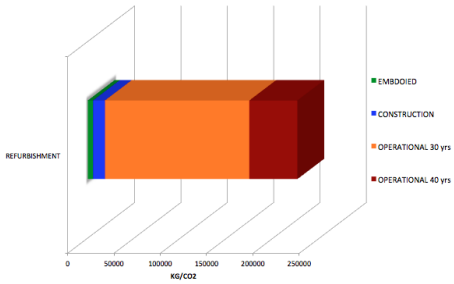
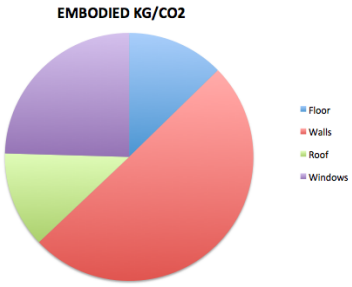
green tiger SUSTAINABILITY





Life Cycle Assessment

Definition

Life Cycle Analysis (LCA) is used to calculate the environmental impact of the building. The analysis will show the energy consumption and carbon dioxide emissions of the building throughout its entire life cycle, and will also determine whether that cycle is closed or not (Cradle-to-Grave or Cradle-to-Cradle).

LCA will give you information about the embodied energy and carbon emissions from all the materials involved in the construction of the building, analyzing which materials is more sustainable and why, so you can have a Cradle-to-Cradle design approach. This is where the design team chooses to use only materials that have the ability to be reused or recycle in the end of the life cycle. This will make the building more sustainable reducing it's the environmental impact. This kind of study can be a comparative Lice Cycle Assessment, where we compared different designs for the same building to see which one is more sustainable and why. This helps with the design process make sure that ever design decision reduce the environmental impact of the building.

LCA will give you performance specific information by revealing which parts of the cycle waste more energy and produce more carbon dioxide emissions, and this information can then be used to improve the design by lowering its carbon footprint.

The LCA will give an entire view of the life of the building, not only focusing in the use phase, but in every stage of the cycle, have a better idea of the carbon footprint and the environmental impact of the building.

Background

Life Cycle Analysis (LCA) is a methodology for assessing the environmental performance of a product (i.e. building) over its life cycle, often referred to as cradle-to-grave analysis. The term cradle in this project refers to the extraction of raw materials. For the purpose of this report the Life Cycle will be from 'cradle' 50 years of building operation, as the focus of the report is on the embodied carbon in the finished building and a defined time of operation. Building operation beyond 50 years has not been taken into account. LCA can be measured in terms of energy or carbon emissions. All data in this report refers to carbon emissions throughout all processes.

Objective

- To evaluated the environmental impact of a project in its entire life cycle
- The environmental impact is measure in CO@ emissions and water use
- Compare different scenarios of the same project to identify with one has lest environmental impact and why?
- The environmental impact will be broken down in each stage of the life cycle to identify where is the project having more CO2 emission and water use? and why?
- Having the problem area of the cycle identify, we come out with a list of potential solutions are