

THE CARBON RISK REAL ESTATE MONITOR (CRREM) UNDER PRESSURE: DECOMPOSING GHG PATHWAYS AND EVALUATING PORTFOLIO STABILITY AMID ASSET- AND ENVIRONMENT- LEVEL SHIFTS

Julia Skrovan

ABSTRACT

The Carbon Risk Real Estate Monitor (CRREM) Risk Assessment Tool is a complex, increasingly popular excel-based tool for evaluating decarbonization and energy reduction pathways for real estate assets and portfolios. Though the tool is well documented, there remains the need for a comprehensive map of the foundational formulas, variables, and assumptions that drive CRREM results as well as an understanding and pathway to explore how the tool performs under changing conditions. These needs escalate as demand for the tool escalates, most prominently among real estate asset managers who are placing a growing emphasis on net zero and ESG commitments. The work here presents two products. The first is an initial deconstructed map of the back end of the CRREM tool that delineates the origin and intersection of primary variables. With an explicit layout of the design and flow of the back end of the tool, the expanding CRREM user base will be better equipped to track the model methods and the relative weight of particular variables and settings. The second is a scenario analysis that examines how portfolios react against the backdrop of updated information across the planning timeline. Asset managers will be better positioned to make risk assessments for their assets with an improved understanding of how the timing and severity of contextual changes may affect their portfolios. By enhancing the transparency of this publicly available resource, the work presented here enhances the capacity of users to interact with the model, leverage settings, and explore and plan for potential shocks amid an active policy and climate landscape.



Dr. Varun Rai, supervisor