Name

Cameron Grant

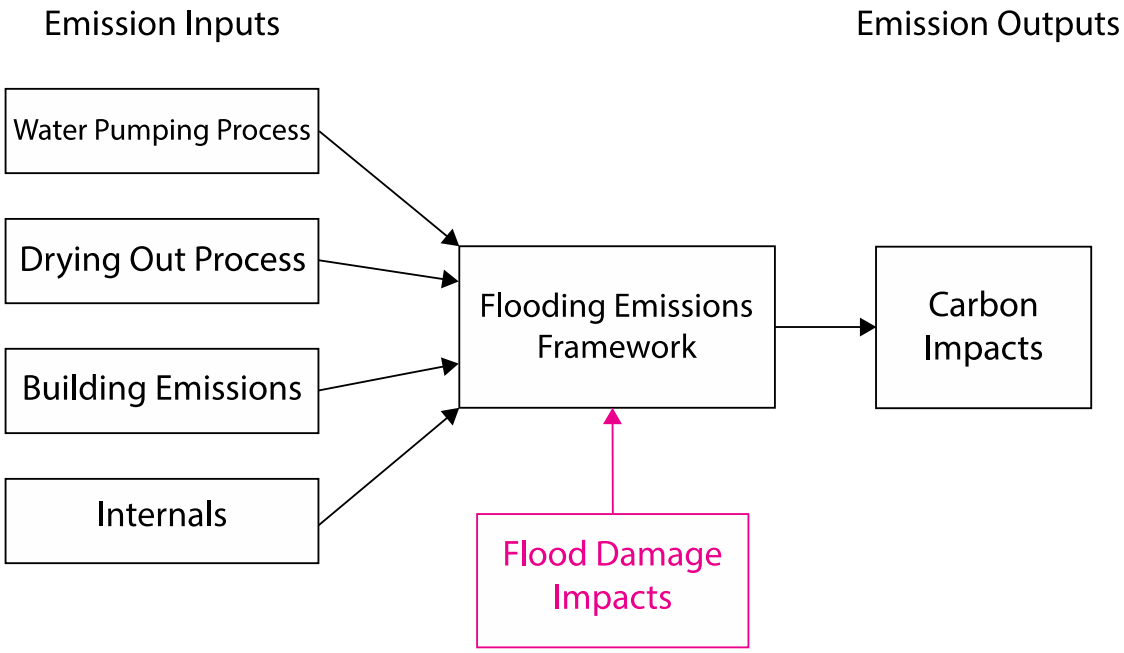
Title

Leeds Flooding Carbon Impacts Study – Impacts associated with damage to commercial buildings to commercial buildings resulting from major flood events in the City of Leeds.

Abstract

This dissertation researched the carbon impacts associated with damage and repair to commercial buildings in Leeds due to flood events with a focus on Office and Retail buildings. The Carbon Impacts associated with the clear up, repair and disrupted services due to a flood event is a poorly understood area. There is very little research literature available at the time of carrying out this dissertation. The methodology used to calculate the carbon impacts had four key inputs for emissions associated with flood events; Water Pumping, Drying Out, Building Emissions & Internals. The results show that these inputs generate a significant quantity of carbon emissions (kgCO2e). This result suggests that there is a high degree of confidence that the Leeds Flood Alleviation Scheme Phase 1 and 2 can produce a carbon saving. This is because the flood barrier will prevent future flood events which in turn will prevent damage and prevent the emissions associated with repair flood damage. This is significant because flood prevention schemes could potentially play a role in carbon emission mitigation which is vital if society is going to transition into a low carbon world. The findings of this dissertation highlight the need for further research into carbon emissions as a result of flood events.

Diagrams


Emission Inputs
Emission Outputs
Water Pumping Process
Drying Out Process
Building Emissions
Internals
Flooding Emissions Framework
Carbon Impacts
Flood Damage Impacts