Regulatory reforms to incentivize methane emission reduction in Kazakhstan

Initial condition:

Kazakhstan's key instrument in mitigating its greenhouse gas (GHG) emissions is the domestic emission trading system (ETS), launched in January 2013. The groundwork for the ETS development was laid out in 2011 through amendments and additions to Kazakhstan's environmental legislation. Kazakhstan initiated a one-year trial period, Phase I, of the ETS on 1 January 2013, and Phase II for the period 2014-2015. The system was temporarily suspended in 2016-2017 to tackle operational issues and reform allocation rules, and then it was reinstated with the current Phase III that is to continue until the end of 2020.

The Kazakh ETS covers over 50% of the national GHG emissions, including such sectors as power generation, industry, coal mining, as well as oil and gas operations (only CO_2 emissions are covered). The current national allocation plan (2018 - 2020) sets a cap for 2020 at 5% below the 1990 levels, with 162 Million tons CO_2/year being allocated.[1] Although methane emissions are not subject to quota allocation under the Kazakh ETS, they can be brought in under an offset mechanism that was introduced to participants of the trading system.[2] The offset mechanism allowed for methane emission reduction projects to be eligible for crediting under the ETS. However, the oil and gas sector was not included in the list of sectors for which offset projects were allowed.[3]

Adding methane emissions reductions from the oil and gas sector to the offset mechanisms could present an important improvement to the effectiveness of Kazakhstan's GHG mitigation efforts. This is because methane emissions from that sector represent typically a significant share of the overall national emissions in the oil and gas producing countries. Direct releases of gas into the atmosphere through intentional venting (e.g. through pressure relief valves) and leaks can often be eliminated through cost-effective measures. In Kazakhstan almost 25% of methane emissions in the upstream oil and gas operations (or over 1.5 million tonnes CO_{2e}[4]) can be reduced with

[1] ICAP (2020) Kazakhstan emission trading system: https://icapcarbonaction.com/en/?option=com_etsmap&task=export&format=pdf&layout=list&systems%5B%5D=46

[2] Under Article 94-10 of the Ecological Code. The detailed rules for implementation of offset projects were described in a Government decree No. 841 (26.06.2012): https://egov.kz/cms/ru/law/list/P1200000841

[3] Mining and metallurgical industry (methane), agriculture, housing and communal services, forestry, prevention of land degradation, renewable energy, processing of municipal and industrial waste, transport, energy efficient construction, energy saving/efficiency.

[4] Using 100-year global warming potential of methane equal to 28 (IPCC 5th Assessment Report)

positive economic returns.[5] Unleashing these opportunities would require, however, changes to the Environmental Code of Kazakhstan and removal of other barriers. This process is currently underway.

Process:

The Environmental Code (EC), first adopted in 2007, is the main legal document that governs environmental matters. It regulates protection and auditing, as well as issues related to GHG emissions, including their monitoring and reporting.[6] As highlighted in the latest Environmental Performance Review of Kazakhstan, conducted by UNECE, this Code is the only example of an accomplished systematization of environmental legislation within a single document in the post-Soviet area.[7] The Environmental Code is accompanied by a comprehensive set of secondary legislation that aims at facilitating its implementation. The Code has undergone a series of reviews. The most recent one is still ongoing (please see the details below) and in due course it will help to incentivize methane emission reductions.

Regulations for quantification, reporting, and mitigation of methane are covered by the current EC. In addition to being regulated as a greenhouse gas, methane traditionally has been, and still is, regulated as an air pollutant that is subject to a fee (dependent on whether the amount of pollutant emitted is within, or above the permitted limit set individually for each company). Double set of regulatory measures for methane emissions is common in CIS countries and it is a subject of numerous discussions.[8] The rates of fees for emissions of pollutants are set by the Tax Code of Kazakhstan (Article 576). For 2020, the payment for emissions of methane within a permitted limit, constituted 27 tenge/tonne CH_4, or 0.07 USD/tonne CH_4.[9] This rate serves as a basis for estimating other payments. For example, fines for emissions beyond the permitted level

[5] Carbon Limits, 2016. Methane abatement potential from oil and gas systems in Kazakhstan. https://www.carbonlimits.no/wp-content/uploads/2016/04/CarbonLimits_Methane_Kazakhstan.pdf

[6] Including introduction of the emission trading system as the key instrument of state regulation of GHG emissions.

[7] UNECE (2019) Kazakhstan: Environmental Performance Reviews, 3rd review, https://www.unece.org/fileadmin/DAM/env/epr/epr_studies/ECE_CEP_185_Eng.pdf

[8] Maslova E., et al, 2017. Analysis of the requirements of the Russian and international legislation in the field of norming, reporting and setting fees for methane emissions to the atmosphere, http://neftegas.info/gasindustry/spetsvypusk-1-2017/analiz-trebovaniy-rossiyskogo-i-mezhdunarodnogo-zakonodatelstva-v-oblasti-normirovaniya-otchetnosti-/

[9] Based on the fee of 0.01*Monthly estimated index / tonne CH_4 (https://kodeksy-kz.com/ka/nalogovyj_kodeks/576.htm) and Monthly estimated index of 2 651 tenge set by the government for 2020 (https://online.zakon.kz/document/?doc_id=1026672#pos=2;-149). The monthly estimated index incorporates inflation and other factors and is used for the tax authorities when estimating taxes, fees and other payments in Kazakhstan.

This fee is equivalent to 0.0025 USD/tonne CO_{2e} (assuming 100-year global warming potential of methane equal to 28) or 0.0013 USD/MMBtu.

(penalties for non-compliance) can be significantly higher, but still remain rather low for methane, as the base rate for payment is low.[10, 11] Due to such low payment rates, the fee has had no, or little impact on methane emission mitigation. In addition, a requirement of reporting emissions of methane as an air pollutant together with the resulting payments constitute a disincentive for implementation of methane reduction activities on a company level. It is because it often involves disclosing information about the volume of the reduced emissions that might challenge the official company's reports on the total amount of methane releases into the atmosphere and thus lead to financial penalties (often due to differences in methodologies applied when estimating emissions of methane as an air pollutant on the one hand, and calculating an amount of actual methane emission reductions measured during a project implementation on the other hand).

The Ministry of Ecology, Geology and Natural Resources in Kazakhstan, together with a broad range of stakeholders, including representatives from the business, ecologists, and the general public, conducted in 2019 a thorough review of the Environmental Code, with the aim to better align the legal framework with ETS and other environmental policies. The refined version of the Code was adopted by the Government in December 2019, and should be reviewed by the Parliament in 2020.[12]

The proposed revision of the EC includes a number of important changes, including, for example, requirements for implementation of best available technologies/practices (BAT), adoption of automated system for monitoring emission by larger emitters, increase of administrative fines for environmental offences, and a greater governmental control and oversight.[13] The proposed revision of the Code also contains an important change to the offset mechanism, which, if adopted, will allow the market participants to implement offset projects in any sector. This implies that an oil and gas operator would be able to implement methane reduction projects under the offset mechanism and then use the emission reduction units produced either to meet its own obligations under the ETS, or to sell them to other parties on the market.[14]

[10] OECD (2019), Addressing Industrial Air Pollution in Kazakhstan: Reforming Environmental Payments Policy Guidelines, https://www.oecd-ilibrary.org/environment/4a86e63d-ru

[11] Special rates are applied for emissions coming from flaring (20-200 times higher emissions of pollutants than from direct releases of pollutants or combustion sources other than flaring) (https://cdb.kz/sistema/page/stavki-platy-za-emissii-v-okruzhayushchuyu-sredu/).

[12] https://kursiv.kz/news/obschestvo/2019-12/v-kazakhstane-prinyat-novyy-ekologicheskiy-kodeks

[13] https://www.neweurope.eu/article/kazakhstan-adopts-new-draft-of-environmental-code/, https://kursiv.kz/news/obschestvo/2019-12/v-kazakhstane-prinyat-novyy-ekologicheskiy-kodeks, https://atameken.kz/en/news/33889-mehanizmov-ekologicheskogo-kodeksa-kotorye-zarabotayut-v-0-godu

[14] Draft Ecological Code, 14 October 2019

Results:

In the latest revision to the Environmental Code, the oil and gas operators received incentives for implementation of methane reduction projects at their operations under the revised offset mechanism (including installations that are already covered by the national ETS). However, questions remain about methodologies that can be applied for sound quantification of methane emission reductions and their alignment with the existing methodologies for methane emissions reporting (e.g. as a basis for collection of the pollution fee). Having two sets of regulatory measures for methane (as a GHG and as an air pollutant) still remains an issue and might create barriers for implementation of offset projects, due to challenges in reporting and possible differences in accounting methodologies (details about the offset mechanism implementation and applicable methodologies are still being discussed and thus are uncertain at this point).

The incentives for implementation of methane offset projects, including in the oil and gas sector, might be rather limited in the a short- and medium-term given the expected low prices for ETS allowances. However, the new upcoming allocation plan (for 2021-2023) will not allow the companies to use historical emissions for estimation of allocations, requiring instead that they apply benchmarks set by the government, which might create additional demand. In addition, it can be expected that the ETS caps will become tighter in time, following national carbon budget that is set in compliance with the country's commitments under the Paris Agreement, which will stimulate the demand.

Although the immediate effects from the offset mechanism might not be very significant in the context of the national ETS, the methodologies and procedures developed for its implementation can also facilitate possible development of international cooperation under the new emerging mechanisms (for example, Article 6 of the Paris Agreement).