CURRENT STATUS AND DEVELOPMENT PROSPECTS
OF COAL INDUSTRY IN RUSSIA

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RUSSIA’S COAL INDUSTRY – OPERATIONAL PERFORMANCE INDICATORS

Coal mining in Russia (Mt)

Uses of Russian coal (Mt)

Coal mining facilities commissioned and decommissioned (Mt)

Monthly average productivity of a coal miner (tons)
### Geography of Russian coal export, %

<table>
<thead>
<tr>
<th>Year</th>
<th>Atlantic Direction</th>
<th>East Direction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>75.2</td>
<td>24.8</td>
</tr>
<tr>
<td>2010</td>
<td>70.7</td>
<td>29.3</td>
</tr>
<tr>
<td>2011</td>
<td>66.8</td>
<td>33.2</td>
</tr>
<tr>
<td>2012</td>
<td>62.6</td>
<td>37.4</td>
</tr>
<tr>
<td>2013</td>
<td>58.2</td>
<td>41.8</td>
</tr>
<tr>
<td>2014</td>
<td>54.6</td>
<td>45.4</td>
</tr>
</tbody>
</table>

### List of 5 largest companies-exporters of Russian coal in 2014

<table>
<thead>
<tr>
<th>Company</th>
<th>2013</th>
<th>2014</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUEK</td>
<td>34.2</td>
<td>35.8</td>
<td>34.2</td>
<td>35.8</td>
</tr>
<tr>
<td>Kuzbassugol</td>
<td>23.5</td>
<td>28.4</td>
<td>23.5</td>
<td>28.4</td>
</tr>
<tr>
<td>SUEK</td>
<td></td>
<td></td>
<td>1.8</td>
<td>25.8</td>
</tr>
<tr>
<td>Mechel Mining</td>
<td>6.8</td>
<td>8.4</td>
<td>5.2</td>
<td>4.3</td>
</tr>
<tr>
<td>EVRAZ Group</td>
<td>3.4</td>
<td>3.7</td>
<td>4.3</td>
<td>4.5</td>
</tr>
<tr>
<td>Russian coal</td>
<td>1.5</td>
<td>1.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Severstal</td>
<td>1.0</td>
<td>0.2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total mln t**

- **2013**: 38.5
- **2014**: 40.5
MARKETS FOR RUSSIAN COAL

Domestic consumption of Russian coal, by uses

Russian coal exports

Total

The Atlantic

Eastward

Heat and power

Coking

Utilities and households

Other

Mt

2010 2011 2012 2013 2014 2015 est

Mt

2010 2011 2012 2013 2014 2015 est
ROLE OF THE KUZNETSK BASIN IN ADVANCING RUSSIA’S COAL INDUSTRY

Coal mined: Russia-wide and in the Kuznetsk Basin

Supplies of the Kuznetsk Basin coal

Coal mined: Russia-wide and in the Kuznetsk Basin

Total from Kuzbass Export Domestic market

Mt

Mt

2008 2009 2010 2011 2012 2013 2014

182,07 179,9 185,3 192,2 201,5 202,8 211

327 300 323 337 355 352 358

56% 59% 52% 48% 40% 60%
Forecast of mining development

Key strategic parameters of the Coal Industry Development Program

Coal mined

Marketable products output per 1 employee (in 2010 prices)

Fatal Injury Rate

Commissioning of coal mining facilities

Coal Industry Development Program (CIDP) in Russia

To Ministry of Energy of the Russian Federation
EMERGING COAL MINING HUBS

MINISTRY OF THE RUSSIAN FEDERATION

Kansk-Achinsk Basin
Mining capacity - 41 Mt

Minusinsk Basin
Mining capacity - 20-30 M t

Ulghemsky Basin
Mining capacity - 30 M t

Kuznetsk basin
Mining capacity - 238 M t

Pechorskiy basin
Dobycha - 4.9 mln t

Omsukchan basin
Dobycha - 15 mlm t

Prospective coal projects
Coal industry clusters
Coal-fired power plants
Large industrial hubs
Rail lines to new coal mining hubs
Projected rail lines
Bottlenecks as of January 1, 2013
Bottlenecks by 2020
At present, there are 7 coal coking plants and facilities that output coal chemical products. Most of them are part of the following metallurgical companies: Novolipetsk Metallurgical Plant, Altai-Koks, Magnitogorsk Metallurgical Plant, Mechel-Koks, Severstal-Resource, Gubakhinsky Koks, and Evraz Integrated West Siberian Metallurgical Plant. In 2014, a total of around 530,000 tons of coal chemical products was produced in Russia.

FYI:
In addition to coke, its main product, the coking process also gives byproducts that are very valuable feedstock for some of the traditional high value-added chemical products, such as: benzene, toluene, xylene, naphthalene, pyridine, quinolene, anthracene cut – feedstock for carbon black; electrode pitch and coal tar.

The Russian Ministry of Energy is implementing a Set of Actions to Advance the Coal Chemical Industry and to Ramp Up Coal Chemical Industry Output approved by the Russian Government. The Set of Actions provides for:
1. Ensuring a favorable environment for the development and implementation of deep coal processing in Russia
2. Enabling production and sales of innovative products in the domestic and international markets
3. Improving the efficiency of coal chemical facilities.

Outcomes
1. Deep coal processing technologies were entered in the list of the Russian Federation critical technologies
2. Proposals were prepared on the development of activated coal production for personal and group protective equipment
3. Recommendations were elaborated on how to support the development of pilot and innovative coal chemistry clusters
4. A research coordination council is being put together to elaborate an R&D program, that will also include development of pilot plants to produce synthetic liquid fuels.

RESEARCH AND PRACTICE CONFERENCE on the development prospects of coal chemical research, technology and facilities in Russia, to be hosted by the Kemerovo Research Center and the Coal Chemistry and Chemical Material Studies Institute, the Siberian Branch of the Russian Academy of Sciences

(Kemerovo, On October 20-22, 2015)

PURPOSES OF THE CONFERENCE – develop the cooperation and information exchange with Russian and foreign partners, select priority areas, technology and ideas in coal chemistry and select industrial facilities to implement them.

KEY PARTICIPANTS IN THE CONFERENCE:
Representatives of federal and regional government bodies, Leading research institutions of the Russian Academy of Sciences, and Heads of the major coal, power generation, and chemical companies in Russia – More than 100 invitees in total.

In July 2015, FEDERAL COAL AND COAL CHEMISTRY RESEARCH CENTER was set up based on the Kemerovo Research Center.

The goal of the new institution is to ensure scientific support to all projects related to deep processing of coal and to rebuild the coal chemical industry of a new quality level in Russia.
On June 28 - July 7, 2016, the 18th International Coal Preparation Congress will be held in St. Petersburg under the aegis of the Russian Ministry of Energy.

The goal of the Congress is to facilitate R&D cooperation with the view to advance coal preparation and resolve relevant environmental issues.

The Congress will be attended by representatives of the leading coal mining countries.

The Congress will focus on the following research areas: gravitational preparation methods, floatation, dehydration and drying, dry coal separation, briquetting, environment protection and treatment of coal preparation, mining and burning waste, deep processing technology, new products their uses, quality control and customer requirements for preparation products.
THANK YOU
FOR YOUR ATTENTION!