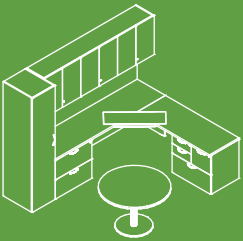


# Gunlocke®

## TRIO™

## ENVIRONMENTAL PRODUCT DECLARATION



**PRODUCT DESCRIPTION:** Trio is a flexible and aesthetic casegoods including worksurface, storage and modesty panel components. It features a wide range of veneers and paint combinations. It is available with three wood species, eleven color finishes and three paint colors. It is primarily constructed with particleboard core, medium density fiberboard and a wood veneer surface. The Trio casegood line is certified Indoor Advantage™ Gold and BIFMA level® 2.

**FUNCTIONAL UNIT:** The primary function of Trio casegoods is to provide a private office workspace including provision of a worksurface and storage areas with a panel system. The functional unit is 1 m<sup>2</sup> of floorspace, serving the function of providing office workspace for a 10-year period. Trio casegoods occupy a total floorspace of 4.7 m<sup>2</sup>, with 3.4 m<sup>2</sup> of worksurface, and 0.64 m<sup>3</sup> of storage. The reference flow for the modeling system is one complete casegood line and the results are normalized to 1 m<sup>2</sup> of floorspace.

**GUNLOCKE:** Simplifying the office planning process by helping customers align their workplace strategy with their business strategy. With an accessible team and an adaptable portfolio of seating, casegoods, tables, and collaborative furniture, we address our customers' needs for today and tomorrow.

**MANUFACTURER**  
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**EPD NUMBER & PERIOD OF VALIDITY**  
SCS-EPD-04552  
Valid: June 27, 2017 to June 26, 2022

**PRODUCT CATEGORY RULE**  
BIFMA PCR for Office Furniture  
Workspace Products:  
UNCPC 3814, August 5, 2015

**EPD PROGRAM OPERATOR**  
SCS Global Services  
2000 Powell Street, Ste. 600,  
Emeryville, CA 94608 USA  
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### DISCLAIMERS

**Scope of Results Reported:** The PCR requirements limit the scope of the LCA metrics such that the results exclude environmental and social performance benchmarks and thresholds, and exclude impacts from the depletion of natural resources, land use ecological impacts, ocean impacts related to greenhouse gas emissions, risks from hazardous wastes and impacts linked to hazardous chemical emissions.

**Accuracy of Results:** Due to PCR constraints, this EPD provides estimations of potential impacts that are inherently limited in terms of accuracy.

**Comparability:** The PCR this EPD was based on was not written to support comparative assertions. EPDs based on different PCRs, or different calculation models, may not be comparable. This EPD is augmented with information from draft LEO-SCS-002 standard, which is intended to promote comparison between EPDs. When attempting to compare EPDs or life cycle impacts of products from different companies, the user should be aware of the uncertainty in the final results, due to and not limited to, the practitioner's assumptions, the source of the data used in the study, and the specifics of the product modeled.

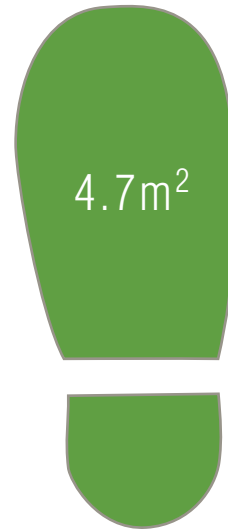
# PRODUCT SPECIFICATIONS

Trio, assembled at the Gunlocke® facility in Wayland, New York, is a casegood for private office setting, including aesthetic worksurface, storage and modesty panel components. It features a wide range of veneers and paint combinations. It is available with three wood species, eleven color finishes and three paint colors. Trio is primarily constructed with particleboard core, medium density fiberboard and a wood veneer surface. Trio casegood line passes the ANSI/BIFMA X5.5 tests, demonstrating a minimum expected lifetime of 10 years under specified conditions. This EPD is based on a product with 70% pre-consumer and 9% post-consumer recycled content.

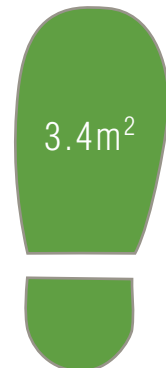
Figure 1: Product configurations for the Trio casegoods line.

## PHYSICAL FOOTPRINTS

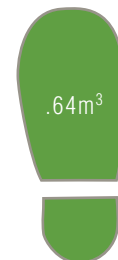
PHYSICAL FLOOR SPACE AREA



PHYSICAL WORK SURFACE AREA

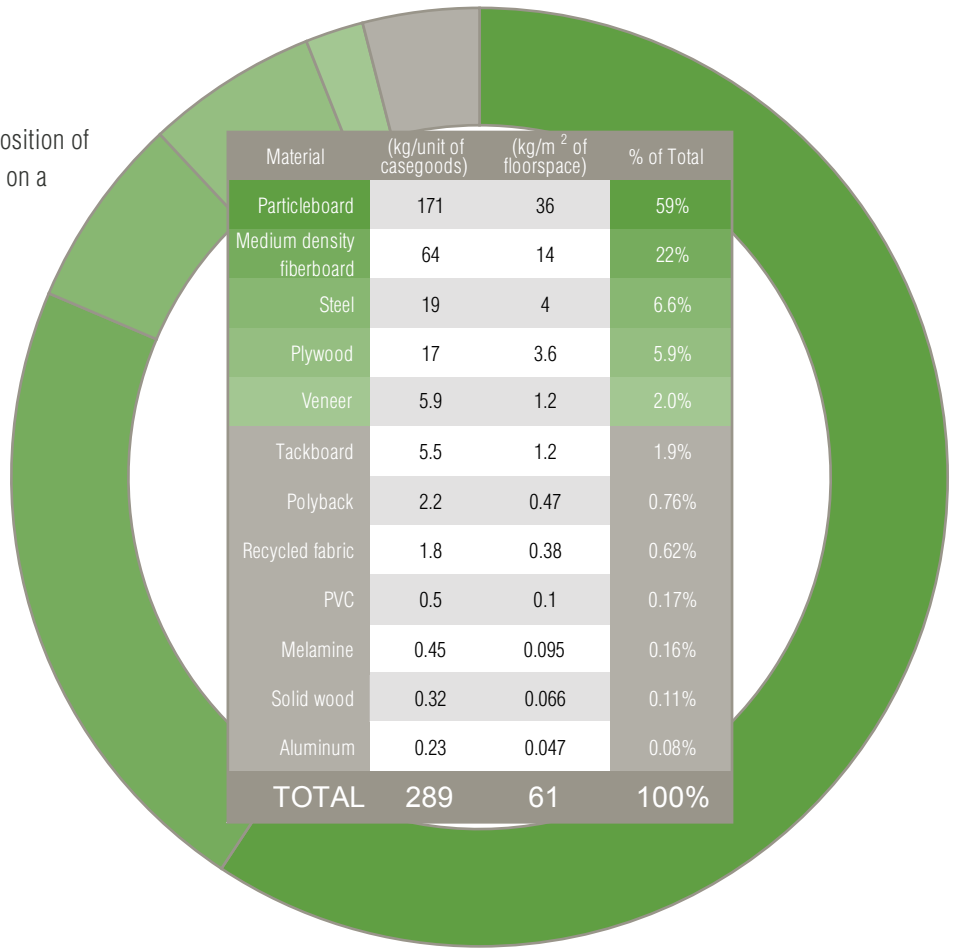
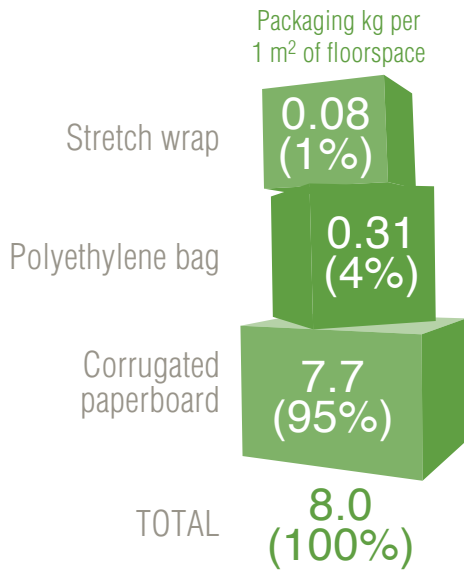


STORAGE VOLUME



# MATERIALS COMPOSITION

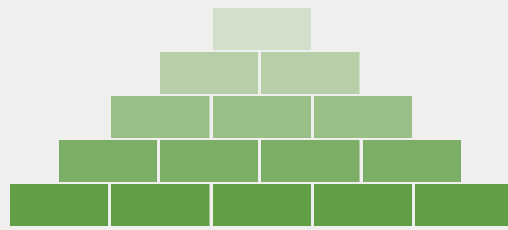
Figure 2: Material and packaging composition of Trio casegoods line. Results are shown on a mass basis, and as a percent of total.



# LIFE CYCLE ASSESSMENT STAGES

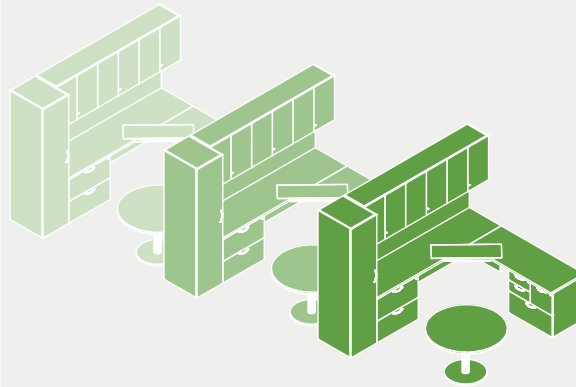
A Life Cycle Assessment (LCA) was conducted to evaluate the environmental performance of the **Trio** casegoods line in accordance with ISO 14044 standard. LCA accounts for the potential environmental impacts of a product over its entire life cycle, from raw material extraction through manufacturing, use, and end-of-life.

Figure 3: Representation of the life cycle of the **Trio** casegoods line. The system boundary is cradle-to-grave and includes resource extraction and processing, product manufacture and assembly, distribution/transport, use and maintenance, and end-of-life.



## MATERIALS

This stage includes the raw material extraction and transformation, as well as transport of parts and semi-manufactured parts to the production site in Wayland, NY



## PRODUCTION

Some raw materials are transformed and finished. All manufactured and supplied parts are assembled. Final products are packaged for shipment.



## DISTRIBUTION & USAGE

Transport from Wayland, NY to the final customer. For this EPD, transportation to major US markets were considered. Trio casegoods demonstrate a minimum anticipated lifetime of 10 years based on product testing under normal use conditions.



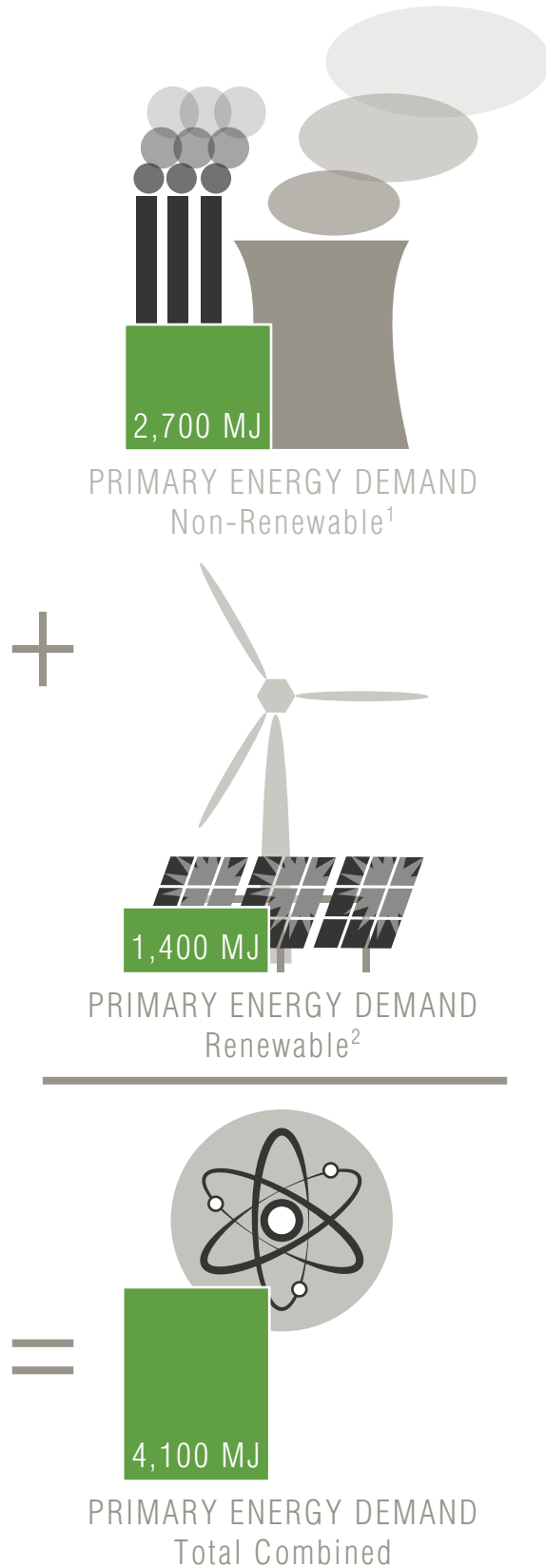
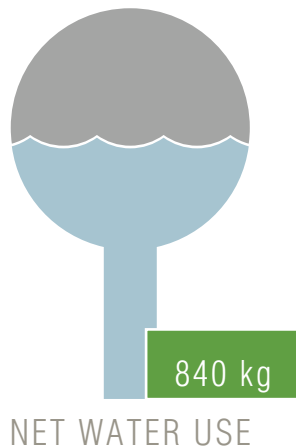
## END OF LIFE

End of life impacts were considered, including transport to waste treatment and recycling facilities. Emissions considered include disposal of product in a landfill or from incineration.

# LIFE CYCLE INVENTORY

The life cycle inventory (LCI) flows for the Trio casegood line are shown in Figure 4. Figure 5 includes equivalency factors that were determined for the purpose of communicating critical environmental impacts in simplified terms for better understanding.

Figure 4: Aggregated inventory flows and impacts for the Trio casegoods line. Results are shown per 1 m<sup>2</sup> of floorspace.

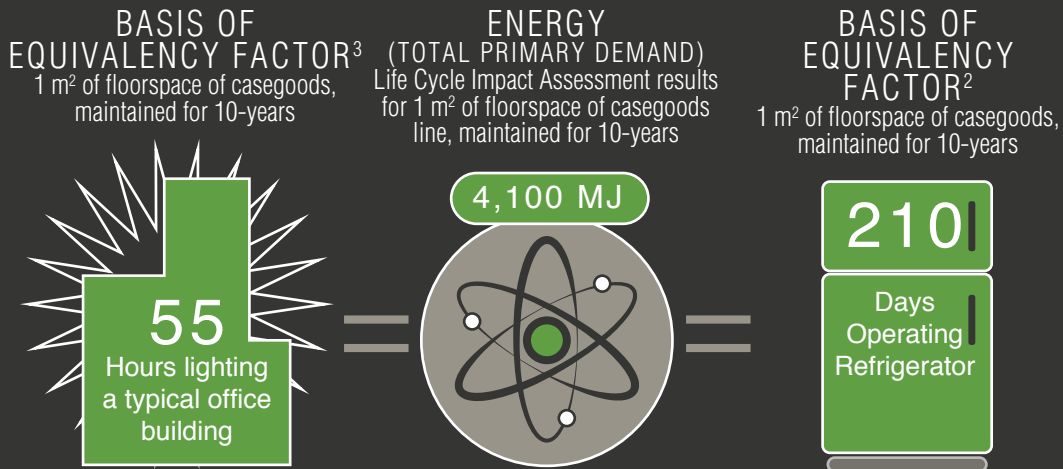
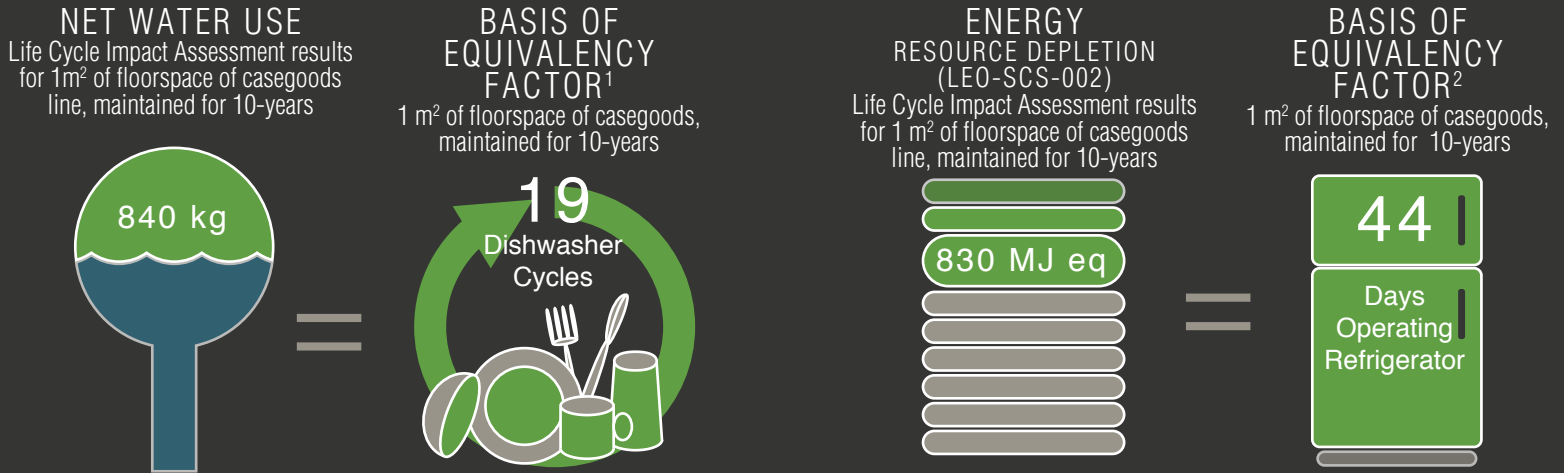


<sup>1</sup> Primary energy demand for non-renewable energy includes the energy generation from fossil fuels and nuclear energy.

<sup>2</sup> Primary energy demand for renewable energy includes energy generation from biomass, solar, wind, geothermal and hydropower.

# LIFE CYCLE INVENTORY

Figure 5: Equivalency Factors for select aggregated inventory results for Trio casegoods line.



<sup>1</sup> The net water use estimate is based on Energy Star-rated dishwashers and also considers the upstream water required to generate electricity to run the dishwasher.

<sup>2</sup> This result for primary energy demand is based on the energy consumption for Energy Star refrigerators, using a US average electricity supply mix, and including the upstream energy demand for electricity generation in US.

<sup>3</sup> The Primary Energy Demand of 1 m<sup>2</sup> of Gunlocke® casegoods is roughly equivalent to energy used for lighting a typical office building for ~55 hours. This estimate is based on average lighting operation of 11 hours per day for a 15,000 sq ft building.



# LIFE CYCLE IMPACT ASSESSMENT

Impact category indicators are calculated using the TRACI 2.1 characterization methods, including acidification potential, eutrophication potential, smog potential, ozone depletion potential and global warming potential based on IPCC 2013, in accordance with the BIFMA PCR. Additionally, the IPCC GWP result for a 20-year time horizon is reported following the BIFMA PCR requirements for IPCC 2013. Note, biogenic carbon uptake and CO<sub>2</sub> emissions from the combustion of biomass are not included.

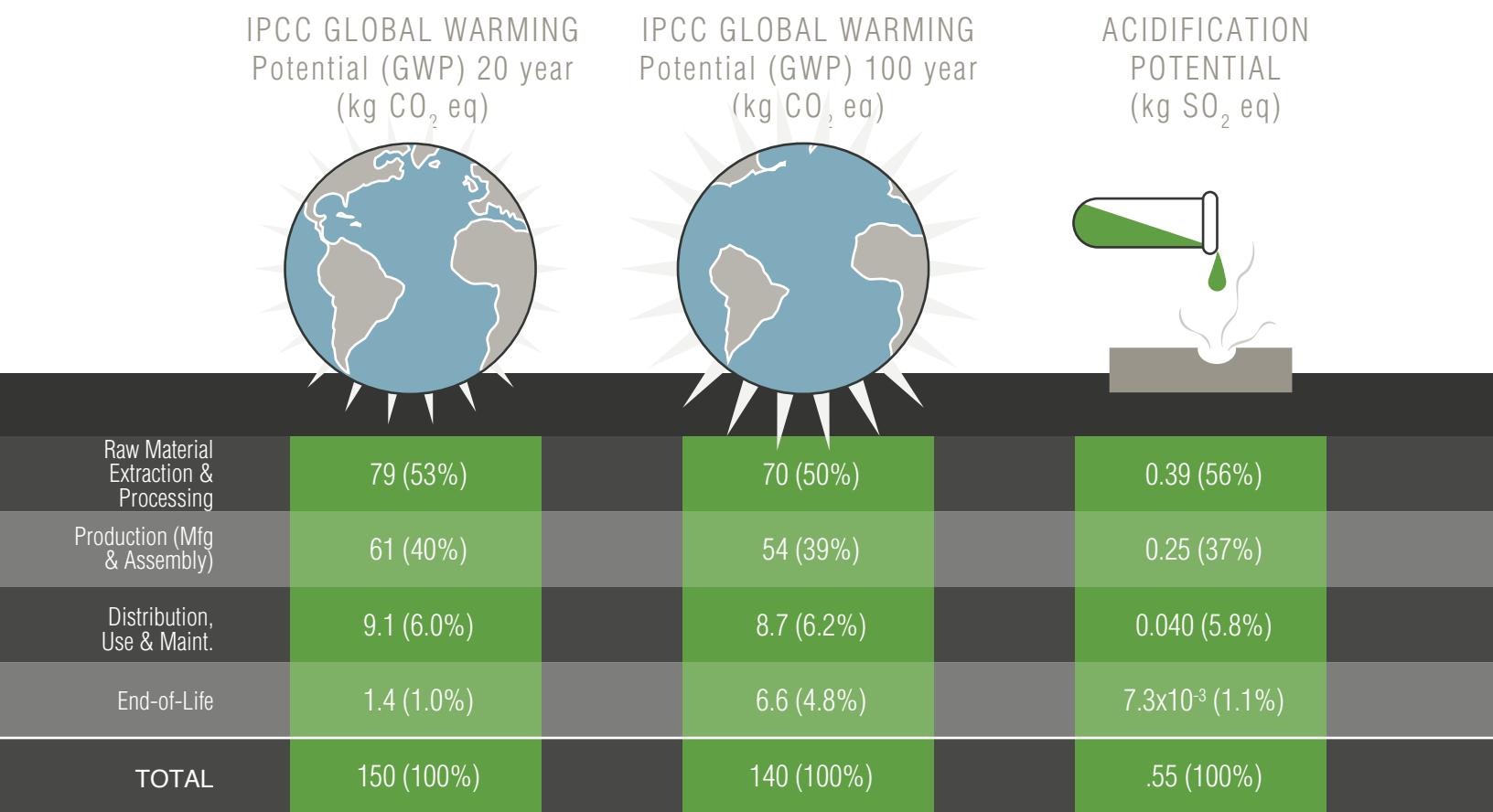


Figure 6: Life cycle impact assessment results for the Trio casegoods lines. Results are shown per 1 m<sup>2</sup> of floorspace.



# LIFE CYCLE IMPACT ASSESSMENT

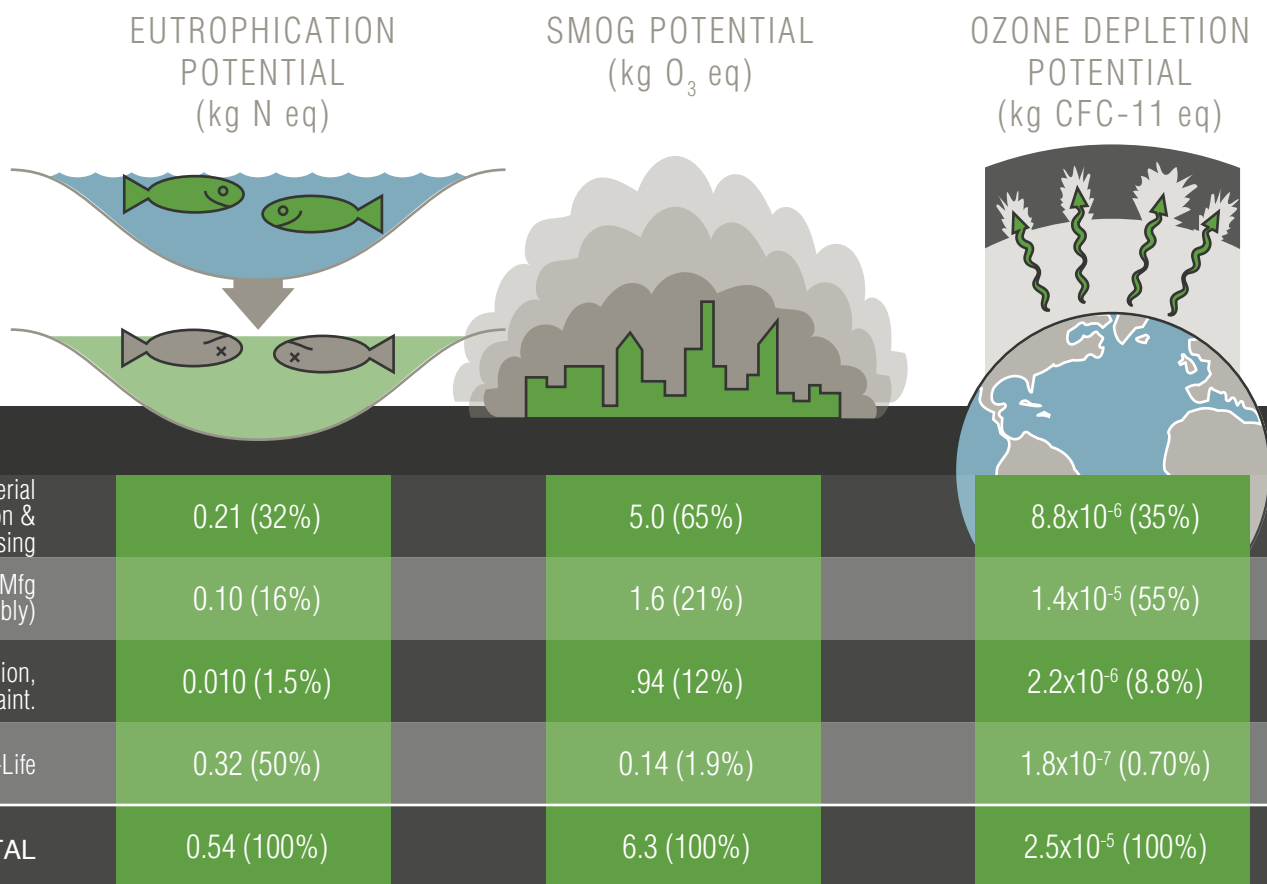
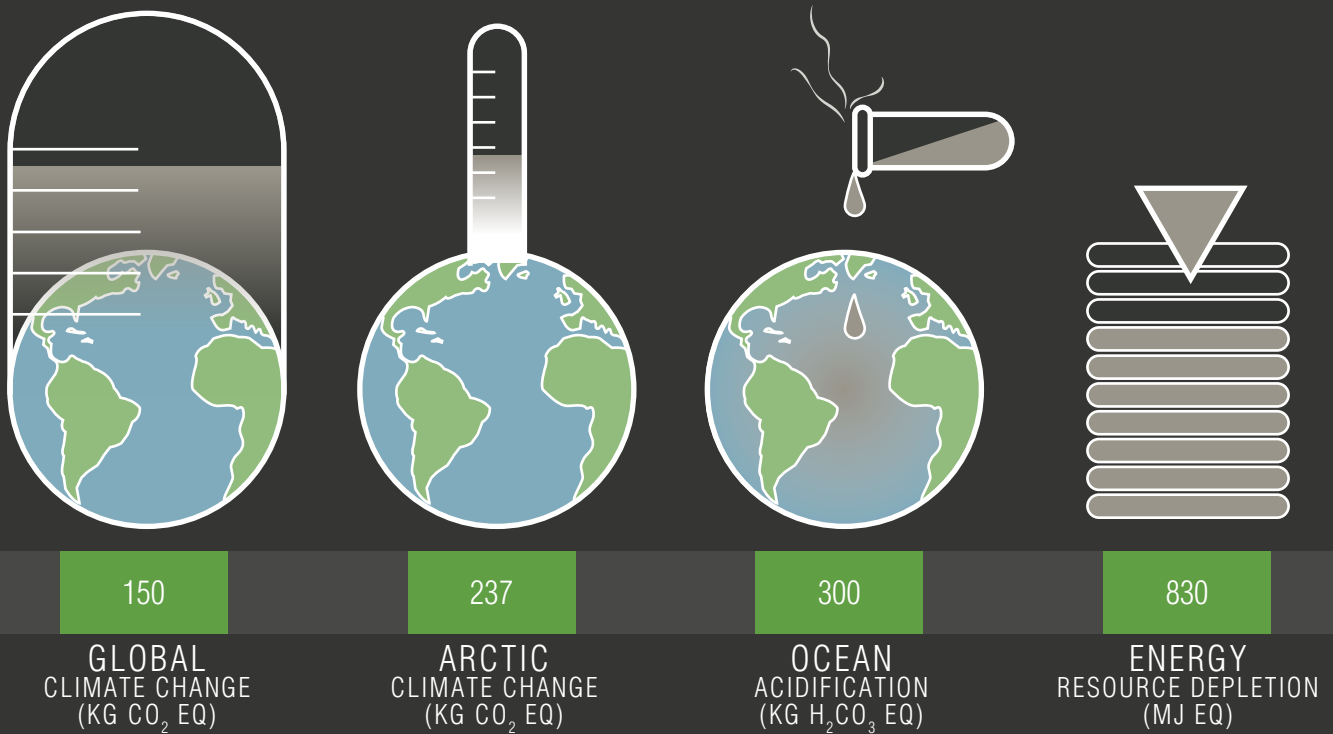


Figure 6: Continued

# LIFE CYCLE IMPACT ASSESSMENT

Additional life cycle impact results are reported below as optional parameters of concern. These impacts are calculated using the LEO-SCS-002 framework, which augments the specified impact categories and method TRACI 2.1, identified by the BIFMA PCR.

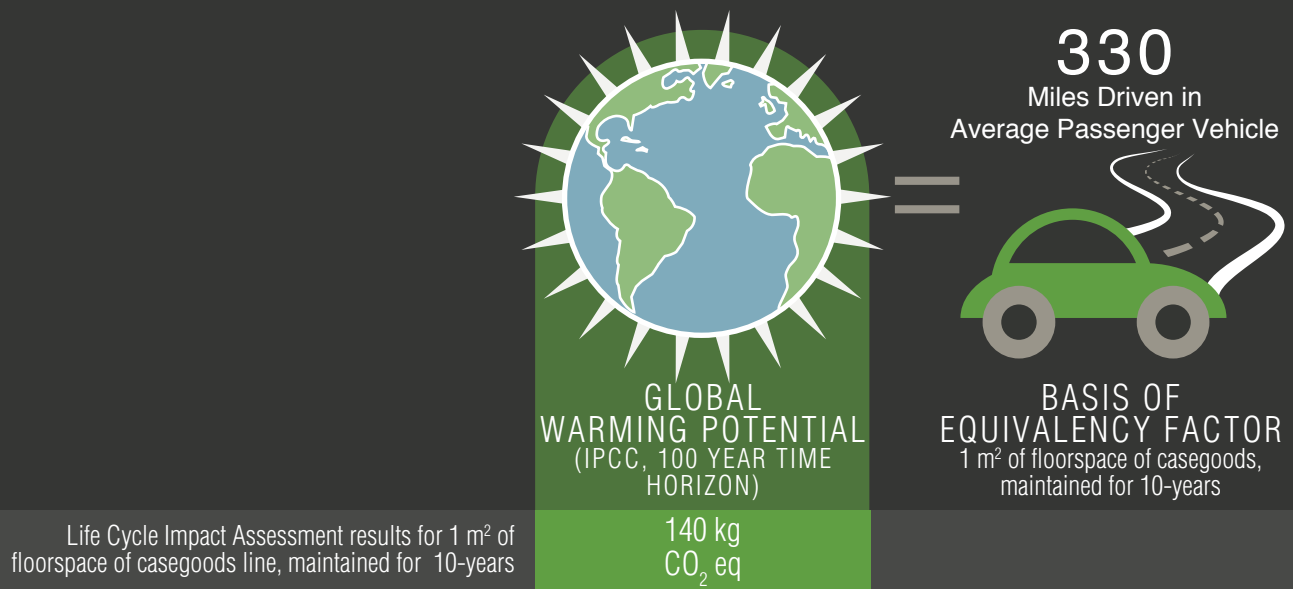
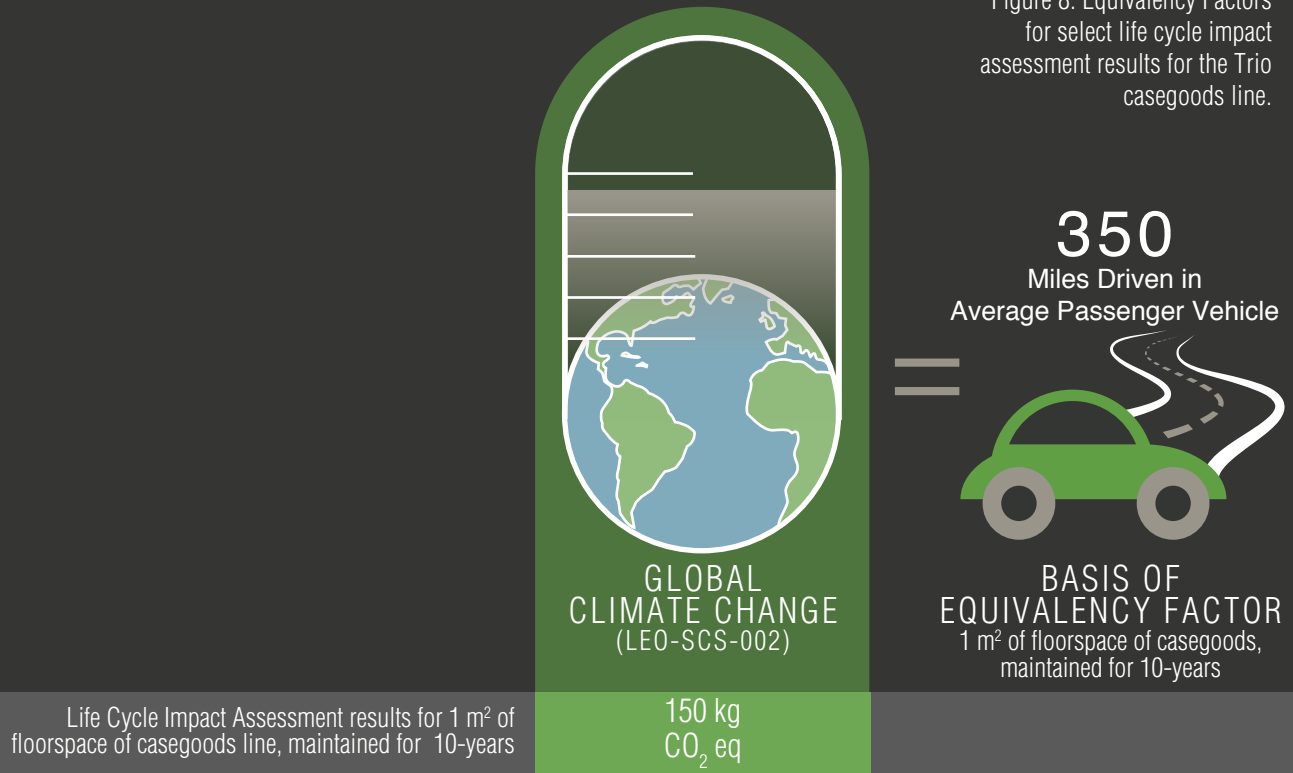
Figure 7: Life cycle impact assessment results for the Trio casegoods line according to LEO-SCS-002 draft standard. Results are shown per functional unit (1 m<sup>2</sup> of floorspace).



# LIFE CYCLE IMPACT ASSESSMENT

Results for select impact category indicators are translated to the number of miles driven in a typical passenger vehicle, and are provided to help customers interpret the scale of potential environmental impact attributed to the product.

Figure 8: Equivalency Factors for select life cycle impact assessment results for the Trio casegoods line.

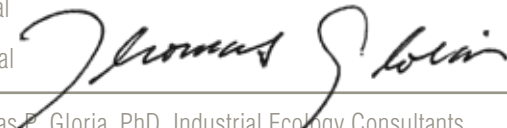


# ADDITIONAL ENVIRONMENTAL INFO

Gunlocke® supports green initiatives in the contract furniture industry as a member of the U.S. Green Building Council (USGBC).

Trio casegoods line is manufactured using FSC controlled wood, and FSC certified wood is available upon request.

Trio casegoods line is certified level®2, as well as certified SCS Indoor Advantage™ Gold. level® 2 certification is a multi-attribute sustainability standard developed by American National Standards Institute (ANSI)/Business and Institutional Furniture Manufacturing Association (BIFMA). SCS Indoor Advantage™ Gold certifies a product's compliance with rigorous indoor air quality emission requirements of California 01350.

PCR review, was conducted by:	Thomas P. Gloria, Ph.D., Industrial Ecology Consultants, <a href="mailto:t.gloria@industrial-ecology.com">t.gloria@industrial-ecology.com</a>
Approved:	June 27, 2017, Valid until June 26, 2022
Independent verification of the declaration and data, according to ISO 14025:2006.	<input type="checkbox"/> Internal <input checked="" type="checkbox"/> External 
Third party verifier:	Thomas P. Gloria, PhD, Industrial Ecology Consultants

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