HP ProBook 4 G2a 14 inch Next Gen AI PC (Notebook)

HP estimates the product carbon footprint (PCF[1]) for its portfolio. This helps identify carbon impacts and implement reduction opportunities. HP's PCFs include emissions from raw material extraction, manufacturing, distribution, use, and end-of-service. Learn more at hp.com/sustainability.

Estimated GHG emissions[2]

	North America	Europe	Asia Pacific
Total PCF	**157 kg CO2e**	**140 kg CO2e**	**154 kg CO2e**
Estimated range kgCO2e	121 - 209	120 - 160	140 - 170
Life Cycle Stage			
Manufacturing	76%	85%	78%
Use	12%	10%	21%
Distribution	11%	4%	< 1%
End of Life	< 1%	< 1%	< 1%

Manufacturing Breakout	
Main board and other boards	30%
Display	27%
Solid state drive (SSD)	24%
Chassis	8%
Others[3]	5%
Batteries	3%
Power supply unit & external cables	3%
Packaging	<1%

Assumptions	
Lifetime of product (years)	4
Use energy demand (kWh/yr)	14.7
Memory	8GB
Storage	256GB

HP developed its internal LCA methodology, following ISO 14040 & 14044 standards, for estimating GHG emissions using HP-specific data. HP's LCA tools are third-party audited. Materials transformation, manufacturing, and transportation emission factors are sourced from Sphera®. Use phase emissions consider energy efficiency reports, like Energy Star, and emission factors from the International Energy Agency (IEA). These vary by country due to specific energy mixes. Three regional scenarios are presented, which have different energy emissions conversion for the use phase. End-of-life scenarios are modeled based on a representative sample of material disposal and recycling rates from various countries. PCF results depend on tools, data, and assumptions. To enhance transparency, HP reports PCF estimated range. Due to inherent uncertainty, HP advises against comparing PCF estimates from different manufacturers.

Key actions driving progress towards HP's climate goals

Accelerate sustainability services

Extend product life through Repair, IT Asset Disposition, Refurbishment, Managed Services and HP certified refurbished Hardware.

Transition to sustainable materials

Increase use of renewable materials, recycled plastic and recycled metals.

Decarbonize our supply chain

Drive and support supplier carbon reduction, renewable electricity, surface transportation, alternative fuels, and electric vehicles for product shipments.

Design for energy efficiency

Design in existing and new energy-efficient product technologies.

1. A product carbon footprint is defined as the total amount of greenhouse gases (GHG) 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 CO_2 equivalence.
2. The information provided here represents the lifecycle carbon footprint of the most common configuration for this product. Specifications used in this assessment are listed in the assumptions table. HP reports the estimated mean PCF value along with confidence intervals. Individual values may not sum to total due to rounding.
3. Others include assembly energy, other subassemblies, and all subassemblies packaging and transport.

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