The increase of the efficiency along the value chain

The Coal segment’s long-term programme to improve efficiency continues.

In 2017, planned cost optimisations saved US$73 million, with the additional effect of US$61 million coming from productivity growth, improving auxiliary material usage, optimisation of industrial services, and G&A and payroll optimisations.

Main projects in 2017

Degassing efficiency improvement

Status
- Began degassing seams using long directional holes at the Yerunakovskaya-VIII mine;
- Introduced modern equipment to increase the length of traditional underground seam degassing holes at the Raspadskaya and Yerunakovskaya mines.

2018 plan
- Expand underground seam degassing using long directional holes to the Alardinskaya and Raspadskaya-Koksovaya mines;
- Search for new seam degassing technology with a low gas recovery factor for use at the Osinnikovskaya mine;
- Continue experimenting with degassing seams using plasma impulse excitation.

Tunnelling rates increase

Status
- Increased tunnelling rates by 15% year-on-year after adding high-efficiency tunnelling equipment;
- Reached a maximum rate of 600 metres per month using the bolter miners at the Raspadskaya and Yerunakovskaya mines.

2018 plan
- Achieve targeted 15% year-on-year tunnelling growth;
- Reach new sustainable peak tunnelling rates;
- Continue adding high-efficiency tunnelling equipment.

Operating time increase at clearing faces

Status
- Increased average daily operating time by reducing accident and operational delays, as well as repair shift work;
- Increased average daily production per face by 5% year-on-year to 6.3 thousand tonnes per day.

2018 plan
- Reach 500 thousand tonnes per month at faces in the Alardinskaya and Raspadskaya mines (seam no. 6);
- Increase operating time and extraction on face no. 4-1-5-4 at the Osinnikovskaya mine to 5 thousand tonnes per month;
- Achieve mine rate of 5 thousand tonnes per day at longwall no. 4-1-5-4 of Osinnikovskaya mine.

Raspadskaya washing plant upgrade

Status
- Launched flotation at the Raspadskaya washing plant’s third section which led to an increase in concentrate output by 3%.

2018 plan
- Reduce ash content in mined raw coal (+1% to the yield);
- Begin using the new flotation equipment at the first and second sections of the Raspadskaya washing plant (+1.5% to the yield from 2019).

Production flow optimisation at washing plants

Status
- Screw separation section was automated at the Raspadskaya washing plant, which increased concentrate production volumes at section no. 7 by boosting coal processing volumes;
- Optimised operations at the Kuznetskaya washing plant, which helped to improve coal processing efficiency and increased concentrate output by 73 thousand tonnes.

2018 plan
- Setup raw coal and concentrate warehouses at coal washing plants to reduce idle time from logistics and to increase plant operating time;
- Increase concentrate production by reducing ash content in the mined raw coal;
- Reduce idle time at the Raspadskaya washing plant on crushing large coal chunks, purchase crushers for the open-pit at Raspadskaya-Koksovaya site and Alardinskaya mines;
- Launch a press filter at the Kuznetskaya washing plant to increase concentrate output.

Saleable product output optimisation

Status
- Additional volumes of saleable products were produced at current washing capacities through the sieving of low ash coal from the Uskovskaya and Mezhegeyugol mines on saleable raw coal and for further processing.

2018 plan
- Acquire sieving equipment for the Uskovskaya mine;
- Launch dry enrichment at Razrez Raspadskiy;
- Separate high-ash coal with sieving equipment directly at Razrez Raspadskiy and open-pit at Raspadskaya-Koksovaya site.