market for Electricity Bilateral Contracts - Extended Auctions Mechanism (CMBC-EA): $$\mathrm{Pr}ice_{off-peak} = \frac{\sum_{i=1}^{n} p_i * q_{i(\mathrm{int}.1-6;23-24M-F;1-24Sa-Su)}}{\sum_{i=1}^{n} q_{i(\mathrm{int}.1-6;23-24M-F;1-24Sa-Su)}}$$ This price is calculated as the weighted average of the prices of all contracts with delivery for the off-peak intervals (intervals 1-6 and 23-24 from Monday to Friday and 1-24 for Saturday and Sunday) of the respective month, regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month is traded. For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral prices contracts converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).

Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism (CMBC-CN)

Base Average price _instrument [lei/MWh] (price _base_instrument_)	The average of the prices from the contracts concluded by continuous negotiation for the base load electricity, for the delivery period (p_I) on Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism: $$\mathrm{Pr}ice_{base\_instrument} = \frac{\sum_{i=1}^{n} p_{Ii}}{n}$$ On the Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism, the concluded contracts have the delivery period specified by the type of the tradable instrument (week, month, quarter or year). This price is calculated separately for this instrument as the arithmetic mean of those concluded contracts by continuous negotiation with delivery for the base load electricity. For each instrument, the average price in Euro is calculated as the average of the prices converted in Euro taking into account the exchange rate of the trading day of each instrument published by the National Bank of Romania (NBR). The update is done as often as a new contract on this instrument is traded.
Peak 1 Average price _instrument [lei/MWh] (price _peak1_instrument_)	The average of the prices from the contracts concluded by continuous negotiation for the peak 1 load electricity, for the delivery period (p_I) on Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism: $$\mathrm{Pr}ice_{peak1\_instrument} = \frac{\sum_{i=1}^{n} p_{Ii(\text{int}.7-22M-F)}}{n}$$ On the Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism, the concluded contracts have the delivery period specified by the type of the tradable instrument (week, month, quarter or year) specific for these markets. This price is calculated separately for this instrument as the arithmetic mean of those concluded contracts by continuous negotiation with delivery for the peak 1load electricity (intervals

	7 – 22 from Monday to Friday).

For each instrument, the average price in Euro is calculated as the average of the prices converted in Euro taking into account the exchange rate of the trading day of each instrument published by the National Bank of Romania (NBR).

The update is done as often as a new contract on this instrument is traded. |
| Peak 2 Average price _instrument

[lei/MWh]

(price _peak2_instrument_) | The average of the prices from the contracts concluded by continuous negotiation for the peak 2 load electricity, for the delivery period (p_I) on Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism:

$$\mathrm{Pr}ice_{peak2\_instrument} = \frac{\sum_{i=1}^{n} p_{Ii(\mathrm{int}.7-22M-Su)}}{n}$$

On the Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism, the concluded contracts have the delivery period specified by the type of the tradable instrument (week, month, quarter or year) specific for these markets.

This price is calculated separately for this instrument as the arithmetic mean of those concluded contracts by continuous negotiation with delivery for the peak 2 load electricity (intervals 7 – 22 from Monday to Sunday).

For each instrument, the average price in Euro is calculated as the average of the prices converted in Euro taking into account the exchange rate of the trading day of each instrument published by the National Bank of Romania (NBR).

The update is done as often as a new contract on this instrument is traded. |
| Off-peak Average price _instrument

[lei/MWh]

(price _off-peak_instrument_) | The average of the prices from the contracts concluded by continuous negotiation for the off-peak load electricity, for the delivery period (p_I) on Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism:

$$\mathrm{Pr}ice_{off-peak\_instrument} = \frac{\sum_{i=1}^{n} p_{Ii(\mathrm{int}.1-6;23-24,M-F;\mathrm{int}.1-24,Sa-Su)}}{n}$$

On the Centralised Market for Electricity Bilateral Contracts - Continuous Negotiation Mechanism, the concluded contracts have |

the delivery period specified by the type of the tradable instrument (week, month, quarter or year) specific for these markets.

This price is calculated separately for each instrument as the arithmetic mean of those concluded contracts by continuous negotiation with delivery for the off-peak load electricity (intervals 1 – 6 and 23 – 24 from Monday to Friday and 1 – 24 for Saturday and Sunday).

For each instrument, the average price in Euro is calculated as the average of the prices converted in Euro taking into account the exchange rate of the trading day of each instrument published by the National Bank of Romania (NBR).

The update is done as often as a new contract on this instrument is traded.

Centralised Market with Double Continuous Negociation for Electricity Bilateral Contracts – CM-OTC

Weighted average price calculated for the contracts with delivery for month M [lei/MWh]	Weighted average of the prices of those bilateral contracts concluded by double continuous negotiation that have delivery on the month M (p_M) on Centralised Market with Double Continuous Negociation for Electricity Bilateral Contracts – CM-OTC: $$\Pr ice = \frac{\sum_{i=1}^{n} p_{Mi} * q_{Mi}}{\sum_{i=1}^{n} q_{Mi}}$$ This price is determined as the weighted average of the prices of all contracts with delivery in the month M, regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month is traded. For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).

Price $_{base}$ [lei/MWh]	Weighted average of the prices of those bilateral contracts concluded by double continuous negotiation that have delivery on the month M for the base load electricity (p_M) on Centralised Market with Double Continuous Negociation for Electricity Bilateral Contracts – CM-OTC: $$\text{Pr}\,ice_{base} = \frac{\sum_{i=1}^{n} p_i * q_{i(\text{int.1–24})}}{\sum_{i=1}^{n} q_{i(\text{int.1–24})}}$$ This price is determined as the weighted average of the prices of all contracts with delivery in the month M for the base load electricity, regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month for the base load electricity is traded. For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).
Price $_{peak}$ [lei/MWh]	Weighted average of the prices of those bilateral contracts concluded by double continuous negotiation that have delivery on the month M for the peak load electricity (p_M) on Centralised Market with Double Continuous Negociation for Electricity Bilateral Contracts – CM-OTC: $$\text{Pr}\,ice_{peak} = \frac{\sum_{i=1}^{n} p_i * q_{i(\text{int.8–23}M-F)}}{\sum_{i=1}^{n} q_{i(\text{int.8–23}M-F)}}$$ This price is determined as the weighted average of the prices of all contracts with delivery in the month M for the peak load electricity (intervals 8-23 from Monday to Friday), regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month for the peak load electricity is traded. For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).

Price off-peak [lei/MWh]	Weighted average of the prices of those bilateral contracts concluded by double continuous negotiation that have delivery on the month M for the off-peak load electricity (p_M) on Centralised Market with Double Continuous Negociation for Electricity Bilateral Contracts – CM-OTC:
	$$\mathrm{Pr}\,ice_{off-peak} = \frac{\sum\limits_{i=1}^{n} p_i * q_{i(\mathrm{int}.1-7\,and\,24M-F;1-24Sa-Su)}}{\sum\limits_{i=1}^{n} q_{i(\mathrm{int}.1-7\,and\,24M-F;1-24Sa-Su)}}$$
	This price is determined as the weighted average of the prices of all contracts with delivery in the month M for the off-peak load electricity (intervals 1-7 and 24 from Monday to Friday and 1-24 for Saturday and Sunday), regardless the contract concluding moment and it is brought up to date as often as a new contract with delivery in that month for the off-peak load electricity is traded.
	For each delivery month, the average price in Euro is calculated as weighted average of the respective bilateral contracts prices converted to Euro taking into account the exchange rate of the trading day published by the National Bank of Romania (NBR).

	Centralised Market for Green Certificates (CMGC)
Monthly price [lei/GC] **ROPEX_GC_M**	The weighted average of the prices established on Centralised Green Certificates Market in the trading sesions of the month M: $$ROPEX\_GC\_M = \frac{\sum_{i=1}^{n} p_{Mi} * q_{Mi}}{\sum_{i=1}^{n} q_{Mi}}$$ For each month, the weighted average price in Euro represents the weighted average of the prices established on Centralised Green Certificates Market in the trading sessions of the respective month, converted to Euro taking into account the average exchange rate for December of the year preceding the year for which it was traded in the trading session, published by the National Bank of Romania (NBR). For the month in which the weighted average price value by rounding the hundredth order is situated outside the traded limit values approved by ANRE, it will be applied the rounding down or up to the hundredth order taking into account the framing sense of the admissible limits.
Average weighted price calculated for green certicates traded in year Y [lei/GC] **ROPEX_GC_Y**	The weighted average of the prices established on the Centralised Green Certificates Market in year Y: $$ROPEX\_GC\_Y = \frac{\sum_{i=1}^{n} p_{Yi} * q_{i}}{\sum_{i=1}^{n} q_{Yi}}$$ The weighted average price ROPEX_GC_Y converted to Euro represents the weighted average of the prices established on the Centralised Green Certificates Market in the trading sessions during the respective year using the average exchange rate for December of the year preceding the year for which it was traded in the respective trading session, published by National Bank of Romania (NBR).