

The development of Mongolia's energy sector: Going beyond coal

Mongolia adopted a national air pollution mitigation plan in March 2017 in response to the severe air pollution¹. Just months earlier, several thousand people took to the street of Ulaanbaatar in protest of government's inaction in curbing air pollution². The plan aims to reduce the current levels of air pollution by 80 per cent by 2025. While the policy is national, the focus remains in Ulaanbaatar, where the coal burning in the Ger district is responsible for 60 per cent of the city's air pollution, according to the Metropolitan Air Pollution department.

In supporting the governmental plan in reducing air pollution, the Asian Development Bank's public financing arm has two proposed policy projects in its pipeline that include: 1) **Strengthening Electricity and Heat Supply Network in Ulaanbaatar** (sovereign loan) and 2) **Ulaanbaatar Air Quality Improvement Program** (sovereign loan) under development.

However, with a dominance of coal in its energy sector, the Mongolian government is planning more than six new coal power plants over the next decade in the absence of a coherent national energy strategy, including a combined heat and power plant (CHP5) in the capital, which is under preparation by ADB's private sectors operations department.

A false solution to curbing air pollution

The national air pollution mitigation action plan of Mongolia clearly identifies use of raw coal as a cause

of air pollution, and plans to prohibit the use of raw coal in order to "reduce pollution sources". However, by the same token, the action plan for implementing the first phase of national policy on mitigating air pollution lays out a clear roadmap doubling the use – measured against the anticipated consumption volume in 2017 – by bringing higher energy quality coal from Tavan Tolgoi to Ulaanbaatar's Ger district households from 2018 to 2021. Further, the action plan calls for the establishment of a coal processing facility in each district of the capital and supply of "processed coal" to at least 13,000 households in the Ger district. Altogether, the action plan is counter-intuitive to the Mongolian plan to reduce emissions of pollutants such as PM 2.5, PM 10 particles and Sulfur dioxide to the targets by 2019 and 2025³, when in fact the increased consumption would lead to an increased emissions output and pollutants released into the atmosphere.

With regards to the integrated district heating system, CHP5 in Ulaanbaatar is presented by the government as a solution to the air quality situation in the capital and a way out of energy poverty in a city that faces massive rural to urban migration. However, the 2015 ESIA for the project fails to demonstrate how these objectives will be met.

CHP5 is planned to have 463.5 MW of installed electricity capacity, or a combined 426 MW gross of electricity and 587 MW of thermal energy installed capacity, using subcritical coal technology which will only worsen the air quality in Ulaanbaatar. With low efficiency rates, the power plant is not in line with the standards of the OECD's Sector Understanding on export credits for coal-fired electricity generation projects, agreed in November 2015⁴.

Among its most problematic aspects, the construction of CHP 5 is not tied to the closure of any of the existing CHPs in the capital, which already account for over 50 per cent of SO₂ and NO₂

¹ <http://www.legalinfo.mn/annex/details/7779?lawid=12588>

² <http://observers.france24.com/en/20170201-excess-pollution-mongolia-capital-epidemic-miscarriages-children-illness-Ulaanbaata>

³ Targets:

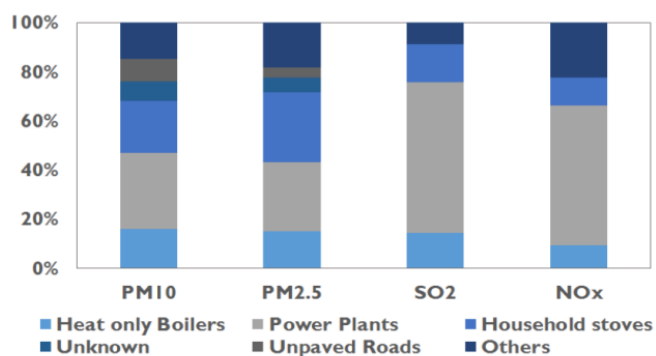
PM_{2.5} particles from baseline emissions limit values from 256 in 2016 to 190 (2019) and 70 (2025) ug / m³

PM₁₀ particles from baseline emissions limit values from 279 in 2016 to 210 (2019) and 100 (2025) ug / m³

Sulfur dioxide (SO₂) from baseline emissions limit values from 89 in 2016 to 70 (2019) and 50 (2025) ug / m³

⁴ [http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=tad/pg\(2017\)1](http://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?doclanguage=en&cote=tad/pg(2017)1)

emissions in the city⁵. Of great concern is the fact that the majority of urban poor in Ulaanbaatar are living in Ger districts where homes are not connected to public utilities, especially heating. Therefore the additional heating from CHP5 would not benefit this part of the population. The residents of the Ger districts are reliant on burning coal and waste during the winter months, which is another major source of pollution in Ulaanbaatar.



It is therefore difficult to see how CHP5 will positively contribute to the most pressing needs of the people in Ulaanbaatar, whether access to public utilities by the poor or improving the air quality for all residents. Ulaanbaatar requires sustainable solutions that integrate smart urban planning for the Ger districts, including green energy solutions with drastic measures for improving air quality, mini-grids or off-grid solutions that would ensure electricity from non-polluting sources in these parts of the city and demand-side energy efficiency. According to the International Energy Agency, mini-grids or off-grid solutions will be the best way of bringing modern energy services to the people who currently lack these, and 90% of that electricity must be provided by renewables⁶.

The project has been in the pipeline for several years and according to information collected during the Bankwatch field visit, the project is currently on hold due to ongoing negotiations between the government and the CHP5 project unit on the tariffs for electricity and heating. Latest interview Bankwatch conducted with Mongolia's Ministry of Environment indicates a change of location for the project that is

⁵http://cleanairasia.org/wp-content/uploads/2016/09/04-Air-quality-monitoring-of-Ulaanbaatar_JBatbayar.pdf

⁶ World Energy Outlook 2011, IEA, http://www.worldenergyoutlook.org/media/weowebsite/energydevelopment/weo2011_energy_for_all.pdf

currently under assessment.

While the most recent ESIA is still under revision and not yet publicly available, numerous families on-site the original proposed project location have been resettled at the urging of ADB's client responsible for the CHP 5 project. It is highly questionable if adequate public consultation took place prior to resettlement; whether resettlement action plan and livelihood restoration have been carried out in full compliance with ADB safeguards requires Board oversight.

Although Ulaanbaatar is currently one of the most polluted capitals in the world, with PM10 annual average exceeding 200 µg/m³,^{5,4} and with disregard to the Paris Agreement's goal of limiting climate change to below 1.5 degrees Celsius, the government continues to prioritize a high number of coal projects including Tavan Tolgoi, Shivee Ovoo, Tevshiiin Gobi and other coal mines in its action plan for 2016–2020⁷. At the same time, various branches of the government seem to suggest other coal projects including a coal power plant in Baganuur and CHP 3 and CHP 5 as priority projects, evincing the lack of a coherent and strategic planning for the country's energy sector.

It should be noted that Mongolia's Nationally Determined Contribution rules out reduction of its coal dependency or coal power generation; instead, it focuses on improved technology for coal combustion.⁸

Synergy of ADB loans and spearheading air pollution fix

The dominance of coal in the Mongolian energy sector strategy and plans for new power facilities in Ulaanbaatar rest on myths about the abundance of coal supply, rather than robust feasibility studies, impact assessments, as well as an analysis of alternative scenarios. Furthermore, the country's ageing power plants and the transmission and distribution networks have led to a highly inefficient energy sector.

⁷ http://www.mfa.gov.mn/wp-content/uploads/2015/06/2016-2020_Gov_AP_Eng_Revised.pdf

⁸http://www4.unfccc.int/ndcregistry/PublishedDocuments/Mongolia%20First/150924_INDCs%20of%20Mongolia.pdf

While it is imperative that Mongolia secure reliable heating and power supplies, ADB's future loan decisions should be conditioned on viable alternatives to include measures to improve energy efficiency and lowering of consumption before financing the continued dependence on coal such as in the case of CHP 5. The inefficiency of the energy system, accompanied by the worsening air quality against the dichotomy of an incoherent national action plan to increase use of processed coal in the capital of Mongolia means the ADB have a responsibility to gear its policy dialogue, technical assistance and investments in Mongolia towards the decentralized development of solar and wind energy, and demand-side energy efficiency measures.

It should be noted that other IFIs such as the World Bank recognizes the urgency of resolving air pollution in Ulaanbaatar, and is in the process of commissioning an expert study on the feasibility for non-coal heating solution in government building in Ulaanbaatar this year.⁹

A country at crossroads

The CHP 5 project and the ill-planned national air pollution mitigation program presented above are stark examples of the government's poor planning of its energy sector and tackling of air pollution in its capital.

Mongolia is at a crossroad. Its energy system is old and inefficient and projects put forward by the government, some of which have been supported by other IFIs, should reflect the need for a diversified energy mix and the urgent task of curbing of air pollution especially in the capital, investments in decentralized renewables and smart grid solutions for rural areas and where the population is scattered and for condensed Ger districts in Ulaanbaatar is much needed.

In meeting the challenges and by providing policy support to the Government of Mongolia, we would like to encourage **the ADB to reflect these needs by:**

- Conducting an analysis on the estimated the lifecycle GHG emissions (or GHG emissions savings) that the proposed CHP 5 project is

expected to make on an annual basis once it is operating at normal capacity. This baseline may be either a "without project" scenario or an "alternative" scenario that reflects the most likely alternative means of achieving the same project outcomes;

- Examining the cohesion between ADB's policy loans for the two proposed projects – 'Ulaanbaatar Air Quality Improvement Program' and 'Strengthening Electricity and Heat Supply Network in Ulaanbaatar' – and the air pollution pollutant targets by 2019 and 2025;
- Demanding necessary changes to the national air pollution mitigation plan proposed by the Government of Mongolia as a conditionality of ADB future financing to ensure the ADB will not support the additional use of coal or the development of coal power plant directly or indirectly, including heat and power plants in the capital;
- Including clear targets for investments in renewables in Mongolia, smart grid and decentralized networks, and in demand-side energy efficiency projects;
- Exploring demand side management and adequate heating solutions to the energy poor population, such as sawdust briquettes coupled with efficient boilers and stoves.

For more information:

Sukhgerel Dugersuren

Director, OT Watch
otwatch@gmail.com

Wawa Wang

Public Finance Policy Officer, CEE Bankwatch Network
wawa.wang@bankwatch.org



This briefing was produced with the financial support of the European Union. The content of the document is the sole responsibility of the undersigning organisations and does not reflect the position of the European Union

⁹<http://projects.worldbank.org/procurement/noticeoverview?lang=zh&id=OP00041915>