



A-11: Lifecycle and Resiliency Assessment Framework

Embodied Emissions

Tool Development

Deep Retrofit

Building Renewal

Summary

There is a fundamental in addressing whether to retrofit or replace older buildings; replacement might lower operational emissions more effectively and cheaply than retrofitting, but at a penalty in terms of embodied carbon. This activity will incorporate the Athena Impact Estimator for Buildings into the ReBuild suite of tools to allow existing parametric analysis and rapid results exploration processes to encompass embodied carbon emissions from building materials and construction processes.

Partners

The Pacific North-West Economic Region is a non-profit organization with a mission of improving both the quality of life and sustainability of the region.

Researchers

Under development.

METHODS AND DATA USED

Under development.

Final Outcomes

Together these methods will provide a trade-off analysis approach (balanced scorecard) for the co-optimization of energy, operational emissions, embodied carbon emissions and resiliency. Our leading partner will use the findings to influence policy and provide guidance to local and regional governments on this issue, which is currently lacking. Finally, a tool will be developed and integrated into existing workflows for continued transfer of knowledge within the industry.