**IDFB Life Cycle Assessment Talking Points for Members**

**Background**

* Life Cycle Assessments (LCA) provides an accurate picture of the true environmental trade-offs in product selection. By analyzing the impacts throughout a product life cycle you will gain a comprehensive view of the product and processes, an understanding of where improvements can be made and validity in your sustainability measures. It is your first step in the sustainability journey.
* The Life Cycle Assessment was conducted by [Long Trail Sustainability](https://ltsexperts.com/) (LTS), an independent third-party specializing in product-based environmental analysis reports.
* The LCA conforms to ISO 14040 and 14044 guidelines
	+ Full comparative LCA panel of 3 reviewers
	+ Provides reassurance to the commissioner that the study was done correctly and presents quality information
	+ Provides reassurance to readers that the results presented are backed up by science
	+ Provides solid substantiation against claims of false advertising or “greenwashing”
	+ Reviewers do not endorse product, just state whether the study followed the guidelines

**Process**

* Factory reported Life Cycle Inventory (LCI) data of Down Fill Material includes: Pre washing, Sorting, Washing, Drying, Dedusting and Mixing
* Down System boundaries: Raising of the ducks/geese and processing of the down including energy, water and detergent



* Factory reported LCI data of Polyester Fill Material includes: PET material (from ecoinvent), Electricity and steam for spinning process sourced from literature van der Velden (2014) and with a Lifetime of 2 years (therefore 3 replacements are needed over 5 years, the functional unit duration)
	+ This is tested in sensitivity analyses and does not change the conclusions.
* Polyester System boundaries: Processing the polyester including PET, heat and electricity



* Primary data from the report comes from 8 manufacturers for 2017 annual production data
* Secondary data (Used literature, DATASMART 1 and ecoinvent 3.4 2) was collected for LCI data for raw materials, manufacturing, energy production and Transport

**Areas Assessed for Environmental Impact**

* Human Health: Disability Adjusted Life Years (DALY)
	+ Includes human health impacts from Climate Change, Human Toxicity, Photochemical Oxidant Formation, Particulate Matter Formation, Ionizing Radiation, and Ozone Depletion
* Ecosystems: Species \* yr
	+ Includes ecosystem impacts from Climate Change, Terrestrial Acidification, Freshwater Eutrophication, Ecotoxicity, Agricultural Land Occupation, Urban Land Occupation and Natural Land Transformation
* Resources: $/kg
	+ Includes resource impacts from Fossil Depletion and Metal Depletion
* Cumulative Energy Demand: MJ
	+ Includes nonrenewable and renewable energy sources
* Climate Change: kg CO2 eq.
	+ Combines the effect of the periods of time that the various greenhouse gases remain in the atmosphere and their relative effectiveness in absorbing outgoing infrared radiation

**Results**

* Compared to the polyester fill material, the down fill material has 85% 94% fewer environmental impacts in all impact categories.
* In terms of climate change impacts, polyester has 18 times more impacts than down fill material.
* Even on a per ton basis (not taking into account performance or duration), down has lower impacts than polyester fill material in all categories.
* The majority of the cradle to gate impacts of the down fill material come from energy use and Raising ducks/geese

