

COMBO stools



Designed and manufactured as part of a project “Integration of eco-design rules into the educational process of designers” supported by J.W. Fulbright Commission. The project was realized at the FNR Department, Purdue University, IN, USA by Dr. Zuzana Tonicova, Dr. Eva Haviarova, and Ehsan Vahidi Movassagh. The main purpose of this project is to develop a simple, efficient and, as much as possible, a versatile methodical system for the life cycle assessment of simple products suitable for furniture designers. This study shows the difference between environmental impacts of basic material used in furniture production.

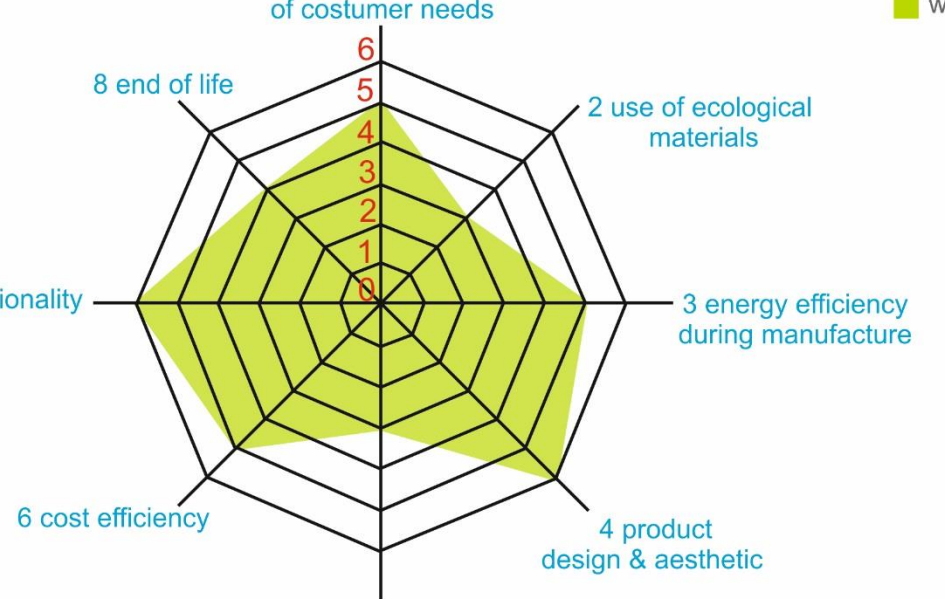
The outputs of a project should help students and designers to integrate eco-design procedures into the process of their creation as well as calculate the environmental impact of basic materials used in the furniture industry in different environmental categories.

The project methodology is based on the benchmarking of three chairs, which were designed and manufactured with a combination of different materials and production technologies. The quantitative LCA was made in LCA software SimaPro 8. Traci method.



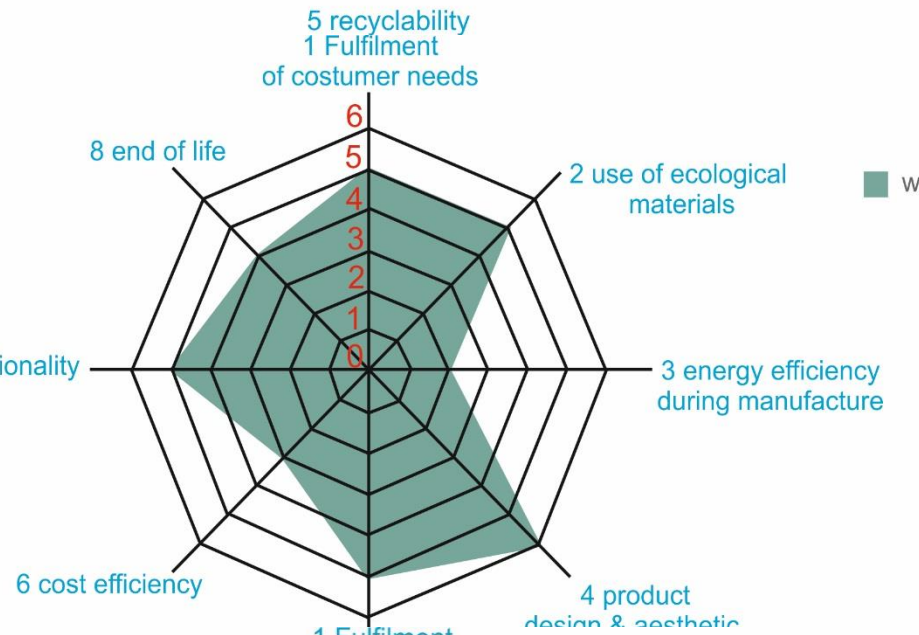
WHITE STOOL

Material: particle board seat base, cork insert, and wooden legs. Legs and cork insert are finished by protective varnish.



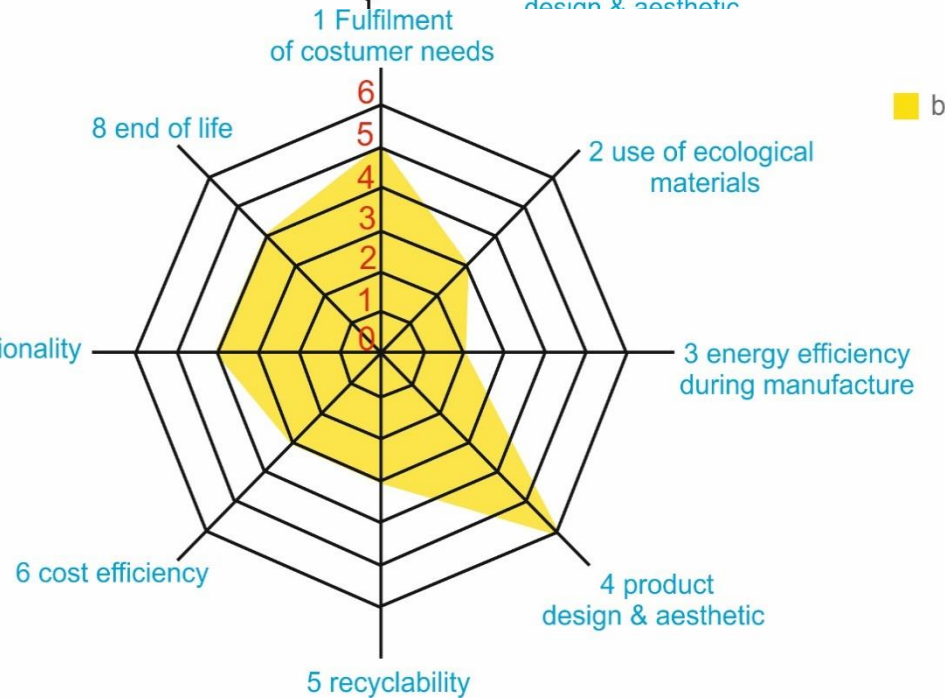
WOODEN STOOL

Material: wooden seat base, silicone insert, and aluminum legs. Wooden seat is finished by protective varnish. Legs are treated by anodizing.



BLACK STOOL

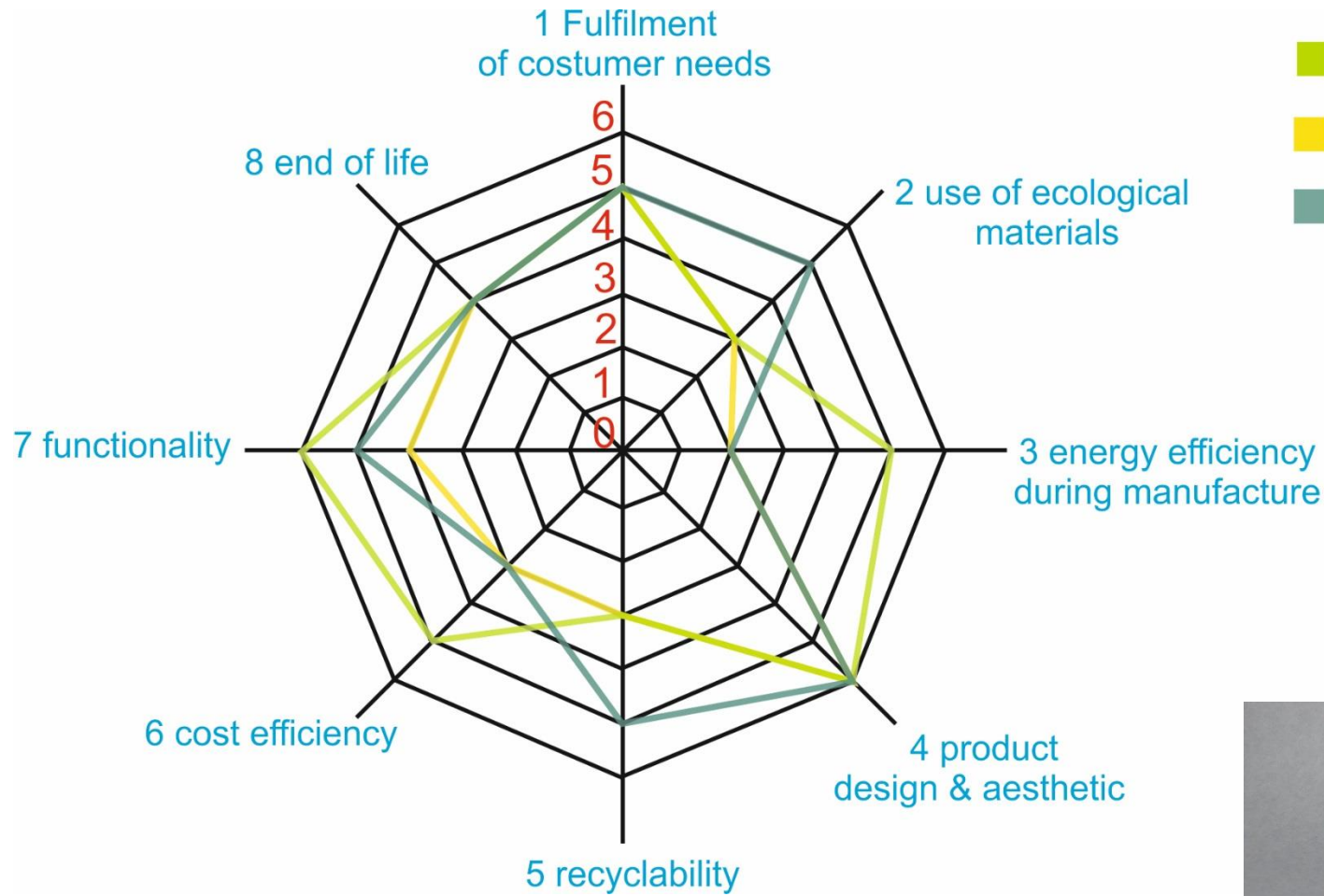
Material: MDF seat base, PUR foam insert covered by polar fleece, steel legs. Seat is finished by protective varnish. Leg are treated by protective coat.



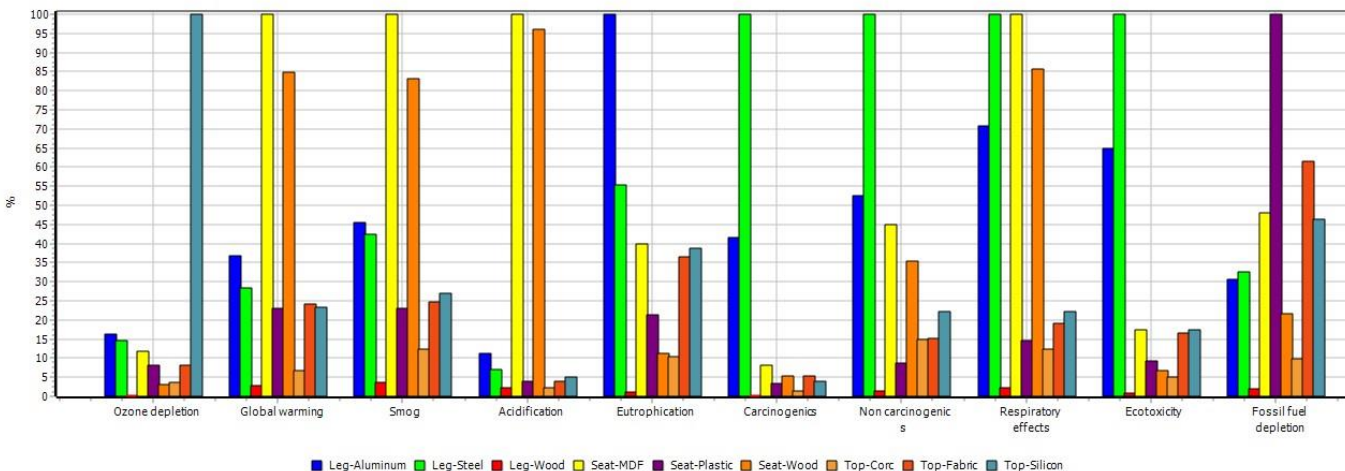
Combo Stools

COMBO STOOLS

Comparing Environmental Impact



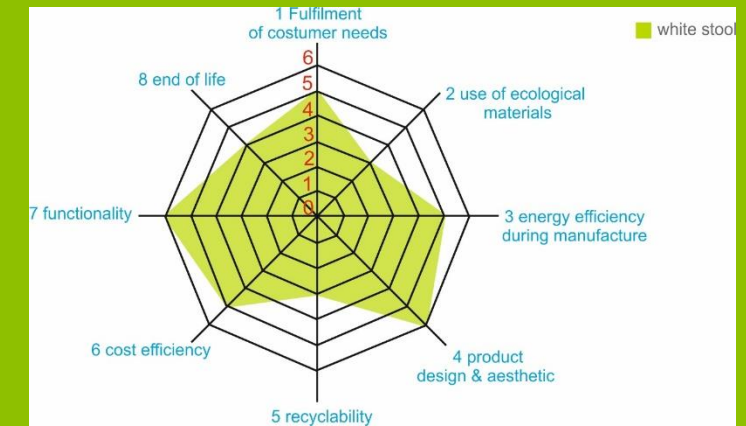
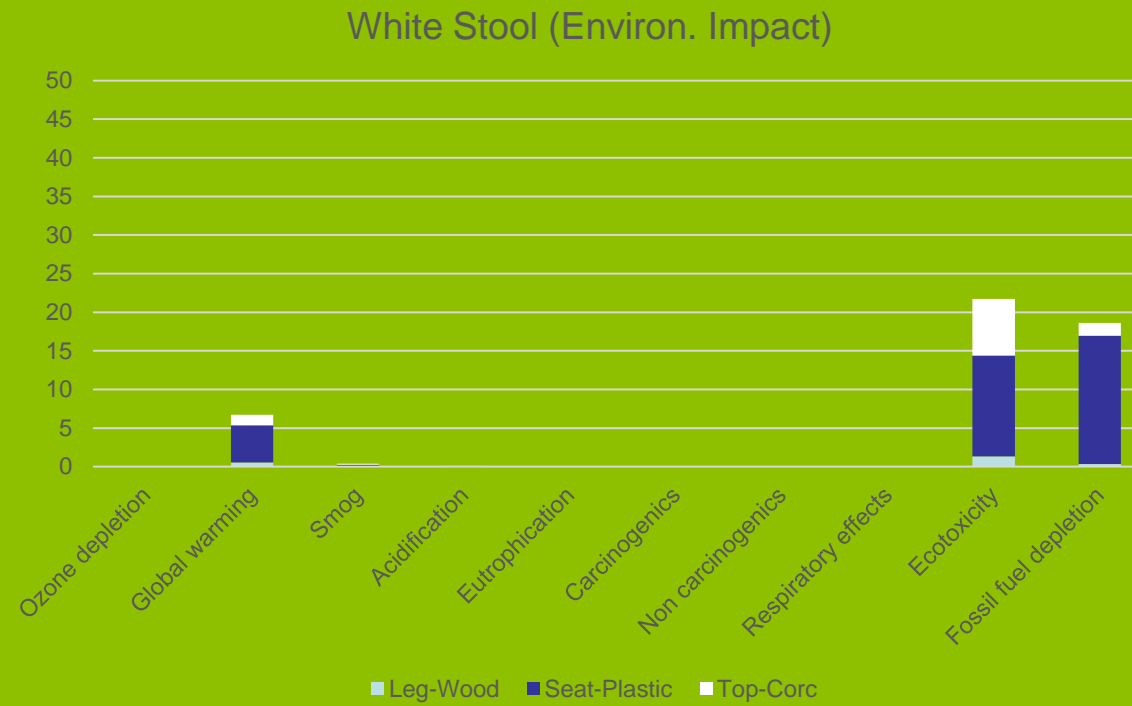
- white stool
- black stool
- wooden stool



Sima Pro analysis by Dr. Eva Haviarova, Purdue University

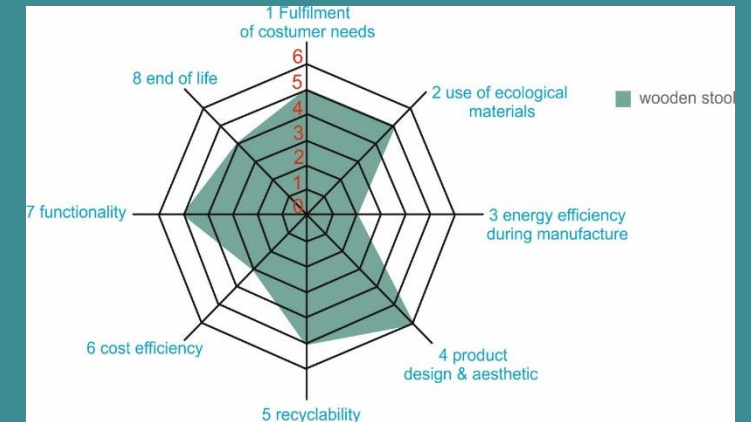
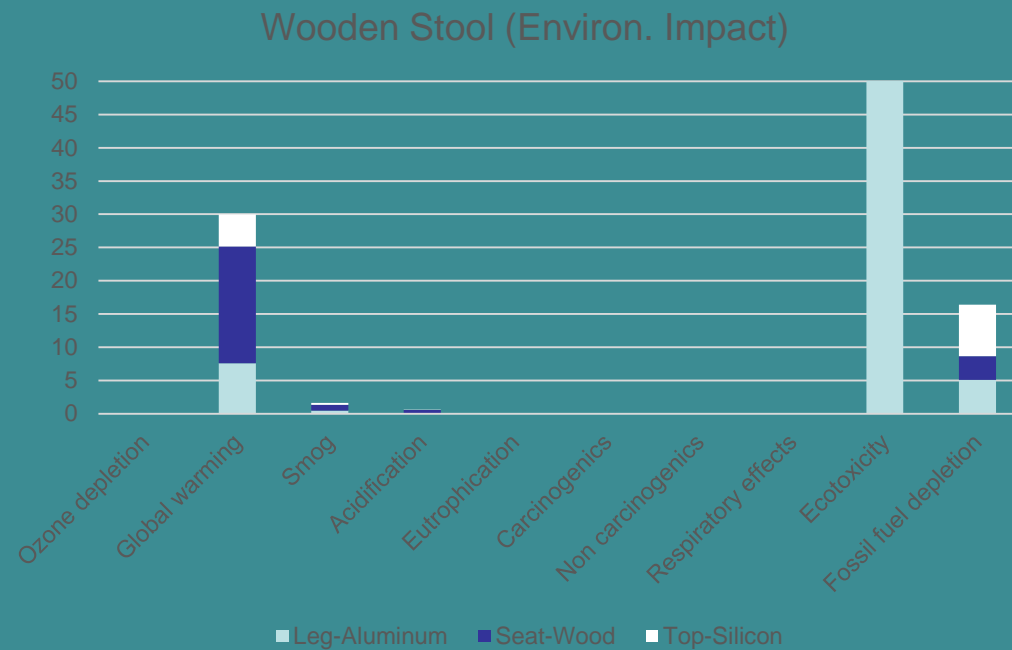
Method: TRACI 2.1 V1.02 / US 2008 / Characterization Comparing product stages;

White Stool



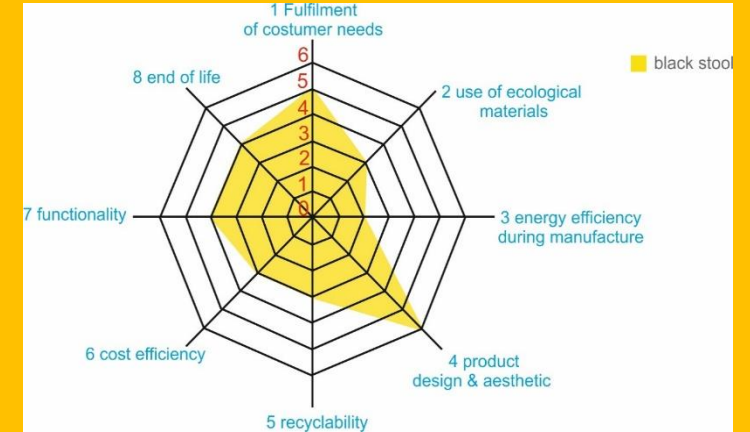
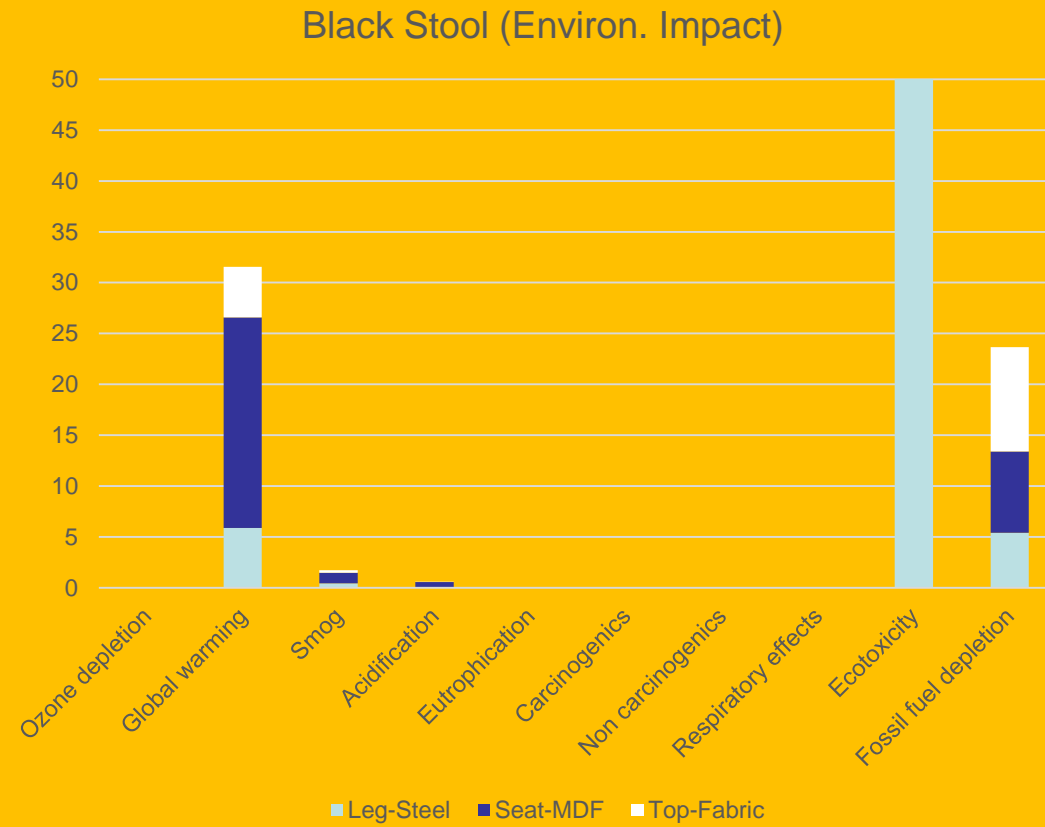
Material: particle board seat base, cork insert, and wooden legs. Legs and cork insert are finished by protective varnish.

Wooden Stool



Material: wooden seat base, silicone insert, and aluminum legs. Wooden seat is finished by protective varnish. Legs are treated by anodizing.

Black Stool



Material: MDF seat base, PUR foam insert covered by polar fleece, steel legs.
 Seat is finished by protective varnish. Leg are treated by protective coat.