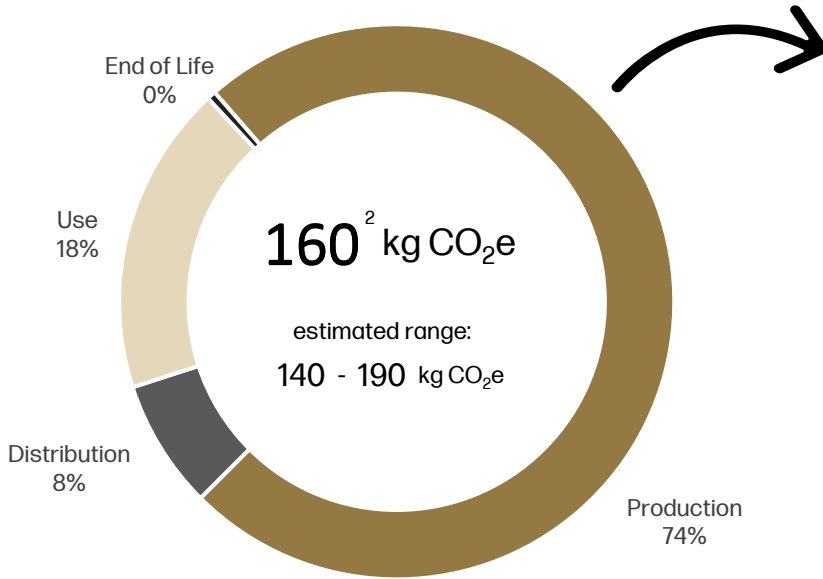


HP ProBook 450 G9



As part of HP's commitment to continually improve product sustainability, one tool HP utilizes is product carbon footprinting (PCF¹). This helps HP to understand carbon impacts and implement reduction opportunities throughout a product's life cycle.

HP's PCFs cover full value chain emissions, which include carbon emissions due to raw materials extraction, component and product manufacturing, distribution, product use, and end-of-service. To learn more about HP's climate efforts, see below and visit hp.com/sustainability.



Manufacturing Breakout	
Mainboard and other boards	30%
Solid State Drive (SSD)	24%
Display	27%
Chassis	9%
Batteries	4%
Power Supply Unit & External Cables	3%
Others ³	3%
Packaging	1%

Assumptions	
Lifetime of product (years)	4
Use location	North America
Use energy demand (kWh/year)	16
Product weight (kg)	2
Screen size (in)	15.6
Memory	256 GB
Storage	8GB

Product carbon footprint results are highly dependent on the tools, carbon emissions data, and assumptions used. To provide the most accurate data, HP uses HP-specific tools, processes, and product data, as well as high-quality lifecycle assessment data. To increase transparency, HP reports the PCF mean and uncertainty range. Since uncertainty will never be minimized completely, HP does not recommend comparison of PCF estimates from different manufacturers.

Key actions driving progress towards HP's climate goals

	<p>Accelerate print and compute-as-a-service Supplies renewal, hardware-as-a-service, and certified pre-owned hardware</p>		<p>Decarbonize our supply chain Drive and support supplier carbon reduction, use of renewable electricity, and adoption of surface transportation, alternative fuels and electric vehicles for product shipments</p>
	<p>Transition to sustainable materials Increase use of renewable materials, recycled plastic and recycled metals</p>		<p>Design for energy efficiency Design in existing and new energy-efficient product technologies</p>

1. A product carbon footprint is defined as the total amount of greenhouse gases emitted directly and indirectly by a product over its lifetime. Greenhouse gas emissions are reported as global warming potential for 100-year time horizon (GWP-100) in units of CO₂ equivalence. Calculations are done in accordance with ISO 14040 & ISO 14044.

2. The information provided here represents the lifecycle carbon footprint of the most common configuration for this notebook. Specifications used in this assessment are listed in the assumptions table. HP reports the estimated mean PCF value along with confidence intervals.

3. Others includes assembly energy, other subassemblies, and all subassemblies packaging and transport.