

Dell sustainable products & solutions

Leading the industry in sustainable practices to reduce the environmental impact of our products and packaging.



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Advancing our sustainability goals

We are working across all areas of our business to drive sustainable progress and innovation at every opportunity. Our climate and circular economy goals are how we track our progress and long-term impact on our business, our customers, and the planet.



CLIMATE ACTION

NET ZERO BY 2050

- We will reach net zero greenhouse gas emissions across scopes 1, 2 and 3 by 2050.
- By 2030, we will reduce:
- Scopes 1 and 2 GHG emissions by 50%.
 - Absolute scope 3 GHG emissions from purchased goods and services by 45%.
 - Absolute scope 3 GHG emissions associated with the use of sold products by 30%.

CIRCULAR ECONOMY

2030 GOALS

- For every metric ton of our products a customer buys, one metric ton will be reused or recycled
- 50+% of our product contents will be made from recycled, renewable or reduced carbon emissions material
- 100% of our packaging will be made from recycled or renewable material, or will utilize reused packaging

Driving sustainable innovation

For 30 years, Dell Technologies' commitment to climate action and the circular economy has helped us drive innovation for our industry, customers, and the communities we serve.



PRODUCTS

We incorporate sustainability throughout the product lifecycle using circular designs and materials while optimizing energy efficiency so you can reduce your IT carbon footprint



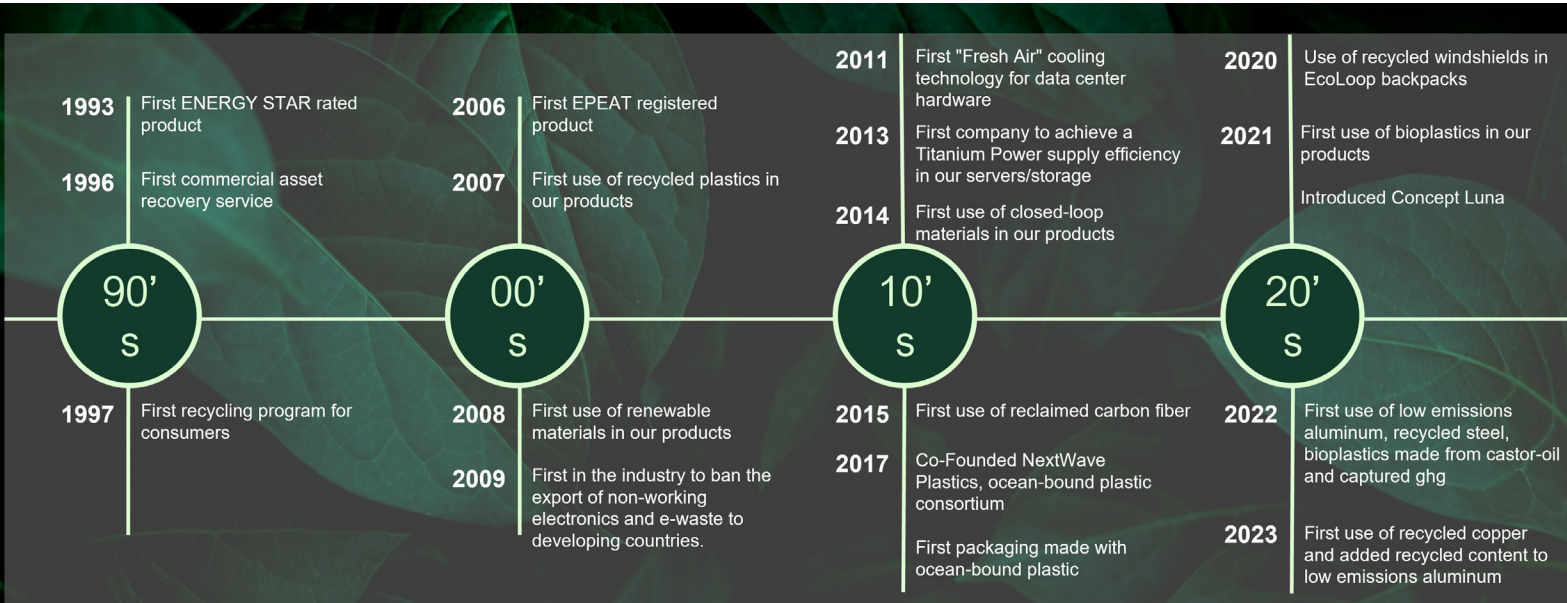
PACKAGING

We make our packaging from recycled or renewable materials and also making it easily recyclable so you can have a better unboxing experience while ensuring recyclability



Future Ready

We invest in innovative technologies, using data insights and understanding future advancements so you can confidently achieve your organization's sustainability goals



Lifecycle of a product

From the materials in our products and packaging, to the strength and integrity of our supply chain, we look for every opportunity to make, deliver, reuse, and recycle our products responsibly and sustainably.

Recover & Recycle



We offer many solutions for reusing or recovering used tech of any brand.



[Learn more at Dell.com/recycle](https://Dell.com/recycle)



Design

Our products are efficiently designed to require fewer materials, utilize environmentally responsible materials, and maximize reusability and recyclability.



Use



We are lowering the energy intensity of our technology to reduce energy waste, emissions and operational costs.



Build

We focus on operational efficiency and conservation, using renewable electricity and avoiding waste in all forms whenever possible.



Ship

We use rapidly renewable packaging materials and efficient configurations to create a smaller transportation footprint.

Circular design principles

To reduce the impact of our business on people and the planet, we implement circular design principles to make our products easy to repair, reuse, and recycle. By using sustainable materials, we extend product longevity and continuously recover materials creating a circular economy.

DESIGN FOR HARVEST

Making it easy to harvest parts and recover materials to reuse, recreate, and recycle



EVOLVED BUSINESS PRACTICES

Providing product take-back, cascaded ownership, and as-a-service programs



SUSTAINABLE MATERIALS

Building with circular or reduced-impact materials choices, using high-grade materials streams



REPAIR/REFURBISHMENT

Creating with modular designs, simplified access to components



DEMATERIALIZED/OPTIMIZED

Reducing materials needed, optimizing and streamlining architecture



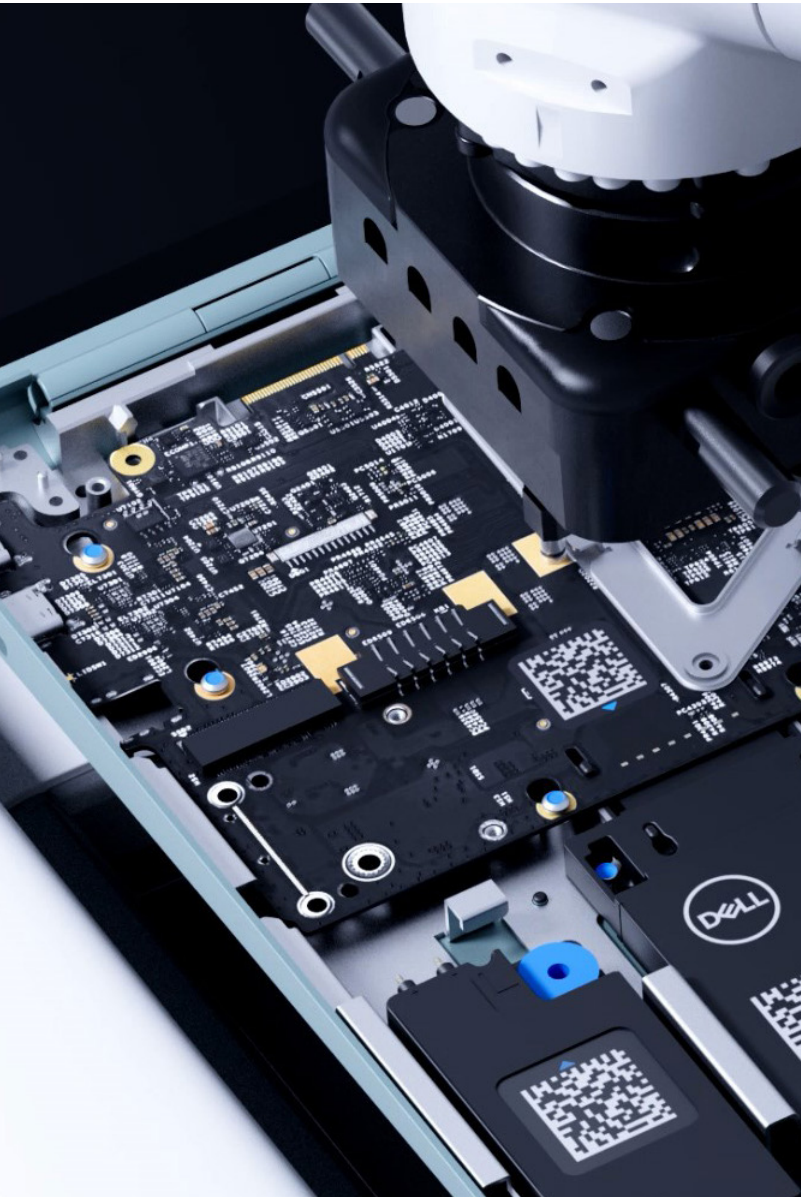
DURABILITY/MODULARITY

Engineering to withstand more during use, extending life where possible



Concept luna

At Dell Technologies, we are committed to climate action and supporting the circulareconomy. Concept Luna is an innovative prototype that explores how to address an interconnected and circular system supporting the future of PC manufacturing.



Devices and solutions shown are concept design and not available for purchase

Created to test what could be possible, not to be manufactured and sold, design ideas in Concept Luna explores making components easily accessible, replaceable, and reusable, pushing the boundaries of sustainable design beyond the device. Our use of intelligent telemetry and robotic automation could help scale PC innovation.

Part of an aspirational workstream led by our design engineers and asking the “what if” questions, Concept Luna provides the freedom and flexibility to test innovative ideas outside of regular design cycles. Our teams experiment boldly with transformative technologies to help reduce our environmental impact and move our industry forward responsibly and sustainably.

Sustainable Design:

We design Concept Luna for easy disassembly and harvesting using modular design techniques, we reduce the time needed to repair, upgrade or recovery components for reuse and recycling.

Intelligent Telemetry:

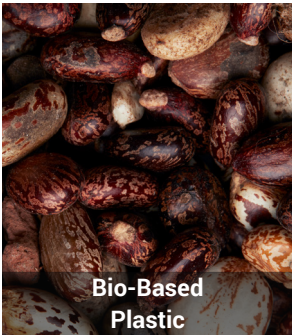
Telemetry determines which components can be reused in another device. By using onboard diagnostics and external AI image sensors, we can assess component health and remaining usable life to help inform proactive repairs and maximize longevity and component reuse at scale.

Robotic Automation:

Using a micro factory, we are exploring revolutionary methods to automate service, repair, and recycling of devices. Informed by telemetry, robotic automation would enable quick diagnostics, repair, and reassembly of devices.

Sustainable materials

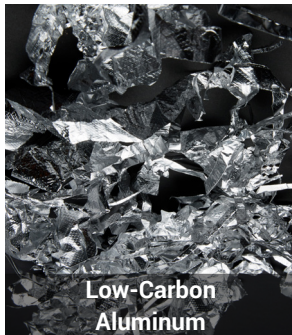
We are investing in sustainable materials to reach our goals. By 2030, 100% of our packaging and more than 50% of our product content will be made from recycled or renewable materials.



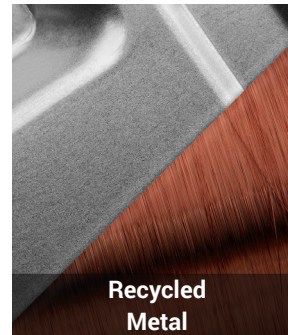
Castor beans, tall oil and POM Eco B are naturally-replenishing alternatives to plastic.



Our packaging is created from bamboo, recycled paper pulp, and sugarcane fibers.



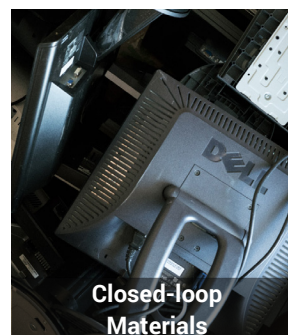
Hydropower-produced aluminum reduces carbon emissions by 70% over coal power.²



Using recycled metal reduces our dependence on mining and processing new materials.



Post-consumer recycled plastic allows us to reuse existing materials, decreasing our need for new plastic.



Recovered e-waste is used to make parts for new devices and keeps components in the circular economy.



We've saved over 443,000 pounds of plastics from the ocean, recycling them for use in our products and packaging.³



Carbon fiber reclaimed from the aerospace and other industries is recycled for use in our laptops.

Responsible packaging

As a leader in responsible packaging, we strive to reduce waste and drive innovation to find recycled and renewable alternatives that protect our products while in transit. We aim to deliver all our products in packaging made from 100% recycled or renewable materials by 2030.



Sustainable Packaging

Our packaging is designed to maximize its recycling potential by using recycled and renewable materials. From PC devices, displays, and peripherals, to servers, storage, and networking – we design and package our products using recycled or renewable materials where possible.



We have packaging made from 100% recycled or renewable material on majority of our commercial notebooks.⁴

Multipack Solutions

Simplified Unboxing: To save time when deploying and installing new equipment, shipping multiple products in a single package reduces the time it takes to unbox and clean up packaging materials.

Easier to Manage, Less to Organize: Multipack increases the number of products on each pallet resulting in significant space savings with less packages to account for in planning and organization.

More Sustainable: By efficiently packing and shipping our products with fewer boxes and increased pallet sizes, we reduce the amount of goods transported and create less waste for our customers.

Evolving Our Business

We have already reduced the energy intensity across our entire product portfolio by 76% since 2010.⁵ By 2050, we have committed to achieving net zero greenhouse gas emissions and reduce the environmental impact of our products without compromising the power and performance of our technology.

Ecolabels

We adhere to the highest standards of sustainability set by the following ecolabels:

- ENERGY STAR
- EPEAT
- TCO
- 80 PLUS
- China Environmental Labeling Program (CELP)

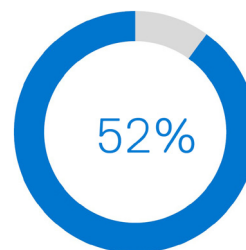
Dell has
300+
EPEAT registered products⁶

Efficient Client Devices

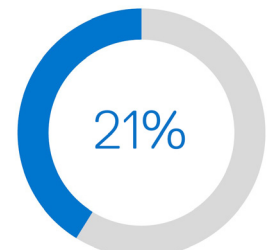
Energy Efficiency: To drive down the power consumption of our devices, we use energy-smart fans and efficient circuit boards, processors, power supplies, and memory.

Intelligent Devices: Our AI-based optimization software, Dell Optimizer – learns and responds to how users work, so you never have to compromise on performance or efficiency.

Efficient Workspaces: Using energy efficient devices beyond the PC, such as displays and peripherals with built-in eco settings, reduces wasted energy whether at home or in the office.



Reduction in energy intensity across client devices portfolio since 2016.⁷



Improvement in performance per watt with Dell Optimizer when Thermal Management feature is set to Quiet mode.⁸

Energy efficient infrastructure

Our technology and services allow us to partner on your journey to achieve a modern and sustainable data center. We can help you utilize equipment designed for efficient energy and reduced heat while optimizing and consolidating your infrastructure and hardware.

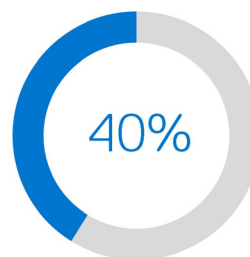


Efficient Infrastructure

Energy Efficiency: Energy costs make up 40-60% of a data center's operating costs, that is why we are making our technology more efficient and less intensive to reduce energy waste.⁹

Thermals & Cooling: We engineer new ways to address the heat generated by our powerful machines. By reducing the heat, we can avoid energy wasted cooling the data center.

Infrastructure Consolidation: We make our technology denser while simplifying data storage to reduce physical and carbon footprints in the data centers.



More energy efficiency in our new PowerMax systems¹¹

Responsible asset retirement

We offer convenient retirement solutions, accepting all brands, while protecting customer data, providing value back and reusing materials to extend product lifecycles and accelerate the circular economy. By 2030, for every product we sell, we will reuse or recycle an equivalent product.



Asset Recovery Services (ARS)

Commercial customers can seamlessly transition from old to new technology by responsibly recycling out-of-use and legacy equipment – regardless of brand. We manage the entire disposition process and leverage our security expertise and environmental compliances so that customers can reinvest value into their business so together, we protect the environment.¹²

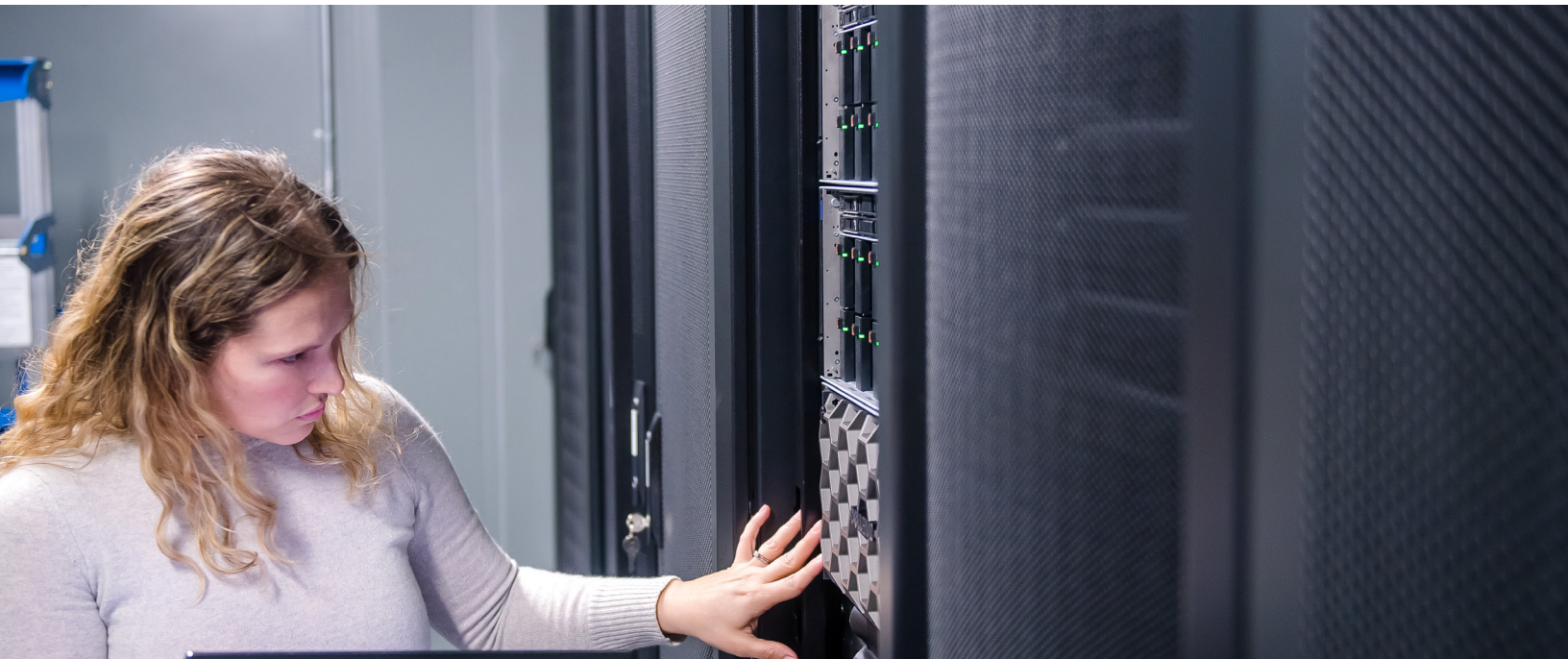


Dell Trade In

Consumers can easily retire eligible personal electronic – of any brand, in any condition – for instant credit to purchase Dell products and services. By trading-in, consumers are contributing to reducing e-waste and keeping materials within the circular economy.¹³

Evolving Our Business

We offer convenient retirement solutions, accepting all brands, while protecting customer data, providing value back and reusing materials to extend product lifecycles and accelerate the circular economy. By 2030, for every product we sell, we will reuse or recycle an equivalent product.



APEX and as a Service (aaS) Offerings:

Businesses often overprovision their data centers leading to wasted energy. As a Service offerings, including APEX, allows our customers flexibility to maximize performance and right-size their current IT environments.



Technology Rotation Program

To help businesses drive transformation, our Technology Rotation Program allows organizations to optimize the lifecycle of their technology equipment. This allows them to benefit within their business operations and maintain cash flow flexibility, while contributing to the circular economy.

Featured products

DEVICES



Latitude 5440 Laptop

A lightweight and powerful laptop, made with ocean bound plastic, reclaimed carbon fiber, recycled bioplastic and bio based rubber¹²

Ships in our new 100% recyclable packaging¹³



Precision 3580 Workstation

Designed with ocean-bound plastic, reclaimed carbon fiber, recycled bioplastic and bio based rubber¹⁴

Packaging made from 100% recycled or renewable materials¹⁵



OptiPlex Micro

Made with up to 65% post consumer recycled plastic¹⁶

Design also includes components with ocean-bound plastic¹⁷



XPS 13 Plus Laptop

Utilizes a chassis made from low-carbon aluminum, which has a 70% lower carbon footprint than a coal produced aluminum chassis.¹⁸

Ships in all new packaging made from 100% recyclable content¹⁹



Inspiron 13 Laptop

Bottom bumper of the laptop is made with 46% renewable bio-based TPU (Thermoplastic Urethane) material.²⁰

Ships in packaging made with up to 100% recycled or renewable content and is also 100% recyclable²¹



Latitude 9440 2-in-1 Laptop

Built using 26% recycled plastic²² and ships in our new premium 100% recycled packaging²³

PERIPHERALS



Dell 24 Monitors P2423

Meets Energy Star 8.0 and EPEAT Gold standards. Designed with up to 85% post-consumer recycled plastic and 90% recycled aluminum²⁴

Ships in select packaging components made with up to 90% recycled materials²⁵



Dell Thunderbolt Dock WD22TB4

Made with up to 11.7% post-consumer recycled content²⁶

Ships in packaging made with up to 90% recycled content²⁷



EcoLoop Pro Backpack

Designed for organization and comfort, this product uses 100% ocean-bound plastic in the exterior main fabric

Ships in Packaging made with 100% recycled content in the hang tag, hang loop, plastic bag²⁸

SERVERS & STORAGE



PowerEdge R660 Rack Server

New "Smart Flow" configurations delivers up to 14.6% more airflow than the traditional 10 x 2.5" chassis²⁹



PowerEdge R7625 Rack Server

Delivers up to 55% CPU performance per watt improvements³⁰.



PowerStore

80% power savings per TB with PowerMax and 60% more IOPs per watt with PowerStore³¹

1 [Per Dell Technologies FY21 Progress Made Real Report.](#)

2 Based on internal analysis, March 2023.

3 Per FY22 ESG Report

4 Premium Packaging: Approximately 78% recycled content and 22% renewable content in the form of FSC paper fibers. Excludes optional items added to order and included in box. Enhanced Packaging: Approximately 95% recycled content and 5% renewable content in the form of FSC paper fibers. Excludes optional items added to order and included in box.

5 Based on internal analysis, April 2021.

6 Based on EPEAT Registry data as of October 2022, varies by country.

7 Based on Dell Internal Analysis, November 2022. Energy intensity reduced by 52%. Measured between FY17 and FY21.

8 Based on internal study, testing power and performance within our Dell Optimizer power module. These workers primarily focus on general compute activities such as video conference calls, web browsing and general response time of opening and closing applications. [Whitepaper](#) published, November 2022.

9 Based on calculations using Schneider Electric's Data Center PUE Calculator assuming a range of 1.4-1.6 PUE.

10 Based on internal analysis, June 2022.

11 Based on internal analysis, June 2022.

12 Asset Recovery Services available in 36 locations.

13 Dell Trade In services only offered in the U.S.

14 Based on Dell internal analysis, November 2021. Percentage of bio based and recycled content by weight. Statements applies to Latitude 5000 series and future devices, starting April 2022.

15 Paper packaging materials can be recycled via municipal recycling, where available. System bag is made from recycled plastic and can be recycled along with other thin plastics.

16 Based on internal analysis, June 2022.

17 Enhanced Packaging: Approximately 95% recycled content and 5% renewable content in the form of FSC paper fibers. Excludes optional items added to order and included in box.

18 Based on internal analysis, September 2022.

19 OptiPlex 5000 MFF Fixed Workstation contain 13% recycled ocean bound plastics in the fan and fan housing.

20 Based on internal analysis, May 2022.

21 Paper packaging materials can be recycled via municipal recycling, where available. System bag is made from recycled plastic and can be recycled along with other thin plastics.

22 Based on internal analysis, December 2022.

23 Up to 16.8% recycled content and 83.2% renewable materials in the form of FSC fibers. Excludes optional items added to order and included in box. Paper packaging materials can be recycled via municipal recycling, where available. System bag is made from recycled plastic and can be recycled along with other thin plastics. See local recycling guidelines.

24 Based on internal analysis, June 2022.

25 Paper packaging materials can be recycled via municipal recycling, where available. System bag is made from recycled plastic and can be recycled along with other thin plastics.

26 Based on internal analysis, October 2022.

27 Applies to outer box and paper cushion packaging materials, based on internal analysis, October 2022.

28 Applicable to Dell Thunderbolt Dock WD22TB4 & Dell Dual Charge Dock HD22Q. Based on Internal Analysis, October 2022.

29 Based on internal analysis, October 2022.

30 Plastic bottle estimate assumes a 500 ml plastic water bottle. Recycled polyester exterior main fabric made from 100% ocean bound plastic. Ocean bound plastic is waste collected within 50 kilometers (30 miles) of an ocean coastline or major waterway.

31 Based on internal Dell testing conducted in the second half of 2022.

32 Based on Dell internal calculations using SPECintRate score of 1410 achieved on a Dell PowerEdge R7625 and a processor cTDP of 400W with AMD Epyc 9654 (96 core) processors compared to a score of 636 and cTDP of 280W on a Dell PowerEdge R7525 with AMD Epyc 7763 (64 core) processors. Actual performance will vary.

33 Based on Dell's internal analysis comparing power (kVA) per effective terabyte of the PowerMax 2500 compared with the PowerMax 2000.



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[product name] solutions



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