

Cost Analysis of Earthquake-Resistant Solar Container





Overview

Can benefit-cost analysis inform earthquake risk reduction decisions?

Author manuscript; available in PMC: 2024 Oct 8. This paper reviews the state of the art in using benefit-cost analysis (BCA) to inform earthquake risk reduction decisions by building owners and policymakers. The goal is to provide a roadmap for the application and future development of BCA methods and tools for earthquake risk reduction.

What drives the cost-effectiveness of earthquake risk reduction?

Our review reveals that the key drivers of the cost-effectiveness of earthquake risk reduction are the building occupancy class (e.g., hospital, school, or residential and commercial), the location (e.g., high or moderate seismic hazard risk), and the performance target (e.g., life safety, immediate occupancy).

Are seismic retrofits cost-effective?

Overall, the cost-effectiveness of retrofit strategies depends on building height, structural system, and the cause of the structural deficiency. Kappos and Dimitrakopoulos (2008) investigated the optimal level of seismic retrofits for older concrete buildings in Thessaloniki, Greece.

Should earthquake risk reduction measures be based on a discount rate?

Because earthquake risk reduction measures are effective within the relatively short planning horizon of buildings, applying the same discount rate to life-saving benefits and investment costs is preferable as indicated by many studies (Pate-Cornell 1984; Liel and Deierlein 2013; NIBS 2019).



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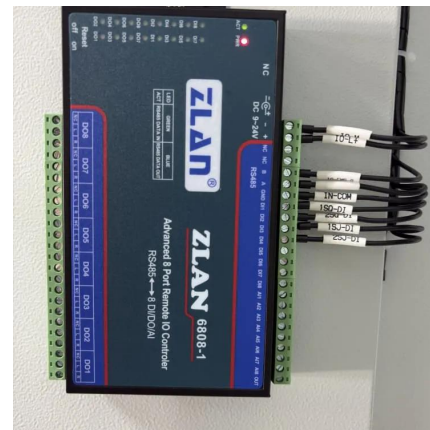


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