

## Brief Review: The methodology used to calculate Russia oil production

There are three main resources containing Russia oil production data

1. Ministry of Energy of Russian Federation and Federal state budgetary organization “Central Dispatching Department of Fuel Energy Complex” (CDU TEK).
2. The Federal State Statistical Service (Rosstat) and JODI.
3. International Experts and Agencies (EIA, IEA, OPEC, etc.).

**Ministry of Energy and CDU TEK** is statistical unit Ministry of Energy of Russian Federation. CDU TEK collects data from energy companies (oil, gas, coal, etc.) by the established reporting forms (on a monthly basis for oil production). Based on the data of monitoring of key indexes of industrial activity of energy organizations CDU TEK specialists prepare a wide range of statistical and analytical information materials. Ministry of Energy publishes Russia oil production data (aggregate) from CDU TEK<sup>1</sup> on a monthly basis. Data publishing is very quickly - aggregated data for the previous month is available (in media sources) on the 2nd or 3rd day of the current month. Then these data can be slightly adjusted.

Also CDU TEK publishes data in own journal<sup>2</sup> in expanded form (indicating oil production by company, by region, etc.).

**Rosstat and JODI.** As well as CDU TEK, The Federal State Statistical Service (Rosstat) collects data from energy companies by the established reporting forms (for oil production monthly). These data are slightly different from CDU TEK data (see Graph 1) and published<sup>3</sup> with a longer delay (20-25 days). Rosstat sends this data to Asia Pacific Economic Cooperation (APEC). The JODI-Oil World Database takes data from APEC. JODI publishes data with a two-month delay.

But there are a miscommunication between JODI and Rosstat. The JODI database includes production data for the following products:

- Crude oil (incl. lease condensate)
- NGL
- Other
- Total

Providing data for JODI Database Rosstat is constantly mistaken in terms «Crude oil» and «NGL» (see Table 1). JODI users should take into account that the Russian data for «Crude oil» production in JODI Database does not include lease condensate, and «Total» liquids are Crude Oil (incl. lease condensate).

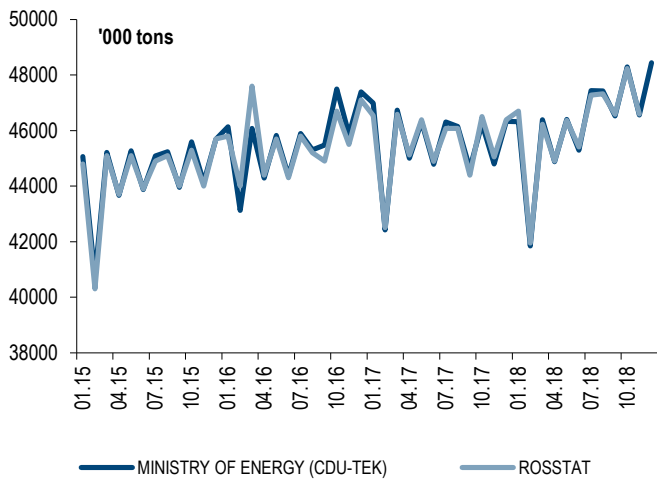
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<sup>1</sup> <https://minenergo.gov.ru/en/activity/statistic>

<sup>2</sup> Russian version only

<sup>3</sup> <https://fedstat.ru/indicator/57783> (Russian version only)

Graph 1. Russian crude oil (incl. lease condensate) production



Source: CDU-TEK, Rosstat

Table 1. A miscommunication between JODI and Rosstat

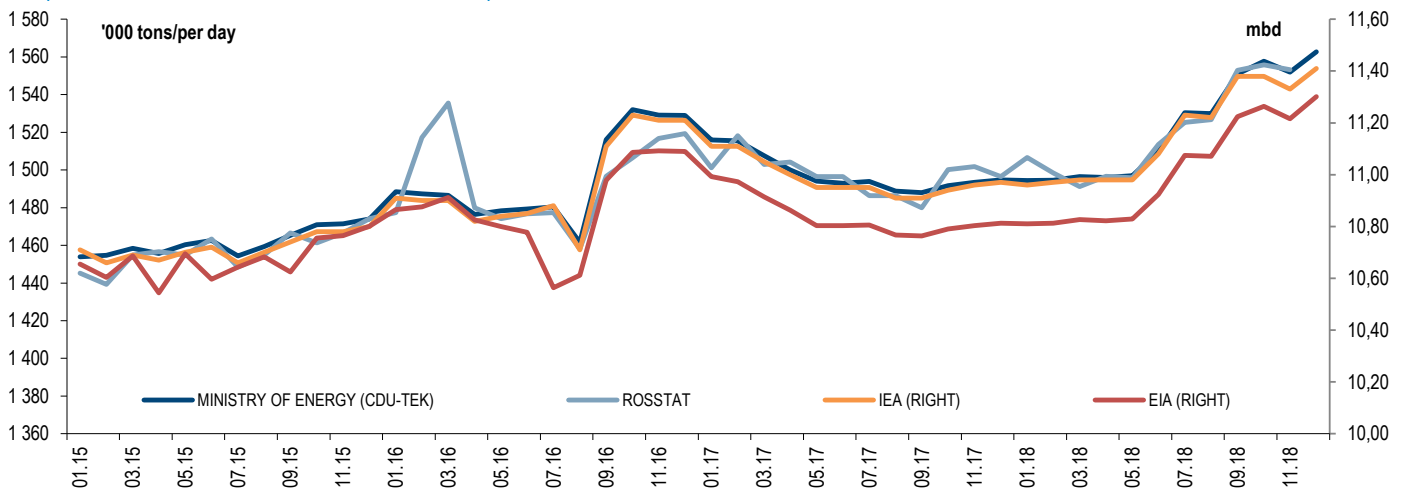
Product in JODI Database	JODI methodology	Providing data from Rosstat for JODI
Crude Oil	Crude Oil (incl. lease condensate)	Only crude (excl. lease condensate)
NGL	Liquids recovered from gas separation plants and gas processing facilities	Lease condensate
Other	Refinery feedstocks + additives /oxygenates + other hydrocarbons	N/A
Total	Total liquids	Crude Oil (incl. lease condensate)

Источник: Rosstat, JODI

**International Experts and Agencies.** We think, that EIA and IEA use a CDU-TEK (most likely) or Rosstat data. Oil production fluctuations in the EIA and IEA outlooks are the same as in CDU-TEK and Rosstat outlooks.

To correctly compare the IEA and EIA estimates with the CDU-TEK and Rosstat estimates, it is necessary to remove NGL from «liquids» (in the EIA and IEA outlooks) keep only crude oil (with lease condensate). Until September 2017, the IEA estimated NGL production in Russia – near 0,37 mbd<sup>4</sup>. If we assume that the NGL production in Russia did not change in 2018, then the IEA and EIA estimates correlate with the CDU-TEK and Rosstat estimates (see Graph 2).

Graph 2. Russian crude oil (incl. lease condensate) production



Source: CDU-TEK, Rosstat, IEA, EIA

**In conclusion Russia oil production is data provided by oil producers. Alternative calculations (through exports, refinery intake and stock changes) are usually not made.**

<sup>4</sup> <https://www.iea.org/oilmarketreport/omrpublic/charts/>

**Conversion factor.** Russia (CDU-TEK and Rosstat to JODI) reports data in metric tons. There is no single and generally accepted conversion factor in barrels due to the wide range of density of Russian oil.

- Common Practice in Russian expert community suggests that conversion factor for Russian oil (average) equals 7.33 barrel/ton.
- In JODI Database conversion factors equal 7.356 barrel/ton (for crude) and 8.797 barrel/ton (for NGL).
- If IEA and EIA use data from the CDU TEK, then their conversion factors equal 7.3-7.33 (IEA) and 7.23 (EIA).
- Also there are Platts and Argus methodology for Russian oil benchmarks.

Argus<sup>5</sup>

Grade	Typical API	Typical Sulphur %	Conversion factor t/b <sup>l</sup>
Urals northwest Europe	30.06	1.58	7.1818
Urals Med 80,000t	29.88	1.48	7.1740
Urals Med 140,000t	29.88	1.48	7.1740
Siberian Light	34.39	0.57	7.3743
CPC Blend	45.66	0.60	7.8753
BTC	37.53	0.17	7.5139
Tengiz	47.46	0.47	7.9553
Azeri Light	34.90	0.14	7.3970
Urals fob Primorsk	30.06	1.58	7.1818
Urals fob Ust-Luga	30.50	1.67	7.2014
Urals fob Novorossiysk 80,000t	29.88	1.48	7.1740
Urals fob Novorossiysk 140,000t	29.88	1.48	7.1740
Urals cif Black Sea 80,000t	29.88	1.48	7.1740
CPC Terminal	45.66	0.60	7.8753
BTC	37.53	0.17	7.5139
Azeri Light	34.90	0.14	7.3970
Druzhba Slovakia	30.50	1.67	7.2014
Druzhba Hungary	30.50	1.67	7.2014
Druzhba Poland	30.50	1.67	7.2014
Druzhba Germany	30.50	1.67	7.2014

Platts<sup>6</sup>

	Sulfur (%)	API	Production (b/d)	Conversion Factor (barrels to mt)	Country
<b>Urals/Mediterranean Crude</b>					
Urals (ex-Novo)	1.36	31.3	420,000	7.23	Russia
Urals (ex-Baltics)	1.44	31.5	1,350,000	7.23	Russia
Kirkuk	2.26	33.9	-	7.36	Iraq
CPC	0.66	45.3	830,000	7.80	Kazakhstan
Azeri Light (FOB Supsa/Batum)	0.16	34.75	85,000	7.40	Azerbaijan
Azeri Light (FOB Cayhan)	0.15	36.55	700,000	7.45	Azerbaijan
Saharan Blend	0.1	45	450,000	7.85	Algeria
Siberian Light	0.57	35.1	120,000	7.45	Russia
Es Sider	0.37	36.71	250,000	7.48	Libya
Syrian Heavy	4.19	23.12	-	6.88	Syria
Syrian Light	0.68	38	-	7.54	Syria
Suez Blend	1.41	31.3	-	7.24	Egypt
Iranian Heavy	1.99	29.5	-	7.16	Iran
Iranian Light	1.36	33.4	-	7.33	Iran
ESPO	0.5	34.7	500,000	7.39	Russia

<sup>5</sup> <https://www.argusmedia.com/-/media/Files/methodology/argus-crude.aspx>

<sup>6</sup> [https://www.spglobal.com/platts/plattscontent/\\_assets/\\_files/en/our-methodology/methodology-specifications/crude-oil-methodology.pdf](https://www.spglobal.com/platts/plattscontent/_assets/_files/en/our-methodology/methodology-specifications/crude-oil-methodology.pdf)