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Potential geological sequestration of CO₂ in Kazakhstan

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CO₂ storage in subsurface is one of ways to mitigate the CO₂ emissions in many places including Kazakhstan. To achieve the goals to achieve the 25% emission reduction strategy by 2030 according to Paris agreement in 2016, Kazakhstan may require additional actions to be performed. CO₂ sequestration is one of the possible solutions in the reduction of CO₂ emission.

In this work, we explore the possibility of CO₂ storage in the region of the Precaspian basin using the compositional reservoir simulation flow model. We propose the potential place of the CO₂ storage and provide the amount of stored CO₂ based on the reservoir simulation model of Precaspian basin. We also present CO₂ plume migration in the post-injection period.

Moreover, we study the effect of parameters that can be essential in the modeling of CO₂ storage evaluation in a potential subsurface of Kazakhstan.

We conducted uncertainty and sensitivity analysis by incorporating machine learning algorithms and reservoir simulation tool by varying model parameters and finally received 3 probability cases P10, P50, and P90 for the amount of trapped CO₂.

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References

Time Block Preference

Time Block C (18:00-21:00 CET)

Participation

In person

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