## Life Cycle Assessment: Western Digital Ultrastar® DC HC670 Hard Disk Drive (HDD):

Model	0F36176
Product Type	Enterprise SSD
<b>Product Weight</b>	643 gm
Packaging Weight	210 gm
Storage Capacity	26 Terabyte <sup>1</sup>
Model	SATA
Form Factor	3.5 Inch
Application	Enterprise data center application



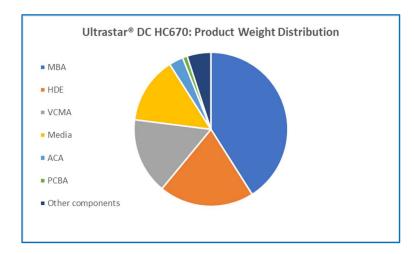
## **LCA Calculation Basis:**

Standard	ISO 14040:2006 and 14044:2006
LCA Software	GaBi ts [Version 10.6.2.9]
Impact Assessment Method	Life cycle impact assessment classification and characterization factors according to
	the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report for
	Global warming Potential (GWP), with 100 years of time horizon for kg CO2
	equivalent (carbon footprint)
Database	GaBi 2022 LCI and ecoinvent 3.7
System Boundary	The system boundaries include:
	<ul> <li>Manufacturing (extraction of raw materials, upstream material preparation,</li> </ul>
	electronic component manufacturing, subassembly manufacturing and final
	assembly of product)
	Distribution to customer located in USA
	Five years of product use
	<ul> <li>End-of-life treatment according to waste management statistics in the</li> </ul>
	customer country
Validation of Study	Validated through 3rd party critical review (EarthShift Global)

 $<sup>^{1}</sup>$ One terabyte (TB) is equal to one trillion bytes. Actual user capacity may be less due to operating environment.

<sup>&</sup>lt;sup>2</sup>\*Absolute climate change impact values & contribution details for each phase will be available upon request

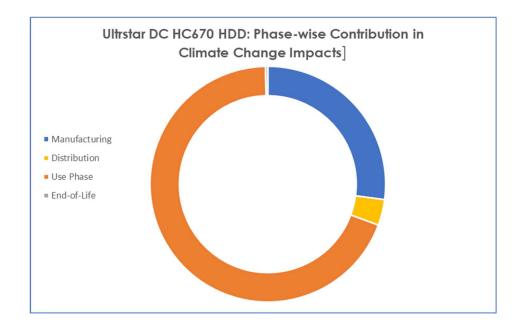
## **Components Used:**



The pie chart shows weight contribution of various components of the HDD. Motor base assembly (MBA) contributes 41% of the weight, followed by HDE [20%], VCMA [16%], and Media [14%]. The remaining 9 % of the weight is from other components

## Breakdown of Carbon Footprint by Life Cycle Stages<sup>2</sup>:

[69%] of the climate change impacts are from the Use phase, followed by the Manufacturing phase [27%], Distribution phase [4%] and End-of-Life phase [<1%]. Use phase impacts are primarily attributable to energy consumed by the product during its useful life. Manufacturing impacts are driven by resource consumption during the product assembly & sub-assembly processes, distribution phase impacts are focused on transportation of the product from the manufacturing location to the customer location.



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