

23 - 25 October 2026

Geneva , Switzerland

AI-Enabled Climate Governance and Transition Planning in Thailand: A Structured Content-Analysis Framework

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Abstract

Climate-related disclosure is becoming a central mechanism through which firms communicate governance, transition planning, and accountability. This paper develops a reproducible structured content-analysis framework for examining climate governance and AI/digital enablement in annual One Reports issued by SET50 companies between 2023 and 2025. The framework integrates the four disclosure pillars of IFRS S2 and the TCFD recommendations - governance, strategy, risk management, and metrics and targets - with a separate coding layer for explicit AI- and digital-enablement applications. The study uses a longitudinal census design, document-level coding, a transparent scoring rubric, and sectoral comparison between carbon-intensive and other industries. Rather than treating technology as a universal empirical finding, the framework records only verifiable disclosures of AI, machine learning, analytics, IoT, digital platforms, or carbon-data systems linked to climate or ESG management. The proposed Climate Disclosure Quality Index and AI/Digital Climate-Enablement Index enable analysis of reporting completeness, specificity, and year-on-year change. The paper contributes a context-sensitive method for Thai capital-market research and offers practical implications for preparers, investors, and regulators. It also links disclosure analysis to SDG 9, SDG 12, and SDG 13 while preserving a clear boundary between disclosed practice and theory-informed recommendations.

Keywords: Artificial Intelligence, Climate Disclosure, ESG, SET50, Sustainability Reporting