



Product Environmental Report

(i.d.i.g.a. ion)

December 2022

Made with better materials

100% 100%

100% recycled aluminum in enclosure
100% recycled rPET in enclosure and lid

Energy efficient

56%

56% energy consumption reduction
ENERGY STAR® design
efficiency qualification



Tackling climate change

100%

100% committed to joining our net-zero manufacturing supply chain by 2030

Smarter chemistry¹

- 100% nickel-free dye
- 100% copper-free
- 100% formaldehyde-free
- 100% C-free
- 100% chromium-free

Responsible packaging

100% 97%

100% of wood fiber comes from recycled and responsibly sourced
97% of packaging fiber-based from recycled and responsibly sourced

Apple Trade In

Round-trip shipping included in trade-in program

Enclosure made with 100% recycled aluminum

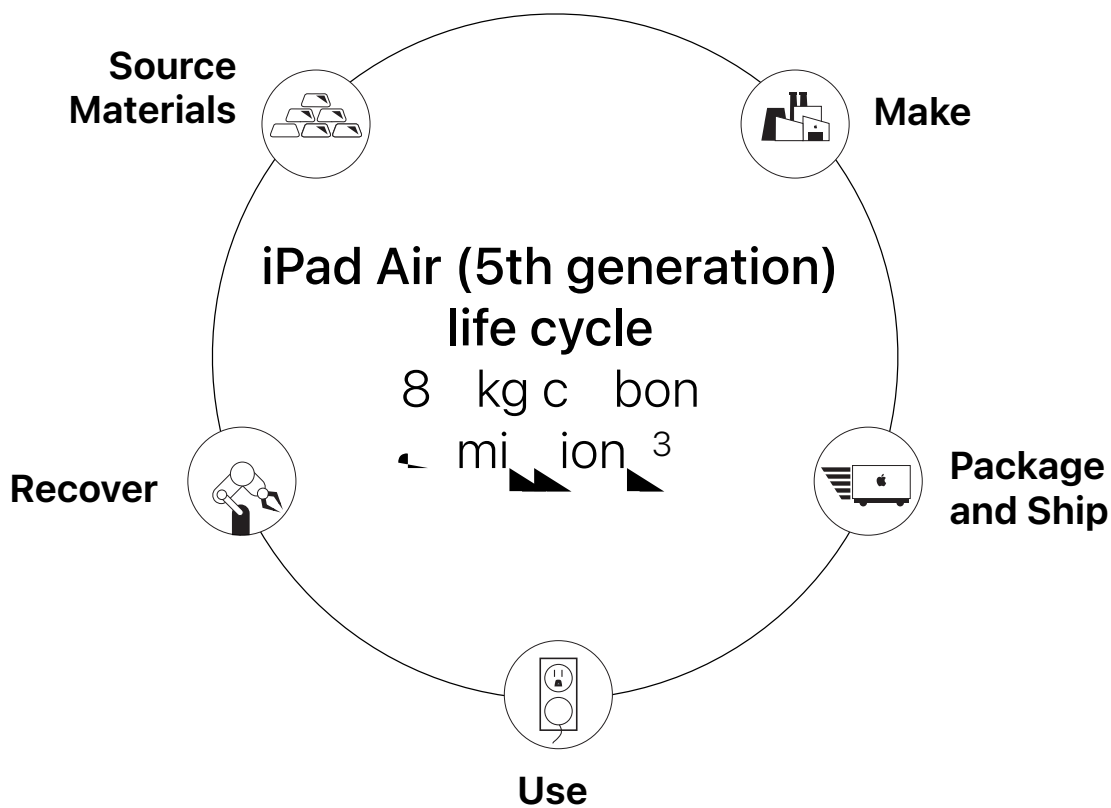
1. This report includes data for the enclosure of the iPad (11th generation) based on U.S. configuration of iPad (11th generation).



Taking responsibility for our products at every stage

We take responsibility for our products throughout their lifecycle—including the materials we use, the way we make them, how we package and ship them, and how we focus on recovering them. We work on making big differences for our products, including our commitment to using recycled materials.

We sell millions of products. So making even small adjustments can have a meaningful impact.



Carbon footprint

We continue to work on reducing our carbon footprint by focusing on making a greener product, with a goal of reducing our carbon footprint by 20% by 2025. We are committed to using recycled materials and reducing our carbon footprint by 20% by 2025. We are committed to using recycled materials and reducing our carbon footprint by 20% by 2025.

iPad Air (5th generation) life cycle carbon emissions

- 70% Production
- 7% Distribution
- 14% Use
- 1% End-of-life recycling



Source Materials

Aluminum is used in the production of the iPad Air (5th generation).

Aluminum is a lightweight, durable metal that is used in the production of the iPad Air (5th generation). It is a key component of the device's frame and is sourced from primary aluminum production. The production process involves the extraction of aluminum from bauxite ore, followed by refining and casting into various forms. Aluminum is also used in the production of the device's case and other components. The use of aluminum helps to reduce the weight of the device while maintaining its structural integrity. Additionally, aluminum is a recyclable material, and Apple uses recycled aluminum in the production of the iPad Air (5th generation).



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Rare earth elements

Rare earth elements are a group of 17 elements that are essential for the production of many modern technologies, including the iPad Air (5th generation). They are used in the production of the device's camera lens, display, and other components. The production of rare earth elements involves the extraction of these elements from various ores, followed by refining and processing. The use of rare earth elements helps to improve the performance and functionality of the device.



Plastic

Plastic is a synthetic material that is used in the production of the iPad Air (5th generation). It is used in the production of the device's case, buttons, and other components. The production of plastic involves the polymerization of various monomers, followed by molding and finishing. The use of plastic helps to provide the device with a durable and protective outer shell.



Tin

Tin is a soft, malleable metal that is used in the production of the iPad Air (5th generation). It is used in the production of the device's solder and other components. The production of tin involves the extraction of tin from various ores, followed by refining and casting into various forms. The use of tin helps to ensure the reliability and durability of the device's internal components.

Smarter chemistry

Smarter chemistry is a process that allows for the production of materials with improved properties and reduced environmental impact. This process is used in the production of the iPad Air (5th generation) to create a more sustainable and efficient manufacturing process. Smarter chemistry involves the use of advanced chemical processes and materials to create products that are more durable, lighter, and easier to recycle. This helps to reduce the overall carbon footprint of the device and supports Apple's commitment to environmental sustainability.





Make

Apple's Supplier Code of Conduct is designed to ensure the production of our products in a way that respects the environment. It is a key part of our commitment to responsible manufacturing and our goal to reduce our carbon footprint.

We work with our suppliers to identify and work to reduce the environmental impact of our products. This includes working with our suppliers to reduce their own environmental impact, such as their energy use, greenhouse gas emissions, and waste. We also work with our suppliers to improve their labor practices and ensure that they are compliant with applicable laws and regulations.

Greener chemicals

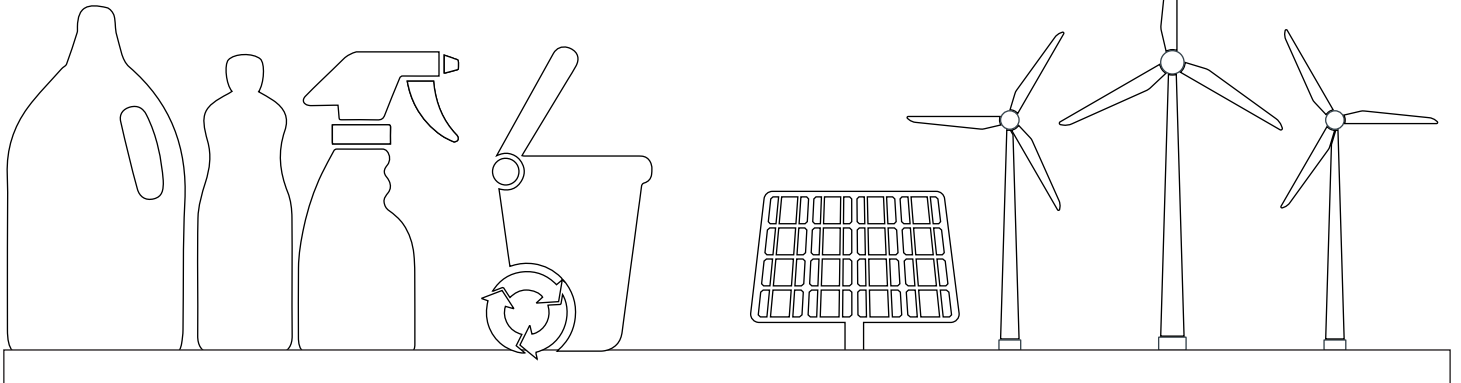
Apple is committed to reducing the environmental impact of the chemicals used in our products. We are working with our suppliers to identify and use greener chemicals that are safer for the environment and our workers. This includes using chemicals that are free of hazardous substances and that are biodegradable.

Zero Waste to Landfill

Apple is committed to achieving zero waste to landfill. This means that we are working to ensure that all of our waste is recycled or otherwise disposed of in an environmentally responsible manner. We are working with our suppliers to reduce their waste and to ensure that they are compliant with applicable laws and regulations.

Supplier energy use

Apple is committed to reducing the environmental impact of our products by working with our suppliers to reduce their energy use. This includes working with our suppliers to use renewable energy sources, such as wind and solar, and to improve their energy efficiency. We are also working with our suppliers to reduce their greenhouse gas emissions.





Package and Ship

iPad Air (5th generation) packaging is made with 100% recycled cardboard and 36% recycled wood fiber.

During production, packaging is made with 100% recycled cardboard and 36% recycled wood fiber. iPad Air packaging is made with 100% recycled cardboard from 100% recycled wood fiber. iPad Air packaging is made with 100% recycled cardboard from 100% recycled wood fiber. iPad Air packaging is made with 100% recycled cardboard from 100% recycled wood fiber.

97%

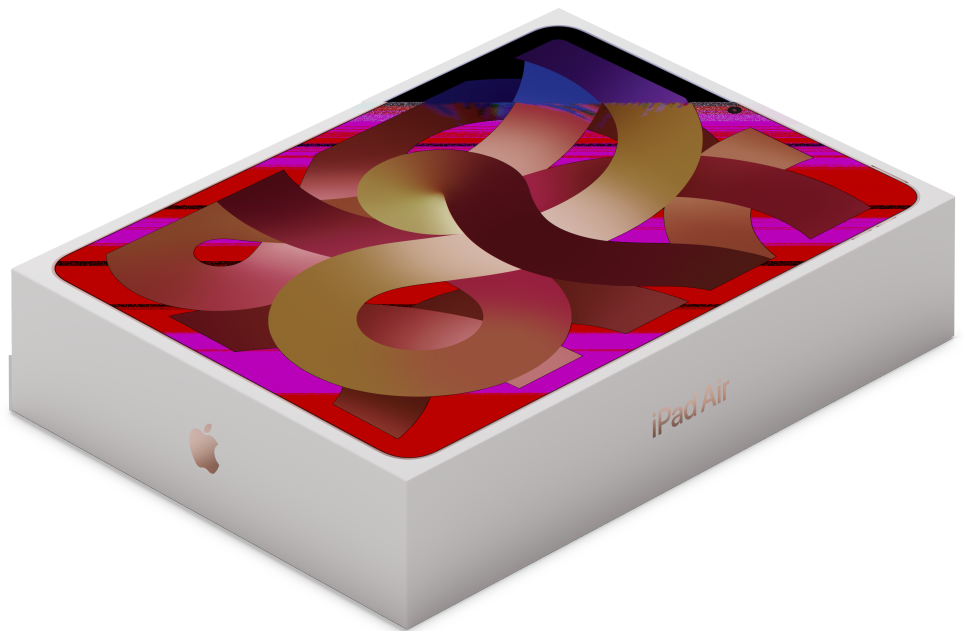
of iPad Air packaging¹¹ is fiber-based and does not use virgin wood fiber.

36%

of recycled content in fiber packaging.

100%

of virgin wood fiber in iPad Air packaging comes from 100% recycled wood fiber.





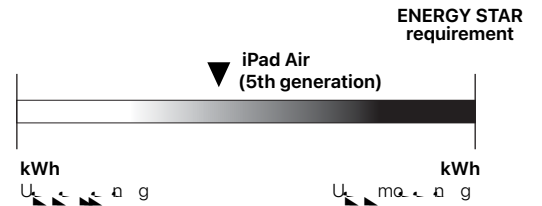
Use

Product design and engineering decisions made during the design phase can significantly impact the energy consumption of the product during its use. ENERGY STAR¹²

Widespread adoption of energy-efficient design and engineering practices can significantly reduce the energy consumption of products during their use. Widespread adoption of energy-efficient design and engineering practices can significantly reduce the energy consumption of products during their use. Widespread adoption of energy-efficient design and engineering practices can significantly reduce the energy consumption of products during their use.

Energy consumption of ENERGY STAR-rated products

ENERGY STAR-rated products are designed to be more energy-efficient than most products available in the market. ENERGY STAR-rated products are designed to be more energy-efficient than most products available in the market.



Designed to last

The iPad Air is designed to last for many years, reducing the need for replacement and the associated energy consumption.

Made with smarter chemistry

The iPad Air is made with smarter chemistry, reducing the energy consumption of the manufacturing process.



Recover

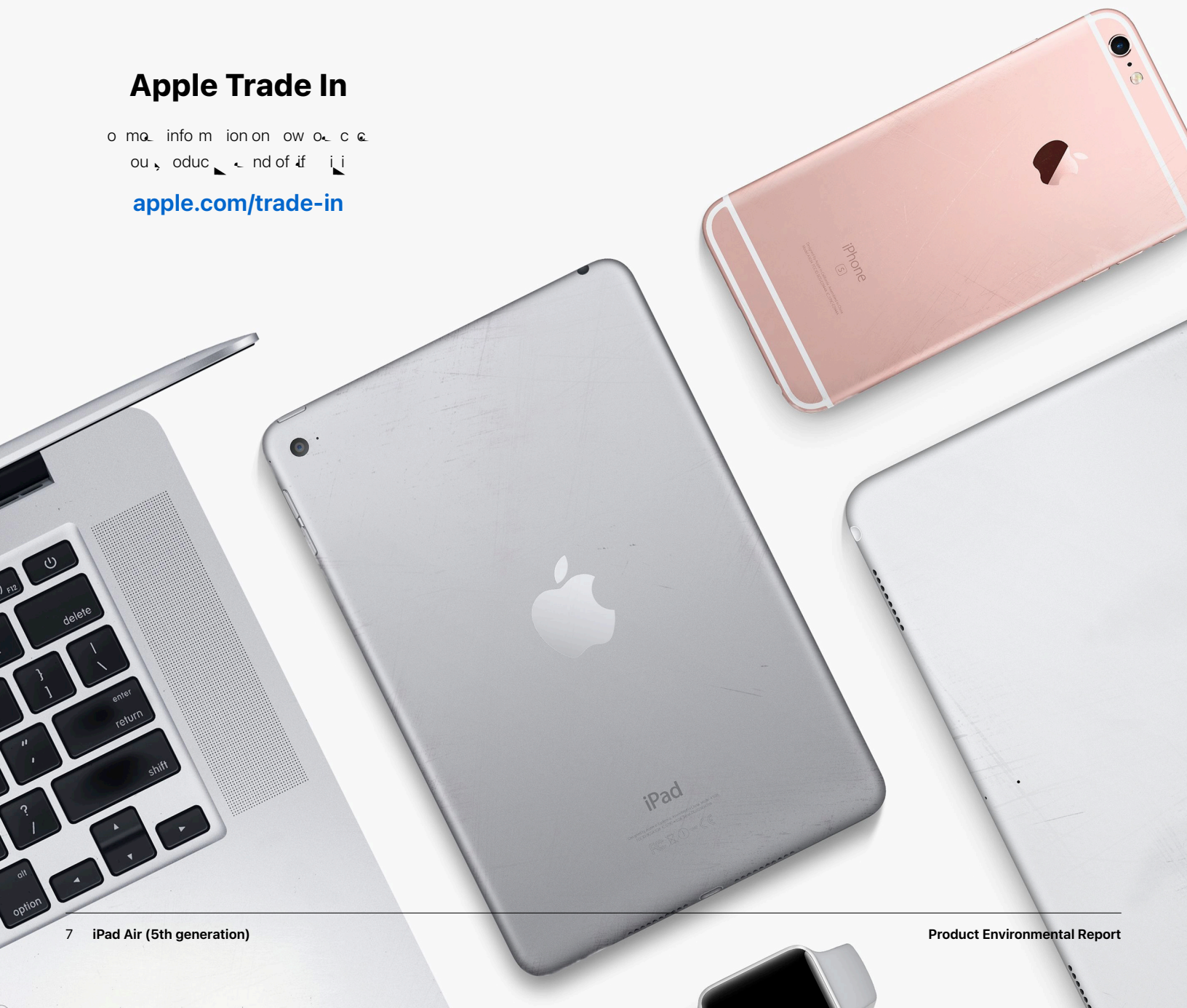
Run our product recovery and innovation program to help you get the most out of your products.

We're committed to making our products more sustainable. We've introduced a new product recovery program that allows you to trade in your old Apple products for a new one. This program is designed to help you reduce your carbon footprint and support the circular economy. For more information, visit apple.com/trade-in.

Apple Trade In

Go to apple.com/trade-in for more information on how our recovery program works.

apple.com/trade-in



Definitions

Bio-based plastics: io-b e d s ic e m d f om bio ogic ou c e n f om fo i fu ou c io-b e d s ic ow u o e duc e i nc on fo i fu

d i b e d in o oug e fo ming c i k i k mo j nd mu ic s b ck G og s ic d i f e n c in e s ow g id mi e b e n c c our d fo e g ion e e .

Carbon footprint: E im e d m i ion e c cu e d in cco d nc wi guid ia nd e qui r a n e c i f i d b IS 14 4 nd IS 14 44. e e i in e n unc in in mod ing c bor m i ion du s im i o d i m i ion o e q con s on n con ibu o a s s e ' c bor m i ion s s e d d e i unc in b d e q ing d i d s oc b e d n i on r a n mod wi s s e e c i f i c s r a e o e e m in ing e r a n o f s s e ' c bonfoo s in w e on indu e g d nd um i ion C cu ion in c ud e m i ion fo e fo owing if c e s e con ibu ing o Gob W ming a n i GW 1 e) in C e qui e n c f c o (e)

→ **End-of-life processing:** Incud n e o ion f om c a c ion ub a c c ing c r nd e e a g u d in r a c n i c s s ion nd e dding of, o m a info m ion on e c bonfoo s in i i s s e . [.com/ n i on r a n / n w](#)

Recycled materials: R c c ing m k b e u e of fini e ou c b ou c ing f om e c a e d e n m i a d m e i R c e d c o r n c e i m fo m e i u e d in o u s o duc e b e n e i f i d b n i n d e n d n i d s o e c e d c o r n nd d confo m o IS 14 21.

Renewable materials: W d fia bio-m e i o e c n b e g a e d in um n if e n ik s e fib o u g c a . io-m e i c n e s u u e f w fini e ou c . u e n oug bio-m e i e e b i i a e g ow e e no w m n g d e on ib . R a w l e m e i e e of bio-m e i m n g d in w e n l e con in uou s o duc ion wi ou d s e ing e e ' e ou c e w w focu on ou c e c i f i d fo e i m n g r a n s c i c

Supplier Clean Energy Program: Sinc e e e c i c i u d o m k ou s o duc i e g con ibu o o ou a c bonfoo s in w l e s ingou u s i b cor a m a e a g e f f i c i n nd n i ion o a w e a w l e a g ou c . W l e commi d o n i ioning ou e n i m nuf c u ing u s c in o 1 e c n e a w l e e c i c i b 2 3 .

- **Production:** Incud e e c ion s o duc ion nd n e o ion of w m e i w e m nuf c u e n e o nd e mb of s nd s o duc s ck ging.
- **Transport:** Incud i nd e n e o ion of e fini e d s o duc nd i o c i e d s ck ging f om m nuf c u ing i a e g ion d i ibu ion ub . n e o of s o duc f om d i ibu ion ub a nd cu o r a i mod e d u ing e g d i n c b e d on e g ion g og s .
- **Use:** s s e um e e - o fou e e i od fo s ow u e b f i o w a b e d on e s o duc e . o duc u e c n i o e b e d on i o i c cu o r a u e d fo i m i s o duc . E a g u e i i mu e d in iou w fo e m e b mod ing

Endnotes

¹ s s e d fia i e ic ion on mfu ub nc including d fini ion fo w s s e con id o b " e e of " in e s s e R gu e d Sub nc s s e c i f i c ion. E e s s e s o duc i e e of C nd s e e c s fo C s ow co d in Indi i nd fo 2 s ong C s ow co d) nd Sou s a w e e w con inu o e e k g a e n r a n s s o fo ou C nd s e e s c r a n s s e s o duc con s wi e Eu e n Union D e c k 2 11 (/ EU nd i r a nd r a n including e m i ion fo e u e of d u c ig e m e u o d s s e i wo king o s e ou e u e of e e e m e d ub nc w e e c n i c s o i l e .

² i d i e g a ion) c d e d God ing in e Unl d S e nd C n d in cco d nc wi IEEE 1 0 8 . 1 o U 11 nd i j e d u c on e e c onic o duc En i on r a n e e r a n o o (E E) R g j . E E e g e con s u e d i e nd mobi s o a b e d o r e n i on r a n e qui r a n in e e nd d e o m a info m ion i i [www . e . a](#) .

³ G e n ou g e m i ion w e c cu e d u ing if c e e r a n r a o d o g in cco d nc wi IS 14 4 nd 14 44 nd d nd b e d on i d i e g a ion) nd d configu ion wi 4 G o g . W o e n u d e ou c bonmod a e g a w info m ion e u ou e im e fo e c bonfoo s in of e s e iou g a ion-i d i e g a ion) wi 4 G o g configu ion-ina e d f om 82 kg C e e ub i e d in i o duc En i on r a n R s o) o 88 kg C e .

Carbon footprint		
	iPad Air (5th generation)	iPad Air (4th generation)
4G	8 kg C e	88 kg C e
128G	84 kg C e	-
2 4G	2 kg C e	1 2 kg C e

Endnotes

4 i d i (A g a ion) w u d fo com i on e mo e c n e e d nd imi d ic . e s oduc ion i d i (A g a ion) nd d configu ion wi 4G o g w com e d o i s ingi d i (A g a ion) nd d configu ion wi 4G o g configu ion inc e e e wo ow o g configu ion off e d.

W m s m e i in ou u s c in nd s ubi j of id n i f i d in n um ung e n nd god (B G) cob nd i um ra e nd e fia in ou u s c in i d s ra n e k o confi m ou cing s c ic nd e s of ou e s on i la ou cing s og m. In ddi ion ou e ffo con id b o d ng of i k including oci e n ion n n um n ig nd go n n c i k.

R c e d m e i c im s s i o e n c o u nd i b e d on u di ing do a b U C.

7 C mic ra e G e n S e e n b n c m k 3 o 4 o o e e qui e n r a o do og i k U.S. E S f C o i c e con id e d f nd s e f e d fo u e G e n S e e n i com e e n i e d e ra n o o e u e ub n c g in 18 diff e n c i i . o m a e i n f o m i o n i i www.g-n-e-n-c-mic-o-g.

8 e b i e d fin e mb u s i i o o e e b e n s e u s i fo m a n o a e - fo i d i (A g a ion) e i d s e i f i d e o W e b U C (2 7 2 9 S nd d). U e qui e e c n d e ion ou g ra od o e n w e a a g o c i e e o W e o nd f i e e c n God e c n nd inum 1 e c n) d ign ion.

9 R s on i la ou cing of wood fib i d fia d in s e ' S u in la i b S e cific ion. W con id wood fib o incud b mboo.

1 o m a e i n f o m i o n bou ou wo k o s a e c nd a e e on i b m n g d fa e e d ou Enionran.org R s o .

11 e kdown of U.S. i s ck ging b w ig . S e c non s ic non-fib m e i e c ud d.

12 E a g con um ion nd a g e f f i c i n c u e b e d on e ENERGY S R og m R qui ra n fo Com u including e m e a g ow n c fo i d i (A g a ion). o m a e i n f o m i o n i i www.a-g-go. ENERGY S R nd e ENERGY S R m k e e g i e d d m k o w a d b e U.S. En ion n a e c i o n g n c .

i d i (A g a ion) i e d wi fu c g d b e nd s ow e d b e 2 W US -C ow d s e wi e US -C o C g C l a m).

S e s ow ow e i e r e d u o m i c e w o m i n u of in c i i d f u) o b s e i n g e S e s /W k bu on. Con a e d o Wi- i o e e i n g w e e f in e i d f u e .

l d -D i s on D i s big a w e d fia d b ENERGY S R og m R qui ra n fo Com u nd u o- ig a w u a d off. Con a e d o Wi- i o e e i n g w e e f in e i d f u e .

ow d s e no-o d Con d i o n i n w i c e 2 W US -C ow d s e wi e US -C o C g C l a m) i con a e d a C s ow bu no con a e d o i d i (A g a ion).

ow d s e e f f i c i n c e g of e 2 W US -C ow d s e wi e US -C C g C l a m) ra u d f f i c i n c w e n e d 1 e c n 7 e c n e c n nd 2 e c n of e s ow d s e e d ou s u c u e n .

Power consumption for iPad Air (5th generation)			
Mode	100V	115V	230V
S e s	.44W	.44W	.42W
l d -D i s on	3.3W	3.3W	3. W
ow d s e no-o d	. 4W	. 4W	. W
ow d s e e f f i c i n c	80.8	87.0	87.8

13 _ d -in u b e d on e con d i o n e nd configu ion of ou d -in d ic nd m o b w e n on i a nd in- a d -in. You mu b e 18 e o d. In- a d -in e qui e s e n ion of id go n n a n i u d s o o D o c w m e qui i n g i n f o m i o n) d d i o n e m f o m s s e o s s e d -in s a m s s .

© 2 2 2 2 Inc. i g e e d s s e e s s e o g o . c e . c o g o i o a i d s s e W c H o r a o d s s e _ i S i d S m c S S S nd w c S e d m k of s s e Inc. e g i e d in e U.S. nd o e coun j nd e gion i d i (A g a ion) i d m k of s s e Inc. s s e S e i e i c m k of s s e Inc. e g i e d in e U.S. nd o e coun j nd e gion ENERGY S R nd e ENERGY S R m k e e g i e d d m k o w a d b e U.S. En ion n a e c i o n g n c . e s oduc nd com n n ra ra n i o a d e e in m b d m k of e i e e c k com ra i .