

Advancing Carbon-Neutral Solutions Through Geoscience Innovation: Meeting the Needs of the Future

*CHANG PINGYU^{1,3}, Chun-Chieh Wu^{2,3}

1. Department of Earth Sciences, National Central University, 2. Department of Atmospheric Sciences, National Taiwan University, 3. Asia Oceania Geosciences Society(AOGS)

Geosciences and related research play a crucial role in societies' transition to net-zero carbon emissions. For instance, geosciences enhance our efficiency in providing low-carbon emission energy sources, heating indoor spaces, sourcing raw materials for electric cars, and mitigating the carbon-emission resulting from climate change. Recently, a multitude of geoscience studies have focused on these issues, from understanding how the subsurface can support geothermal energy, energy storage, and carbon capture, to lowering carbon emissions from soils, and ensuring sufficient water supplies while reducing extra carbon emissions. The demand for such extensive studies necessitates geological research, data, and innovation to contribute to the industry and inform policy and decision-making.

Keywords: Net Zero, Geosciences, Carbon neutral, Innovation