

## The Condition and Prospects of a Raw-Material Development in a Coal Branch of the Tyva Republic

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On the basis of the given geologo-film-making, search-estimated, prospecting and research works the information on degree of a level of scrutiny, features of a structure, coal-minings, the reconnoitered stocks and prognathous resources of coal deposits and the perspective carboniferous areas which have received an industrial estimation is generalised. The basic attention gives concrete deposits and the perspective carboniferous areas representing essential geologo-economic interest, qualitative and quantitative characteristics of coals on such areas are resulted. For separate most perspective deposits of potential wildlife management economic prospects of their development are analysed. The report is prepared for the purpose of acquaintance interested in development of coal branch of managers of regional and federal level, experts of coal branch, science officers, and also the potential investors making the decision on participation in natural resources development of region.

Economic development of the Tyva Republic becomes complicated its geographical disconnexion, considerable remoteness from large industrial centres, inaccessibility and badly developed transport system. The distance from Kyzyl to the nearest railway station (in Minusinsk) makes 402 km, a transport principal view - automobile by which it is carried out more than 99 % of all cargo- and passengerconveyances. The general extent of highways in Tuva - 2843,55 km, including with a firm covering - 2312,8 km, with soil - 521,75 km. Road of federal value is the main line 'Yenisei' (M-54) from Krasnoyarsk, through the cities of Abakans, Minusinsk and Kyzyl to Frontier with Mongolia (customs terminal Tsagan-Tologoj-Ar-Sur). Line A-161 concerns a category of roads of strategic value from Abakan through railway station of the Abaze and Ak-Dovurak to Frontier with Mongolia (the customs terminal the Handagajty-pine forest-shoo) and line A-162 Chadan-Kyzyl-Saryg-Sep. In a number of kept away koguuns <[http://www.tuva.ru/tuva/about/adm\\_del.htm](http://www.tuva.ru/tuva/about/adm_del.htm)> constant roads are absent.

Air transport transports on external (Moscow, Krasnoyarsk, Novosibirsk, Irkutsk, Abakan) and local air airlines. The airport of Kyzyl is capable to accept planes of type Yak-42, Il-76, etc. In all koguuning the centres and Ak-Dovurake there are soil landing strips for reception of planes and helicopters of small load-carrying capacity. Regular flights of helicopter Mi-8 are carried out in remote settlements Todzhinsky and Tere-Holsky koguuns. River transport carries out transportation of cargoes and passengers on the rivers Bij-Hem and Kaa-Hem. Through waterways in adjacent regions of Russia and Mongolia are absent.

Power maintenance of the republic is carried out within the limits of the Integrated power grid of Siberia from the south of Krasnoyarsk region on 220kv powerlines laid along roads from Abakan and Minusinsk on Ak-Dovurak and Kyzyl. In Kyzyl and Ak-Dovurake there are the thermal power stations having auxiliary value for power supply of the republic. The Koguuns centres are connected 100kv powerlines to Kyzyl and Ak-Dovurakom. In all koguuns the centres there are regional boiler-houses.

In the geologo-economic relation the considerable part of territory of republic (~70 %) concerns the category unassimilate. Industrial targets are small. The basic industries - fuel (coal), nonferrous metallurgy (gold mining), wood and woodworking. The largest industrial enterprises are coal-mining Kaa-Hemsky, Chadansky and Elegestsky cuts, combine 'TUVAASBEST', gold mining artel 'OINA', mining companies 'LUNSIN' and 'GOLEVSKY', Kyzylsky thermal power station of joint-stock company 'KRASNOIARSKENERGO', ES Open Society 'TYVAENERGO'.

Bowels of Tuva are rich with the most various minerals. It possesses the big stocks of high-quality coal, suitable both for power, and for the technological purposes. Here it is known about ten isolated areas of mesozoic and Paleozoic carboniferous adjournment, five of which are revealed industrial coalfielding. The Great bulk of the reconnoitered stocks (to 94 %) and the estimated resources (to 88 %) is concentrated in limits the Ulug-Hemsky coal field. Except Ulughemsky pool, industrial carboniferous it is established within the Chadansky area with in details reconnoitered sites of Chadansky and Changyz-Hadynsky deposits. Jugo-to the west Ulug-Hemsky pool search works estimate three perspective carboniferous areas: Aktalsky and Onkazhinsky with Paleozoic (Carboniferous) and mesozoic (Jurassic) coals, and also the Inital'sky (Iji-Talsky) area юрских coals. Within the Aktalsky area (on deposit Odegeldei) preliminary and detailed investigations of one of coal layers (layer-1) are spent.

By geologo-film-making works coalfielding it is revealed and in other areas of republic: Arguzunsky, Ishtihemsky and Karachatsky deposits in Ulug-Hemsky koguuns and Kargin'sky in Mongun-Tajginsky, studied at a stage of search-film-making works. For some sites of these deposits the estimation of resources is made preliminary prognostic. Separate coal layers of these sites were developed by local population for a long time. Besides it, carboniferous adjournment are known on site Sagly (Ovjursky koguun) and in remote mountain areas of East Tuva (Serlighthemsky carboniferous area in Todzhinsky koguns). Coals of the deposits located out of Ulug-Hemsky pool, are also characterised by high quality and big enough reconnoitered stocks and resources.

The general stocks and pool resources are estimated by authors of the monography 'Coal base of Russia' in quantity about 19,5 billion t. Balance stocks of industrial categories A+B+C1+2 on Republic Tyva make ('the State balance of stocks ...', for 1.01.2005) 1129 million t, of them categories A+B+C1 - 1112,3 million t, including coked especially valuable marks (and GJ) - 936,7 million t.

Now working out by open way of Kaahemsky, Chadansky and Elegestsky deposits with total volume of extraction about 900 thousand t coal in a year is conducted. Coals within republic are used basically as power fuel while quality indicators and technological properties characterise coals of Ulughemsky pool as gas the highest quality in Russia which can be used in quality clinker bases charge at layer coking. Besides, available technological workings out of use of these coals for reception smokeless fuel (briquetting), and also projects of deep processing of coals in liquid motor fuel, reception liquefied gas and other chemical products, testify to considerable possibilities of this kind of the mineral raw materials, capable to become basic for republic industrial development.

Because of the big maintenance of flying components (not condensed gases, coal pitch) and propensity to sintering stratification burning of the Tuva coals in boilers is accompanied high chemical underburning. All settlements of republic including capital, settle down in intermountain hollows in which, owing to sharply continental climate and geographical conditions, during the winter period in atmosphere the 'inversion cover' is formed original inversion, interfering hashing of air weights and air clarification. Low winter temperatures (to -45-55°C) and absence of intensive circulation in a ground layer lead to strong pollution of atmospheric air by products of incomplete combustion of coals. Concentration of polluting substances during the winter period in overwhelming majority of areas of Kyzyl are caused, first of all, by private sector emissions. Decrease in degree of a damage to environment from coal power can be reached for the transition account to use ecologically more safe kinds of fuel of a coal origin at introduction of perspective technologies complex energy-chemical processings of coals of Tuva.

The main obstacle for effective development and use, both coals, and other natural resources of the republic, is remoteness of the region from the basic transport highways of Russia. The question of building of the railway with an exit on industrially mastered areas of the south of Siberia is the main actual problem of the decision of questions of lifting and development of economy of republic and, undoubtedly, will be of great importance as a whole for economic development of Siberia and Russia as a whole. The further escalating of coal resource potential of republic, development of the reconnoitered deposits and existing possibilities of deep processing of firm fuel with reception of a commodity output of high quality and economic value allow to trust with optimism in the future of this branch.

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