

## NEW ENVIRONMENTAL STUDY COMPLETE!

### Clover Imaging Remanufactured Toner Cartridges Have a Lower Environmental Impact than OEM

Aspire Sustainability was commissioned by Clover Imaging Group to perform a comparative Life Cycle Assessment (LCA) study of representative remanufactured toner cartridges versus their original equipment manufacturer (OEM) counterparts.<sup>i</sup> The comparative LCA study has a cradle-to-grave perspective.

Based on the environmental indicators evaluated and the data and assumptions used in this study, the Clover Imaging remanufactured black and color toner cartridges were found to exhibit lower environmental life cycle impacts compared to their OEM counterparts in ALL the statistically significant impact categories studied. Sensitivity and uncertainty analyses indicate that the results were robust with respect to key assumptions and are statistically differentiated.

Here are some of the key findings from the third-party, peer reviewed LCA:



RECYCLED  
CONTENT<sup>v</sup>

#### Clover Imaging Remanufactured Black Toner Cartridge Compared to OEM Equivalent Cartridge



CARBON FOOTPRINT <sup>ii</sup>

**53%**

LESS CARBON



ENERGY FOOTPRINT <sup>iii</sup>

**59%**

LOWER ENERGY



NATURAL RESOURCES <sup>iv</sup>

**52%**

LESS IMPACT

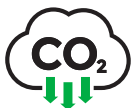


HUMAN HEALTH <sup>v</sup>

**66%**

LOWER IMPACT

#### Clover Imaging Remanufactured Color Toner Cartridge Compared to OEM Equivalent Cartridge



CARBON FOOTPRINT <sup>ii</sup>

**49%**

LESS CARBON



ENERGY FOOTPRINT <sup>iii</sup>

**52%**

LOWER ENERGY



NATURAL RESOURCES <sup>iv</sup>

**40%**

LESS IMPACT



HUMAN HEALTH <sup>v</sup>

**70%**

LOWER IMPACT

## Remanufactured Printer Cartridges as a Percentage of OEM Impacts

Across all environmental categories studied, Clover Imaging remanufactured toner cartridges had a lower environmental impact compared to the equivalent OEM cartridges. Remanufacturing reuses an existing OEM cartridge shell and many of the components which makes it superior to recycling in that it doesn't require the additional energy expenditure that recycling requires to convert one good to another.

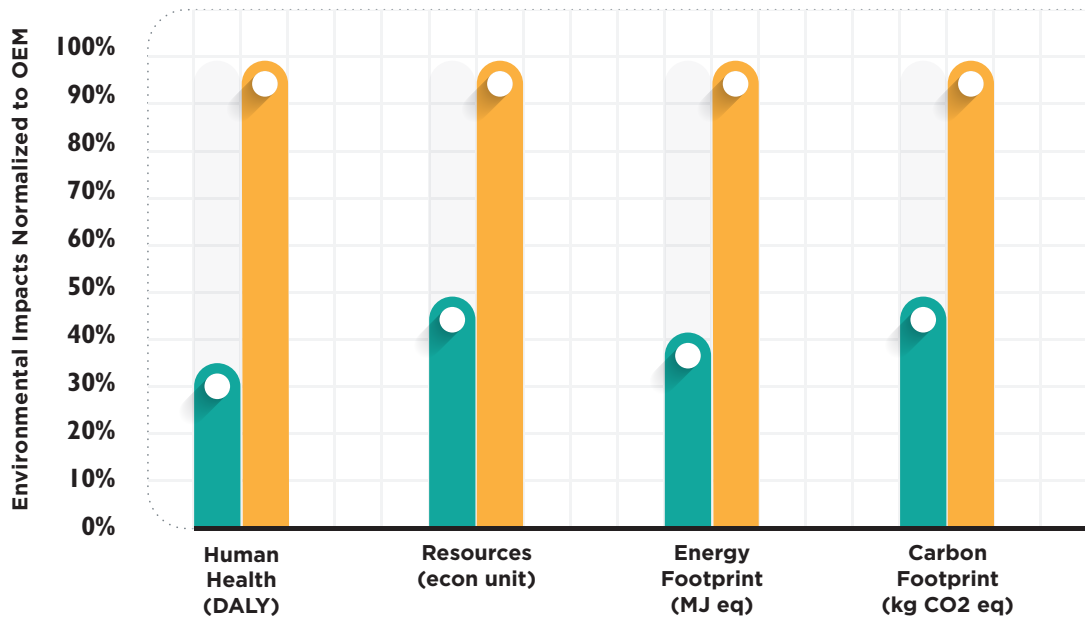
### Black Cartridge



**Clover Black Toner Cartridge:**  
Item No. 200891P



**OEM Black Toner Cartridge:**  
HP CF226A



BLACK CARTRIDGE

**CLOVER IMAGING**  
**BLACK TONER CARTRIDGE:**  
Item No. 200891P

**OEM**  
**BLACK TONER CARTRIDGE:**  
HP CF226A

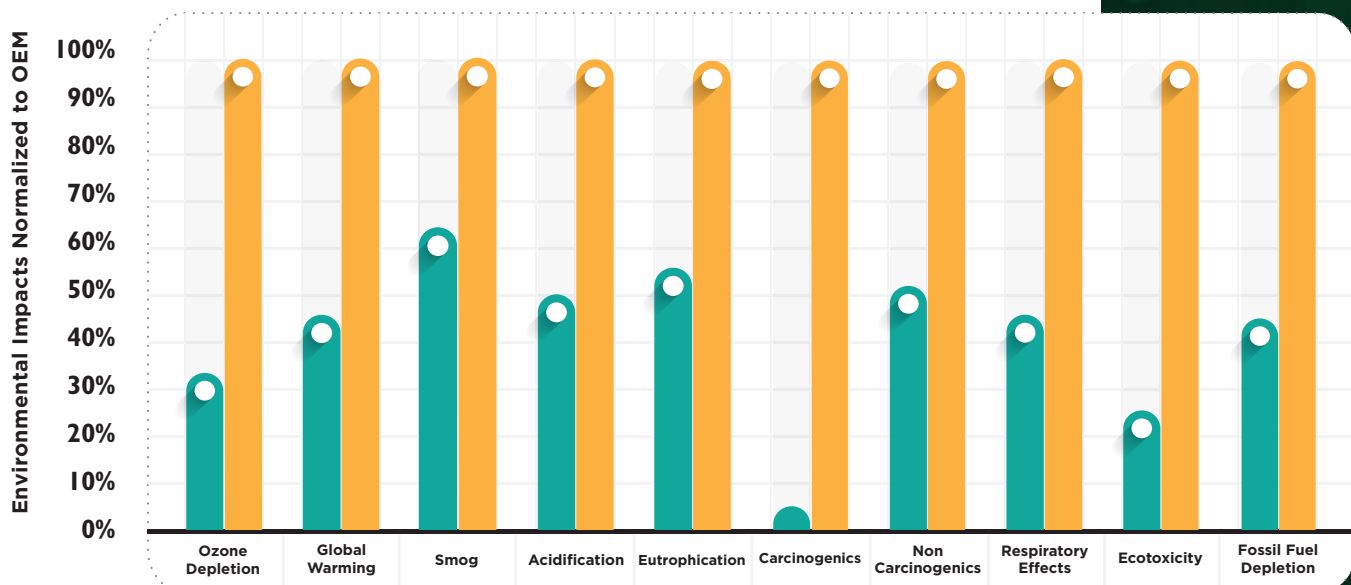
### Black Cartridge



**Clover Black Toner Cartridge:**  
Item No. 200891P



**OEM Black Toner Cartridge:**  
HP CF226A



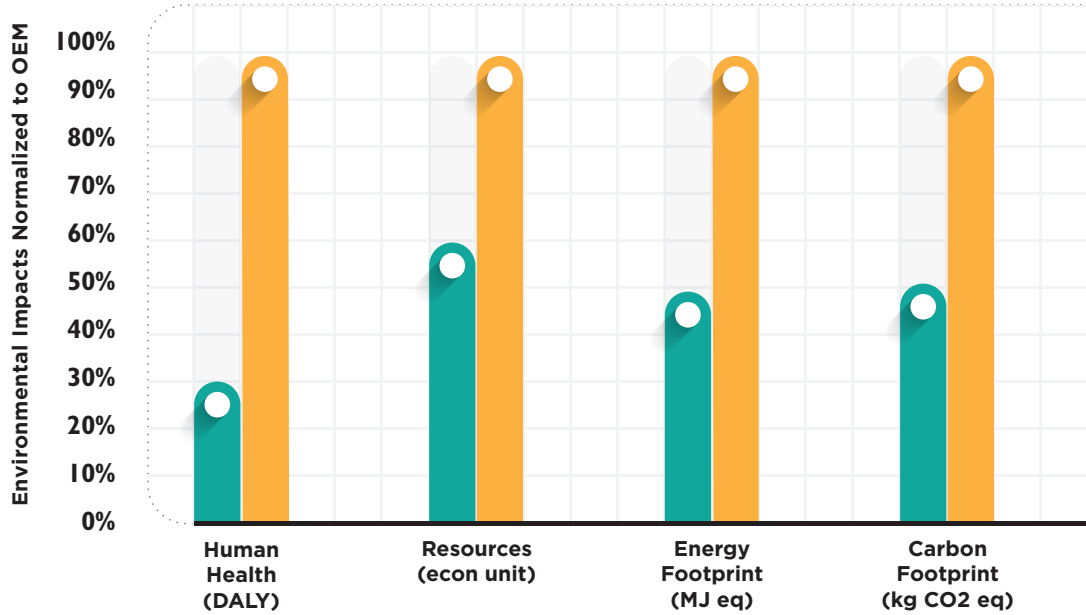
## Environmental Impacts of Clover Imaging Remanufactured Cartridges as a Percentage of OEM



COLOR CARTRIDGE

**Color Cartridge**

● **Clover Color Toner Cartridge:**  
Item No. 200945P
 ● **OEM Color Toner Cartridge:**  
HP CF410A

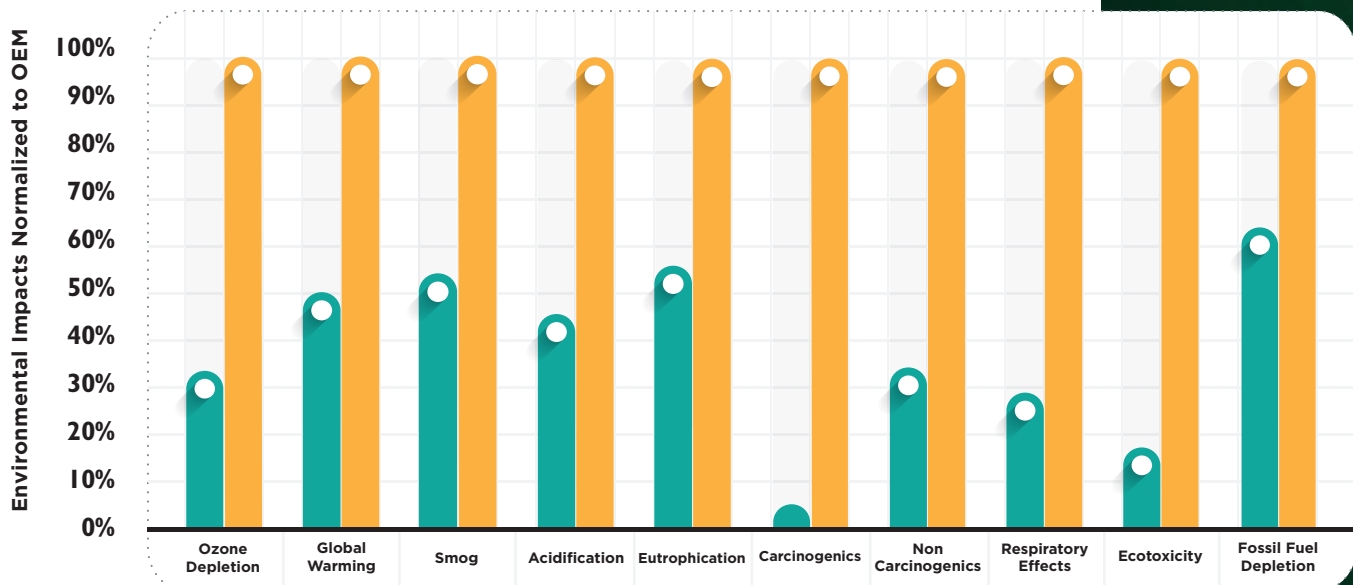


**CLOVER IMAGING**  
**COLOR TONER CARTRIDGE:**  
Item No. 200945P

**OEM**  
**COLOR TONER CARTRIDGE:**  
HP CF410A

**Color Cartridge**

● **Clover Color Toner Cartridge:**  
Item No. 200945P
 ● **OEM Color Toner Cartridge:**  
HP CF410A





## Calculate Your Environmental Impact

To get an estimate of how much you can reduce your carbon footprint with Clover Imaging remanufactured printer cartridges, try our environmental calculator.

[cloverimaging.com/environmental-calculator](https://cloverimaging.com/environmental-calculator)



## Remanufacturing Empty Collections

Clover Imaging offers a cartridge collection program that accepts your empty cartridges and provides them with another useful life. In addition to downloadable postage-paid labels, you will receive sustainability reporting to document your positive environmental impact.

[Learn more at cloverimaging.com/remman](https://cloverimaging.com/remman)

## Clover Imaging Environmental & Quality Certifications



## REFERENCES

- i 2022 Aspire Sustainability Comparative LCA, commissioned by Clover Imaging Group.
- ii Global Warming Potential / Carbon Footprint / Climate Change:  
The global warming potential impact category refers to the warming that can occur due to emissions of greenhouse gases from human activities. This warming can lead to changes in the global climate which can cause negative impacts to human and ecosystem health.
- iii Energy Footprint/Cumulative Energy Demand:  
The energy footprint is the energy needed throughout a product's life cycle and includes non-renewable (fossil and nuclear) and renewable (biomass, water, solar, wind, geothermal) energy sources. The Cumulative Energy Demand (CED) of a product is the direct and indirect energy use throughout the life cycle, including the energy consumed during the extraction, manufacturing, and disposal. The CED method considers both renewable and non-renewable energy and the direct and indirect energy consumption.
- iv Natural Resources:  
The Resources score reflects depletion of the Earth's fossil and mineral resources. This category measures the geological distribution of mineral and fossil resources and assesses how the use of these resources causes marginal changes in the efforts to extract future resources. The quantification of damage to resource availability is based on the marginal increase in the cost of extracting resources, measured as dollars.
- vi Human Health:  
The Human Health score sums a variety of environmental impacts related to human health such as smog and ozone depletion. DALY stands for "Disability Adjusted Life Years," which is a measure of quality of life.
- v Based on empty cartridge weight