



Product Environmental Report

2022

December 2022

Progress toward our 2030 goal

40% of manufacturing facilities are powered by renewable energy. Over 20% of manufacturing facilities are powered by 100% renewable energy.

Responsible Sourcing

100% of our suppliers are audited for responsible sourcing. 96% of our suppliers are certified for responsible sourcing.

Responsible Manufacturing

100% of our manufacturing facilities are certified for responsible manufacturing. 100% of our manufacturing facilities are certified for responsible manufacturing.



Smarter chemistry

100% of our manufacturing facilities are certified for smarter chemistry. 100% of our manufacturing facilities are certified for smarter chemistry.

Log it

100% of our manufacturing facilities are certified for log it. 100% of our manufacturing facilities are certified for log it.

Recycle it

100% of our manufacturing facilities are certified for recycle it. 100% of our manufacturing facilities are certified for recycle it.

Apple is the first product to use certified recycled steel in the battery tray.

Apple is proud to announce that our new MacBook Pro is the first product to use certified recycled steel in the battery tray.



Our product carbon neutrality strategy

We go forward and reduce our carbon footprint by 23% during our 2023-2025 period. Our goal is to achieve net-zero emissions by 2030. We will continue to invest in renewable energy and sustainable practices to reduce our carbon footprint.

We will continue to invest in renewable energy and sustainable practices to reduce our carbon footprint. We will also focus on reducing our energy consumption and improving our energy efficiency. We will also focus on reducing our energy consumption and improving our energy efficiency.

How we're reducing emissions

- **Transition to 100 percent clean electricity for manufacturing:** We will transition our manufacturing operations to 100% clean electricity by 2025. We will continue to invest in renewable energy and sustainable practices to reduce our carbon footprint.
- **Transition to 100 percent clean electricity for product use:** We will transition our product use to 100% clean electricity by 2025. We will continue to invest in renewable energy and sustainable practices to reduce our carbon footprint.
- **Prioritize non-air transportation:** We will prioritize non-air transportation for our employees and customers. We will continue to invest in sustainable transportation options to reduce our carbon footprint.
- **Use recycled and low-carbon materials:** We will use recycled and low-carbon materials in our products and packaging. We will continue to invest in sustainable materials to reduce our carbon footprint.

How we'll get to net zero emissions

We will continue to invest in renewable energy and sustainable practices to reduce our carbon footprint. We will also focus on reducing our energy consumption and improving our energy efficiency. We will also focus on reducing our energy consumption and improving our energy efficiency.

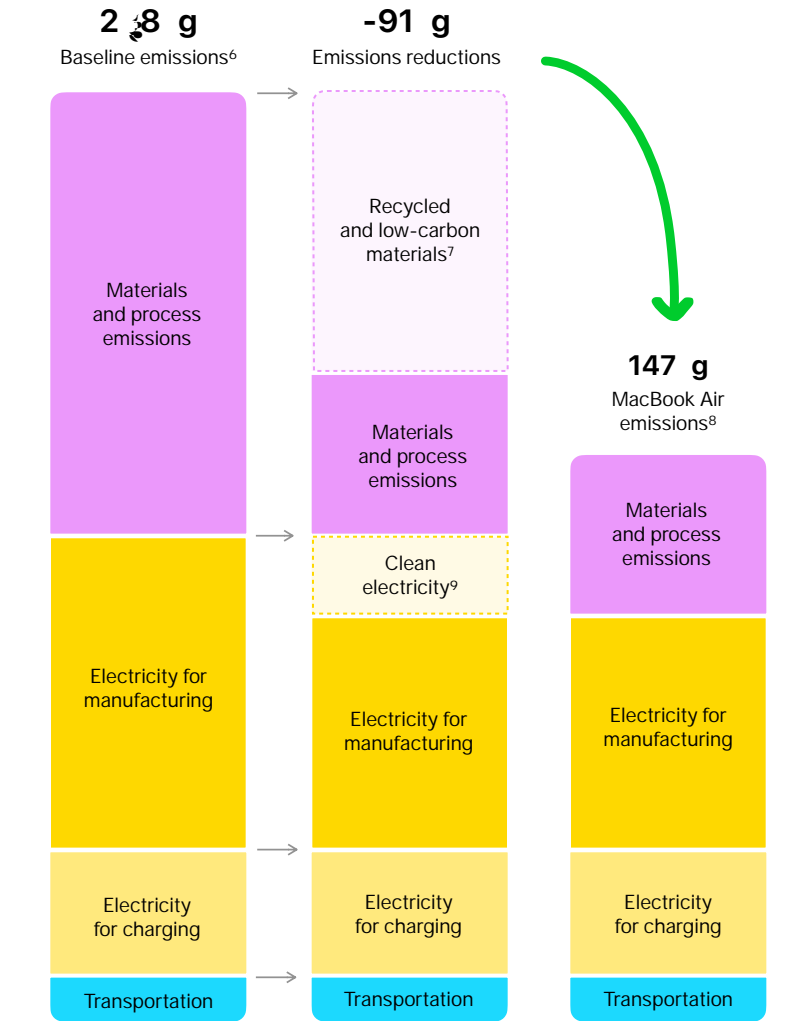
How we're monitoring progress

We will continue to invest in renewable energy and sustainable practices to reduce our carbon footprint. We will also focus on reducing our energy consumption and improving our energy efficiency. We will also focus on reducing our energy consumption and improving our energy efficiency.

- No use of air conditioning for manufacturing operations.
- 100% of our energy consumption will be from renewable sources.
- 100% of our energy consumption will be from renewable sources.

Progress to reach carbon neutral

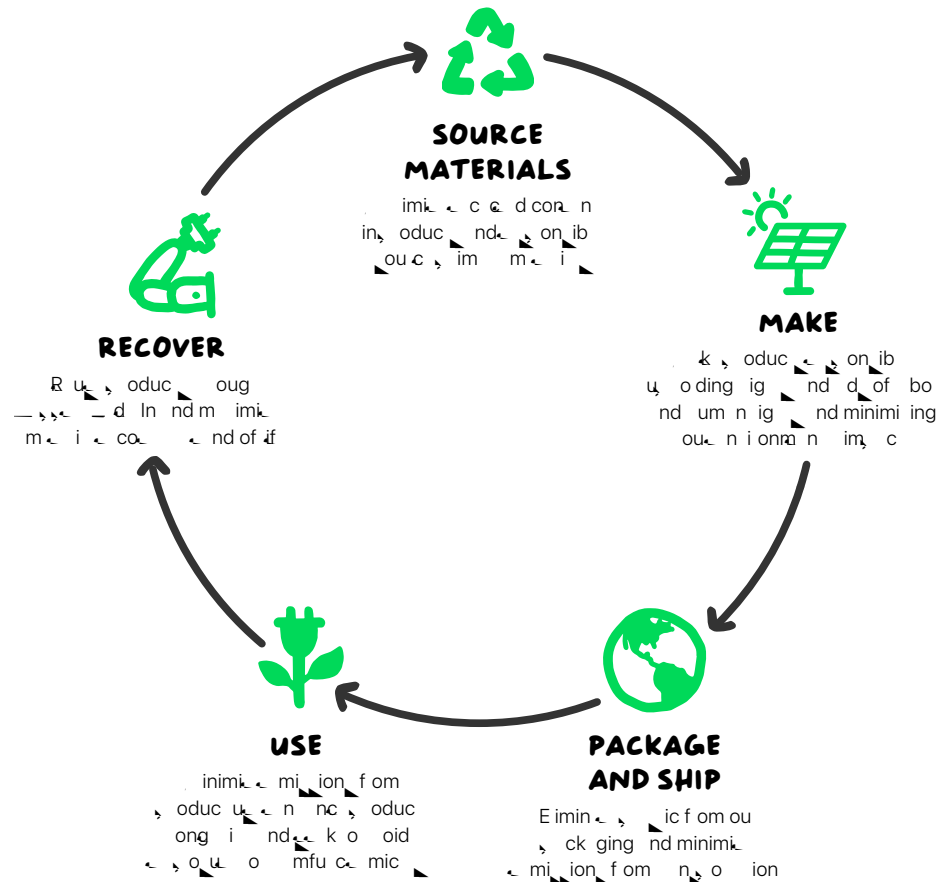
We reduced emissions for MacBook Air by 20% by 2020, and by 38% by 2022. We are on track to reach carbon neutrality for MacBook Air by 2025. We are committed to reducing MacBook Air emissions by 50% by 2030. We are committed to reducing MacBook Air emissions by 80% by 2040.



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 source them, how we make them, how we package and ship them, how we use them, and how we recover them. We work to make big differences for our products by reducing our impact on the environment, our communities, and our planet.

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





Source materials

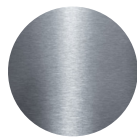
... cook i wi ... 2 c i con in 4 ... c n c e d o ... n w b e con n.1

... con ... im o n e ou c w w o k o d u c e m e i w u e nd im o o a d ... ou c on e c e d o e n w b e m e i in ou s o d u c ... nd w m k i n i o n w ... m in commi d o e e ... on i l a ou c i n g o f ... im m e i . W m s m n m e i ... o r a o e m i n o u c n d b i e i e ... nd d f o r a n d e f i a ... o e q u i 1 ... c n o f i d n i f i d i n n u m u n g e n g o d c o b n d i u m r a e ... n d e f i a o s i c i e i n i d s u d i .¹⁰ W l s o u d o b e c o g n i d w o d w i d ... d i n e e ... on i l a ou c i n g o f m i n i n o u s o d u c . u s o d u c d i g n o c o n i d ... e f o f o w o m k u e n d e c e o u s o d u c e i c i n g e u e o f u n d d o f ... m f u u b n c . u n d d g o b o n d w ' e q u i d b w o s a e c e e n d ... e n i o n r a n .



Rare earth elements

W u 1 ... c n e c e d e e ... r a n i n m g a ... n i n g ... 8 ... c n o f e o ... e e r a n ... i n e d i c .



Steel

W u 2 ... c n e c e d e e i n e ... b e ... - f i f o



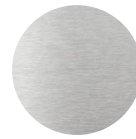
Ti

W u 1 ... c n e c e d i n i n e o d ... o f e m i n o g i c b o d .



Elastomer

W l ... n i o n i n g f o m f o i f u - b e d ... s ... i c o o m d f o m e n w b ... o e c e d o u c . o ... c o o k i ... w i ... 2 c i w u 3 ... c n o m a ... e c e d s ... i c i n 1 c o m p o a n .



Aluminum

... e e d n u m i n u m o m d o f 1 ... c n e c e d u m i n u m w i c w u e f o ... e n c o u e o f ... c o o k i w i ... 2 c i .¹¹ ... i o d i e ... r a e n g d u b i i ... n d f w ... f i n i - w i o u m i n i n g n a w ... b u i (u m i n u m e) f o m e e .



Smarter chemistry

... c o o k i w i ... 2 c i i f e o f m f u u b n c i k b i u m b o m i n e d f r a e d n ... C s ... e ... n i c i n e d i s g ... n d r a c u 3 ... n d 1 ... c n o f e m e i i n ... c o o k i w i ... 2 c i e c o e d b o u R g u e d S u b n c S e c i f i c i o n . W g o b o n d ... w ' e q u i d b i m i n g o u n d ... n d e n o n e g u e d u b n c i r e s o f e ... s o d u c - r e f f o ... e q u i n i n d u e d i n g e o f n e n c o u g e e n i u s ... c i n . W c o n i e n i d n i f e m k u o f a 7 ... c n b m o f . c d i c .



Value

Our Supplier Code of Conduct is a key element of our commitment to ethical and responsible business practices. It sets out the standards we expect our suppliers to meet in order to ensure that we can deliver products and services that are safe, reliable and of high quality.

We work closely with our suppliers to identify and address any areas where we need to improve our performance. We encourage our suppliers to share their own best practices and to work with us to develop solutions that benefit both parties. For more information, please visit www.3m.com/SupplierCode.

Reduce Chemicals

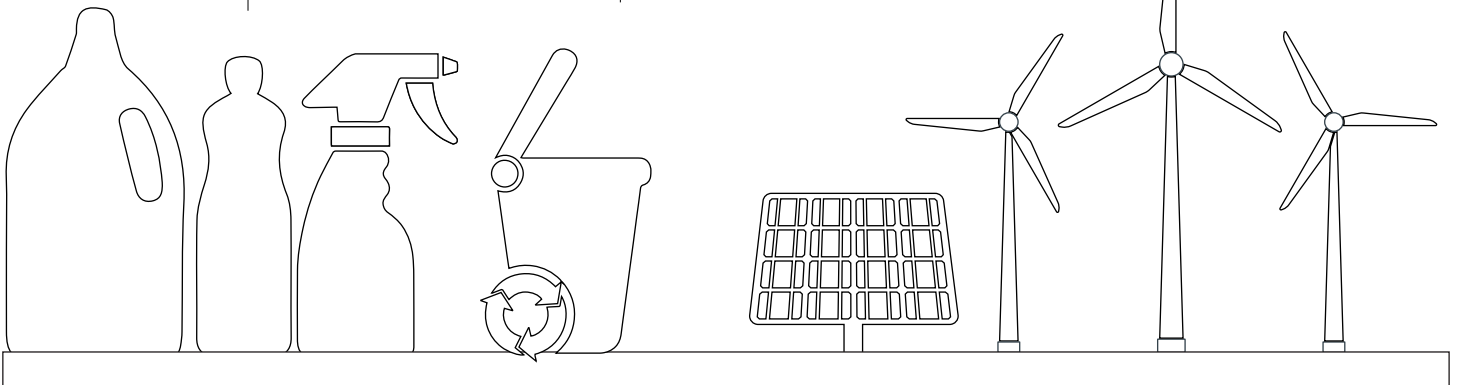
Our commitment to reducing chemicals is a key part of our environmental strategy. We are working to reduce the use of hazardous chemicals in our products and processes, and to replace them with safer alternatives. This is helping to reduce the risk to our employees, customers and the environment.

Zero Waste to Landfill

Our commitment to zero waste to landfill is a key part of our environmental strategy. We are working to reduce the amount of waste we generate, and to recycle as much of it as possible. This is helping to reduce the amount of waste that ends up in landfills.

Sustainable Energy Use

Our commitment to sustainable energy use is a key part of our environmental strategy. We are working to reduce our energy consumption, and to use more renewable energy sources. This is helping to reduce our carbon footprint and to protect the environment.





ac age a d Shi

ac age a d Shi 2 c i s ck ging i m d wi 1 c n
 c e d cor n on ib ou c d wood fib .

o im, a ou, ck ging w e wo king e imin e s ic in e c e d cor n nd
 u e s ck ging a of e wood fib in ou, ck ging i e c e d o cor n
 f om e s on ib m n g d fa ¹⁴ nd w e s e e d o e e d noug e s on ib
 m n g d fa o ca e i gin wood fib w u e in ou, ck ging.¹⁵ i e n u
 wo king fa e b e o g ow nd con inu o e n ou i nd, u if ou w e .

— w n s o ou, oduc f om ou m nuf c u o ou con um w e s io i i ing
 c bon-in n k i s ing mod n i n s o uc i nd oc n.

95%

of e s ck ging¹⁶
 i fib -b e d du o
 ou wo k e imin e
 s ic in s ck ging

45%

e c e d cor n in
 fib s ck ging

10%

of e i gin wood
 fib in e s ck ging
 com f om e s on ib
 m n g d fa ¹⁴





Use

... cook i wi ... 2 c i u ... 7 ... c n ... a g ... n ...
 ... qui m n fo ENERGY S...R.17

W d ignou, oduc o b e a g e f f i a i n o n g - i n g n d f . c o o k i w i ... 2 c i
 u ... of w e n d , o w e f f i a i n c o m , o a n ... i r i g n m n g , o w c o n u m , i o n .
 W o u n o u o w n R i b i i n d E n i o n r a n ... i n g b w e o u , o d u c g o u g
 i g o u e ... i n g b f e e e e o u d o o ... u u , o c o n i n u ... o u g o u e c , o d u c '
 i f c e w i e g u ... of w e u d e ... o k e , d i c c u e n n d a w o k o f u o i d
 e , i , q f ... i o n ... o ... i c e m i f a c o d d ... m i , i o n , i d o e e e c i c i o u
 , o d u c u w e b u i l d i n g e r a a g , a j c ... n d n g g i n g w i o u c u o m ... o
 e d u c e n d , o i d a , o u n i k i ... o u , o e d c b o n i i o n o f e g i d .

Ei erg col sum tio, of ENER Y S... R-rated roducts

... d i c c o n j e n n k m o n g e i g ... f o m i n g , o d u c e d b ENER Y S... R
 w i c e ... c i f i c i o n ... , i c e f c e 2 ... c n m o e a g e f f i a i n d i c o n
 e m k ... c o o k i w i ... 2 c i c o n u m ... 7 ... c n ... a g ... n ... e q u i m n
 fo ENERGY S...R.17

esig, ed to last

e n u du b i i w ... d
 ... c o o k i w i ... 2 c i i n o u
 R i b i i ... i n g b u i n g i g o u
 ... i n g m o d ... i m u e
 c u o m ... e i n c .

ade ith smarter chemistr

W ... i g o u c o n o f o
 m e i u e o u c - b e d
 o n e c o m m a n d i o n f o m
 o i c o o g i ... n d d m o o g i ...



Recover

Run our product with us and in new ways. It's a long if not a life cycle.

When you use our products, we're not just using them, we're making them. Our products are made from recycled materials, and we're using them to make more products. It's a long if not a life cycle. It's a long if not a life cycle. It's a long if not a life cycle.

The Trade In

Our information on how to trade in your old products is available at apple.com/trade-in.

With our new [Recycle Guide](#), you can find out how to recycle your old products. It's a long if not a life cycle. It's a long if not a life cycle. It's a long if not a life cycle.



Definition

Bio-based plastics Bio-based plastics are made from biological sources and can be used for a wide range of applications. Bio-based plastics are made from renewable resources and can be used for a wide range of applications.

Carbon footprint The carbon footprint of a product is the total amount of greenhouse gases that are emitted during its production, use, and disposal. The carbon footprint of a product is the total amount of greenhouse gases that are emitted during its production, use, and disposal.

Reduction Reduction is the process of decreasing the amount of waste or emissions. Reduction is the process of decreasing the amount of waste or emissions.

Transition Transition is the process of moving from one state to another. Transition is the process of moving from one state to another.

Use Use is the process of consuming a product or service. Use is the process of consuming a product or service.

End-of-life process End-of-life process is the process of disposing of a product or service. End-of-life process is the process of disposing of a product or service.

For more information on our bio-based plastics, visit www.bonfoos.com/en/onrn/nw.

Low-carbon materials Low-carbon materials are materials that have a low carbon footprint. Low-carbon materials are materials that have a low carbon footprint.

Recycled materials Recycled materials are materials that have been recycled. Recycled materials are materials that have been recycled.

Renewable materials Renewable materials are materials that can be replenished. Renewable materials are materials that can be replenished.

Supplier Clean Energy Program The Supplier Clean Energy Program is a program that encourages suppliers to use clean energy. The Supplier Clean Energy Program is a program that encourages suppliers to use clean energy.

Carbon Footprint

Greenhouse gas emissions were calculated during the production of the product in accordance with ISO 14047 and ISO 14044 and based on the data provided in the 2023 Product Environmental Footprint (PEF) report. The data is based on the 2023 Product Environmental Footprint (PEF) report. The data is based on the 2023 Product Environmental Footprint (PEF) report.

Product	Carbon Footprint (kg CO ₂ e)
Product A	147
Product B	171
Product C	147
Product D	171
Product E	147
Product F	171
Product G	147
Product H	171
Product I	147
Product J	171
Product K	147
Product L	171
Product M	147
Product N	171
Product O	147
Product P	171
Product Q	147
Product R	171
Product S	147
Product T	171
Product U	147
Product V	171
Product W	147
Product X	171
Product Y	147
Product Z	171

Not including the following items:

Waste generated during the production of the product in different configurations.

Configuration	Carbon Footprint (kg CO ₂ e)
Configuration 1	147
Configuration 2	171
Configuration 3	147
Configuration 4	171
Configuration 5	147
Configuration 6	171
Configuration 7	147
Configuration 8	171
Configuration 9	147
Configuration 10	171
Configuration 11	147
Configuration 12	171
Configuration 13	147
Configuration 14	171
Configuration 15	147
Configuration 16	171
Configuration 17	147
Configuration 18	171
Configuration 19	147
Configuration 20	171

Et dnotes

- 1 oduc e e do e a w la cor n i e m of c ifi d e e d m e i e k o e a m of e d ic no incuding, ck ging o in-bo cc ai
- 2 We im e e e c n o e c i c i e e d m i j o n i n o u m n u f c u i n g i j o u c d f o m e a e c i c i b i b u i n g o o u c b o n m o d e a r a g s o c u d b o u u s j i n e s i o f i c e b e d o n e u s j i m n u f c u i n g o c i o n i r a o f s o d u c u n c . I n c u d d i n i n u m b j o n e a e c i c i u s e o i u s j i e s o c u d s a f s s e ' S u s j i G e n E a g o g m .
- 3 s s e ' R g u e d S u b n c S x c i f i c i o n d c i b s s e ' e i c i o n e u o f c i n c a m i c u b n c i n m e i i n s s e s o d u c c c a i m n u f c u i n g s o c e n d s c k g i n g u e d f o i s i n g s o d u c o u s s e ' e n d c u o r a R i c i o n e d k d f o m i r a n i o n w o d i c i e g u o g n e i e c o b e q u i r a n e n i o n r a n n d d n d s s e s o i a i . E e u s s e ' o d u c i e e o f C n d s e e c s f a C s o w c o d i n d i i n d f o 2 s o n g C s o w c o d j) n d S o u s a e w e w c o n i n u o e k g o e n a n s s o f o o u C n d s e e s c r a n s s e s o d u c c o m w i e E u o e n U n i o n D i c k 2 1 1 6 . / E U n d i r a n d r a n i n c u d i n g e m j o n f o e u o f d u c i g e m e u o d . u s e i w o k i n g o s e o u e u o f e e e m e d u b n c f o a w s o d u c w e e c n i c s o i a .
- 4 c o o k i w i 2 c i c i e d G o d i n g i n e U n i d S e n d C n d i n c c o d n c w i I E E E 1 0 8 . 1 o U 1 1 n d i j e d u c o n e E c o n i c o d u c E n i o n r a n u s s e r a n o o E E J R g i . E E e g i e c o m u d i s n d m o b i s o a b e d o r a n i o n r a n e q u i r a n i n e e n d d . o m a i n f o m i o n i j i www.e.a .
- 5 We cogni e e n e n o u c o f e c i c i e e i d u c b o r m i j o n c o e i i f c e e g . f o m m n u f c u i n g) w i c w e c c o u f o w e n e c u i n g o u s o d u c c a e 3 m i j o n .
- 6 C b o n e d u c i o n e c c u e d g i n b e i a c n i o 1) N o u o f e a e c i c i f o m n u f c u i n g o s o d u c u b o n d w i e d i l a o n e g i d b e d o n e g i o n e m i j o n f c o . 2) s s e ' c b o n i r a n j i o f k m e i o f 2 1 . o u b e i a e f o u 2 3 s o d u c c b o n a u i g o . C b o n i r a n j i o f m e i e f c u e o f e c e d c o r a n n d s o d u c i o n e c n o o g . 3) s s e ' e g m i o f n s o i o n m o d i i o c n u c k i n g) b s o d u c i a c o e e e f i c e 2 1 7 o 2 1 6) o b c s u e b e i a n s o i o r m i j o n o f o u s o d u c .
- 7 W c c u e e m i j o n i n g f o m e u o f e c e d o o w c b o n m e i i n o u s o d u c b o m i n g e c b o n i r a n j i o f k m e i o 2 1 . b e i a . W c u e n o n q u n i f e c b o n i n g f o m e u o f e c e d u m i n u m w i c r a n e c u e m i j o n o i d d e i k g . W s n o i m a o u c c o u n i n g o f e c e d c o r a n a i r a .
- 8 G e n o u e g e m i j o n w e c c u e d u i n g i f c e e r a n r a o d o o g i n c c o d n c w i I S 1 4 4 n d 1 4 4 4 n d d n d b e d o n . c o o k i w i 2 c i n d 2 0 G o g .
- 9 We im e e m i j o n i n g f o m u s j i e a w l a e e c i c i b o c i n g o o u c b o n m o d e a e c i c i g a e d b o u u s j i i n e s i o f i c e b e d o n e u s j i m n u f c u i n g o c i o n i r a o f s o d u c u n c .
- 10 W m s m e i i n o u u s c i n d s u b i j i o f i d n i f i d i n n u m u n g e n n d g o d 8 G) c o b n d i i u m r a e n d e f i a i n o u u s c i n . i d s e r a n e k o c o n f i m o u c i n g s c i c n d e s o f o u e o n i b o u c i n g s o g m . I n d d i o n o u e f f o c o n i d b o d n g o f i k i n c u d i n g o c i e n i o n r a n u m n i g n d g a n n e i k .
- 11 R e d m e i c i m s s e o e e n c o u .
- 12 C e m i c r e G e n S a e n @ b n c m k 3 o 4 o o e e q u i e n r a o d o o g i k U S . E . S f C o i c e c o n i d e d e f n d e f e d f o u e . G e n S a e n @ j c o m e e n k d e r a n o o e u e u b n c g i n 1 8 d i f f e n c i i . o m a i n f o m i o n i j i www.g.e.n.e.n.c.mic.o.g .
- 13 e b i e d f i n e m b u s j i i o o e e b e n s s e u s j i f o m a n o a e f o c o o k i w i 2 c i e i d s e i f i d e o W e b U C 2 7 0 0 S n d d) . U e q u i e e c n d e i o n o u g r a o d o e n w e e a g o c i e e o W e o n d f i i e e 0 4 e c n G o d 0 0 e c n n d i n u m 1 e c n) d i g n i o n .
- 14 R o n i l a o u c i n g o f w o o d f i b i d f i a d i n s s e ' S u i n l e i b S x c i f i c i o n .
- 15 o m a i n f o m i o n b o u o u w o k o s a e c n d a e e s o n i b m n g d f a s s e e e d o u E n i o n r a n o g . R s o .
- 16 e k d o w n o f U . S e i s c k g i n g b w i g d e k i n k n d c o i n g e e c u d d f o m o u c c u i o n o f s i c o r a n n d s c k g i n g w i g .

Endnotes

¹⁷ Energy consumption and efficiency under bond ENERGY STAR and R qui ran for Com u including em a g ow nc fo c ook i wi 2c i . o ma info m ion i i www.a.g.go. ENERGY STAR nd ENERGY STAR k e g e d d m k owa db e U.S. En ion n a c ion g nc .

c ook i wi 2c i i e d wi fu c g db e nd, ow e db e 3 WUS -C ow d s e wi e US -C o g S f 3 C b 2m).

- ff ow s ow mod of e m. S e m i u down.
- S e s ow, ow e i e r e d u o m i c f 1 min u of in c i i d f u) o b e c ing S e s , f o m e s s e r a nu. W k fo a wo k c c e n b d.
- Id -Di on S e m i on nd c o m e d o d i n g m c S. Di s big a w e d fia db ENERGY STAR og m R qui ran fo Com u nd u o- i g a w u a d off. Cona e d o Wi- i.
- ow d s e no- o d Condi on in w ic e 3 WUS -C ow d s e wi e US -C o g S f 3 C b 2m) i cona e d a C s ow bu no cona e d o e m.
- ow d s e ffici nc e g of e 3 WUS -C ow d s e wi e US -C o g S f 3 C b 2m) ra u d ffici nc 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 o u s u c u e n .

ode	o er co, sum tio, for, ac oo \ ir ith. 2 chi		
	1, 0 V	115V	2, 0 V
ff	.13W	.13W	.1.W
S e s	.27W	.26W	.27W
Id -Di on	3. 0W	3.14W	3.18W
ow d s e no o d	. 7W	. 7W	. 8W
ow d s e ffici nc	88.8	89.1	88.8

¹⁸ d -in u b e d on e condi on e nd config ion of ou d -in d ic nd m o b w e n on ia nd in- a d -in. You mu b e 18 e o d. In- a d -in e qui s e n ion of id go e n r a n -i u d s o o ID roc w m e qui ing i info m ion) d di on e m f o m s s e a s s e d -in, a m s s .