Life Cycle Results

Environmental Indicator | Unit | 50-year Total
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TRACI v2.1 Environmental Impacts
Global warming potential | kg CO₂ eq. | 9.78E+06
Depletion potential of the stratospheric ozone layer | kg CFC-11 eq. | 1.39E+02
Acidification potential of land and water | kg SO₂ eq. | 2.96E+04
Eutrophication potential | kg N eq. | 2.23E+03
Formation potential of tropospheric ozone photochemical oxidants | kg O₃ eq. | 5.39E+05
Abiotic resource depletion potential for elements | kg Sb eq. | xx
Abiotic resource depletion potential of fossil fuels | MJ surplus | 5.05E+06

Resource Use
- Renewable primary energy excluding energy resources used as raw material | MJ | 1.87E+08
- Renewable primary energy resources used as raw material | MJ | 1.46E+07
- Non-renewable primary energy excluding resources used as raw material | MJ | 6.51E+07
- Non-renewable primary energy resources used as raw material | MJ | 3.03E+06
- Secondary material | kg | 1.98E+05
- Renewable secondary fuels | MJ | xx
- Non-renewable secondary fuels | MJ | xx
- Net use of fresh water | m³ | 3.29E+04

Waste Categories
- Non-hazardous waste disposed | kg | 1.79E+06
- Hazardous waste disposed | kg | xx
- Radioactive waste disposed | kg | xx

Output Flows
- Components for re-use | kg | 6.53E+05
- Materials for recycling | kg | 8.99E+05
- Materials for energy recovery | kg | 0.00E+00
- Exported energy | MJ | 0.00E+00

xx = inadequate data for assessment

About this Summary
The data shown here reports the lifetime environmental footprint of this building. Results were calculated using an analytical technique known as life cycle assessment (LCA), a scientific method for assessing all the interactions between a building and nature and estimating the resultant burdens on air, land and water. Additional results for this building are transparently reported in a detailed and publicly-available Environmental Building Declaration. The Athena Institute performs LCA in accordance with the international standards ISO 14040 and 14044. The Environmental Building Declaration conforms to Athena’s North American interpretation of the EN 15978 standard, which specifies how LCA is to be performed and reported for buildings.

Date of Assessment
March 2015

Assessor
Matt Bowick, Athena Institute

Verifier
Jamie Meil, Athena Institute

Life Cycle Impact Assessment Method
TRACI v2.1, Cumulative Energy Demand (CED)

Scope of Assessment
- Cradle-to-grave assessment with a 50-year study period
- All major building materials for core, shell and interior partitions are included
- Finishes, landscaping materials, furnishings, and mechanical/electrical equipment are excluded
- Operating energy and water are included
- System boundary includes EN 15978 modules A1-C4 with the exception of B1 and B5, due to inadequate scenario data for those modules at the time of the study

Data Sources
- Athena Institute life cycle inventory database
- US life cycle inventory database
- Ecoinvent life cycle inventory database
- Project-specific data provided by the design team

References
- EN 15978:2011 Sustainability of construction works—Assessment of environmental performance of buildings—Calculation method
- ISO 14040:2006 Environmental management—Life cycle assessment—Principles and framework
- ISO 14044:2006 Environmental management—Life cycle assessment—Requirements and guidelines

Full Report

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