



Oyu Tolgoi: Key Recommendations

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The Oyu Tolgoi copper/gold mine in the South Gobi *aimag* of Mongolia is currently under consideration by the World Bank Board of Directors to receive financing from the International Finance Corporation (IFC) and Multilateral Investment Guarantee Agency (MIGA). The project, one of the largest and most complex infrastructure investments proposed by the IFC, poses a significant environmental and social risk to the local community of Khanbogd *soum* in the South Gobi, as well as to the country at large.

The Board needs to consider whether World Bank Group financing is strictly necessary for the project to move ahead. Given that the mine has begun producing concentrate,¹ it is questionable whether financing from the World Bank Group offers financial additionality at this stage. Moreover, the late stage at which the Environmental and Social Impact Assessment (ESIA) has been released and the increasingly limited scope for making serious changes to significantly reduce the environmental impacts of the project also raises questions about whether the World Bank Group can offer environmental additionality in the project.

As currently described in the ESIA and as it is being implemented on the ground, the project violates the IFC Performance Standards. The ESIA is incomplete, retroactive, and defective as it relates to these and other aspects of the project. In particular, it is missing waste rock and tailings management plans, closure plans and reclamation plans, all of which constitute integral components of the ESIA, which cannot be considered complete without them. At the very least, the Board date should be postponed until these plans are disclosed and time is allowed for public comment.²

Additionally, we ask that if the World Bank Board of Directors moves forward with considering this project, it commit to the following recommendations as requirements to the loan agreement between the World Bank Group and Oyu Tolgoi LLC. The recommendations relate to six major areas of concern: (1) water scarcity; (2) the Undai River diversion; (3) deficiencies in the compensation and consultation framework for impacted herders in Khanbogd; (4) technical aspects of the mining operations; (5) the proposed coal-fired power plant; and (6) biodiversity. Finally, in accordance with the Performance Standards and Disclosure Requirements of the IFC, a clear, robust monitoring and reporting system should be instituted to ensure that the company complies with its environmental and social obligations.

¹ See Turquoise Hill Resources Ltd., Jan. 31, 2013, Press Release, *Oyu Tolgoi produces first concentrate* (http://www.turquoisehill.com/s/news_releases.asp?ReportID=568642).

² Current aerial and/or satellite photographs of the project should also be made publicly available to enable verification of the extent of pit development, waste rock stockpiling, tailings facility construction and use, and the Undai River diversion. These portions of the project are in later stages of completion and/or production than implied in the ESIA, as demonstrated by the recent announcement that the mine has begun producing concentrate. *See id.*

1. Water Scarcity

- The company should disclose on its website all documentation cited in the ESIA related to water resources.
- The company should be required to substantiate its claims that water abstraction from the Gunii Hooloi deep aquifer will not cause a draw-down effect due to leaking boreholes, instability and the rate of pumping, which would deplete the shallow aquifers upon which the herders and wildlife depend.
- The company should provide convincing evidence that it has enough water to sustain production throughout the 30-60 year lifespan of the mine without adversely impacting regional water security. Given that there is only enough groundwater to sustain projected development in the Southern Gobi Region until 2020,³ diversion of the Orkhon River and other surface water sources will be needed to support the project-related population influx and associated facilities. The company should study and develop appropriate mitigation plans to address the social and environmental costs, including trans-boundary and cumulative impacts, related to the reasonably foreseeable need to divert additional surface waters.
- The company and its contractors should cease the use of water from the Khanbogd community well and should not enter into private water use negotiations with the local herders.
- The company should not expand operations beyond the 100,000 tpd proposed in the ESIA based on the lack of proven water resources.

2. Undai River Diversion

- The company should stop all work on the Undai River diversion, which has moved forward without appropriate consultation with herders. Diversion of the Undai River will cause significant, permanent, and unmitigated negative impacts on important ecological services provided by that portion of the river, including through the loss of the Bor Ovoo spring, which is the last to freeze in the winter. The planned artificial spring has not been demonstrated to support fully the needs of the herders and wildlife because it will freeze early and will not perform the same ecological functions as the original natural spring. The company should respect the rights of the local herders to protect a vital source of water.

3. Compensation and Consultation Framework

- The company should develop an agreed-upon and tested methodology for evaluating all of the impacts on herders, including decreased quality and quantity of pastures and water resources, and health impacts on herders and their animals. This methodology should then be applied transparently and consistently to all impacted households, including those whose summer and reserve pastures have been eliminated or degraded by the project and its associated facilities. To date, the company's compensation framework, including the 2004 resettlement contracts and the 2011 economic displacement contracts, does not take into account the realities of the herders' livelihoods, in particular by failing to adequately compensate for the loss in quality and quantity of the herders' water resources and pastures, including the summer and reserve pastures, which are the most important to the herders.
- Herders should be presented with concrete, accurate information on a regular basis (at least monthly) about all project impacts – particularly those that present significant risks to the

³ See OT ESIA, Chapter C13, p. 5 (<http://www.ot.mn/?q=en/node/2679>), citing World Bank, *Mongolia: Southern Gobi Regional Environmental Assessment January 2010*, p. 27 (<http://siteresources.worldbank.org/INTEAPREGTOPENVIRONMENT/Resources/SouthernGobiREAtext.pdf>).

herders, such as the diversion of the Undai River and health risks from project-related water, air, and soil contamination – in a way that is culturally appropriate. The herders’ opinions should also be integrated into all mitigation plans.

- The company should retain qualified, independent social scientists to properly evaluate the definition of “Indigenous Peoples” as it applies to the nomadic herders in Mongolia, per the standards set forth in IFC Guidance Note 7. The IFC should separately re-evaluate its previous statements regarding the applicability of Performance Standard 7, taking into account the results of the social scientists’ evaluation. The herders, who consider themselves indigenous people and whose self-identification as such is supported by NGOs that work with indigenous peoples, will lose the ability to practice their traditional herding lifestyles if they are not able to work with OT to help design the project in a way that will reduce the impacts to their way of life, as required by Performance Standard 7.

4. Mining Operations

- a. *Block Caving*: Block caving is a method of mining in which workers remove the support rock from beneath the ore bodies, resulting in cave-ins, which fracture and drop blocks of the ore body, as well as causing subsidence of the land surrounding the cave-in zone. This land will be too physically unstable to support any post-mining land use, resulting in a huge area of land that will have to be permanently abandoned.⁴
 - The company should pursue alternatives to block caving, even if this necessitates foregoing some ore reserves, to prevent the subsidence of the projected 8km² of land above the first of the two block cave mines, rendering the land permanently damaged and unusable due to physical instability.⁵
- b. *Tailings Management*: Tailings are the waste material produced following the grinding and processing of ore in the concentrator and will constitute more than 95% of the volume of the ore, including associated heavy metals not recovered in the floatation process. The tailings dam or “storage facility” is designed to act as a waste “sink” for mining slimes containing toxic heavy metals, metalloids, and phthalates from the concentrator, and waste from the coal-fired power plant.
 - At a minimum, the company should make publicly available the technical memo on which it is relying to justify its decision to use wet tailings,⁶ given that its wet tailings storage method accounts for more than 80% of Oyu Tolgoi’s water losses.⁷
 - Barring significant justifications unrelated to cost, the company should switch to dry tailings, as this method is well-suited for cold climates and will significantly cut the mine’s water needs. In addition to the water-saving benefits, employing dry tailings would obviate the

⁴ In the ESIA, Rio Tinto points to the Northparkes mine in Australia as one of its block caving success stories. See OT ESIA Chapter A4, p. 22 (http://ot.mn/sites/default/files/documents/ESIA_OT_A4_PD_EN.pdf). What the company fails to mention is that four miners died at the Northparkes mine in 1999 as a direct result of Rio Tinto’s mining methods. An inquest into their deaths found that “the production rate [was] far greater than the rate at which ore was falling from the caveback, [and] took precedence over factors which concerned [miners’] safety.” See North Parkes Coronal, Findings and Recommendations, p. 1 (<http://eagcg.org/common/pdf/NorthParkesCoronial.pdf>). For more information about block caving, please see a summary report on the impacts of block caving at Rio Tinto’s Pebble Mine in Alaska by David Chambers, CSP2 (<http://www.docstoc.com/docs/2229511/BLOCK-CAVING-This-is-a-short-summary-of-the-block-caving-mining#centerdoc>) and a report on the impacts of this method at Oyu Tolgoi written by Paul Robinson, Southwest Research and Information Center (<http://www.bicusa.org/wp-content/uploads/2013/01/Block-Caving-Surface-Impacts-Identified-at-Oyu-Tolgoi-Mine-Paul-Robinson.pdf>).

⁵ See OT ESIA Chapter C4, p. 10 (http://ot.mn/sites/default/files/documents/ESIA_OT_C4_Topography_EN.pdf).

⁶ See Golder Associates, June 2005, Technical Memo, *Alternative Tailings Facility Design Options, Oyu Tolgoi Tailings Storage Facility*, as more fully described in Ivanhoe 2010 IDP Technical Report, pp. 480-481, 488/629 (http://www.turquoisehill.com/s/oyu_tolgoi.asp?ReportID=379192).

⁷ See Figure 5.22, OT ESIA Chapter C5, p. 55 (http://ot.mn/sites/default/files/documents/ESIA_OT_C5_Water_EN.pdf).

need for a wet tailings impoundment facility, thereby significantly reducing the irreversible degradation of a large land area. Dry tailings would also allow a redesign of the mine area so as to avoid destruction of the Bor Ovoo spring, and the tailing could be used to backfill the open pits and underground workings, with associated environmental benefits.

- c. *Waste Rock Management*: Waste rock is the largest volume of material proposed for excavation at the Oyu Tolgoi open pit.
 - Although waste rock stockpiles are already in operation to manage the pre-stripping, commissioning, and ore production activities that have taken place over the last three years, the ESIA did not include a waste rock management plan. The company should immediately disclose its waste rock management plan.

5. Coal-Fired Power Plant

- The World Bank guidance on Criteria for Screening Coal Projects under the World Bank Strategic Framework for Development and Climate Change (SFDCC Coal Guidance) must apply to any coal-fired power plant built as part of this project.
- A full alternatives analysis must be conducted that meets IFC Performance Standard 3 and Criterion 2 of the SFDCC Coal Guidance. Reports from the ground indicate that the company is already preparing the "power camp," located near the current heating plant, which will house workers for the power plant construction. This suggests that the company has decided to build a coal-fired power station, and any alternatives analysis it conducts will only be cursory. Under the Coal Guidance, the IFC must appoint an expert panel to ensure the quality the alternatives analysis and its compliance with the Coal Guidance.
- If, after a thorough alternatives analysis that fulfills the requirements of both Performance Standard 3 and the Coal Guidance, the company determines that a captive coal plant is still the least-cost option, the IFC must consider viable, low-cost, low-carbon alternatives and seek additional funding for a low-carbon alternative, as required under Criterion 4 of the Coal Guidance.
- To meet IFC Performance Standard 1, a complete ESIA must be conducted that includes the cumulative environmental and social impacts of the mine and the power plant for the duration of the project's life. In particular, the water impacts and needs of both the mine and the power plant must be analyzed together.

6. Biodiversity

- The company should immediately develop a strong, detailed, long-term species conservation and habitat protection plan, including a rigorous monitoring strategy, rather than relying on the adoption of ad hoc strategies as the project progresses. The company's current mitigation strategies, as described in the ESIA, are insufficiently detailed and suffer from a lack of empirical data. Similarly, the offset strategy is predicated on insufficient and inaccurate data, which calls into question the company's precise estimates of positive net impacts.

Given the remaining serious concerns and the continued failure to disclose key management plans, we recommend that the World Bank Board of Directors postpone consideration of this project. Should the Board choose to move forward with this project despite these problems, **we ask that a clear, robust monitoring and reporting (M & R) system should be part of the project loan and guarantee agreement.** The M & R system should have a procedure to monitor and measure the effectiveness of all management and mitigation plans, as well as compliance with the related legal and/or contractual

obligations and regulatory requirements. Specifically, this system should include the above-mentioned recommendations as indicators of compliance. The M & R system should also include representatives from affected communities as participants in monitoring activities. Finally, considering the significant impacts of the project, we ask that external experts be retained to verify the company's monitoring reports. Periodic progress reports should be made available on the IFC and the OT LLC project webpages.

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