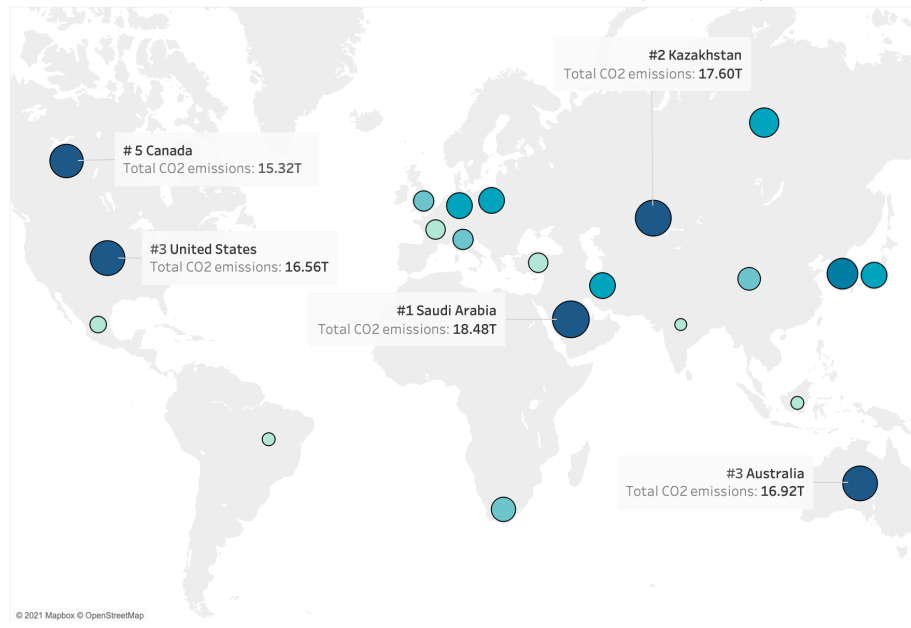
APPLE: PERSONALIZING CARBON EMISSIONS DATA FOR FUTURE CARBON NEUTRALITY

2/3 of the world considers climate change a global emergency. **80%** are willing to make a change in their lifestyle. Apple's carbon footprint is 22.6 Million Metric Tons of Co2e. **19%** comes from product use. Tracking carbon footprint at a **personal level** can help reduce total emissions and Apple's product use footprint.

In 2018, the U.S. ranked #2 with the highest Co2 emissions, but #3 in most emissions per capita. In the U.S., there has been a continuous decrease since 2000. The lowest emissions were in 2017 with 15.83 Metric Tons of Co2e.

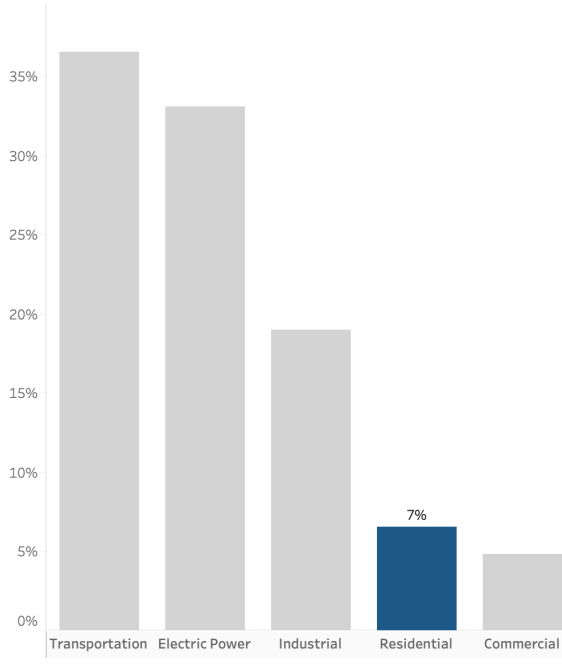
EMISSIONS AT THE COUNTRY LEVEL

Top 20 Countries with highest Co2 Emissions per Capita in 2018 (Metric Tons)



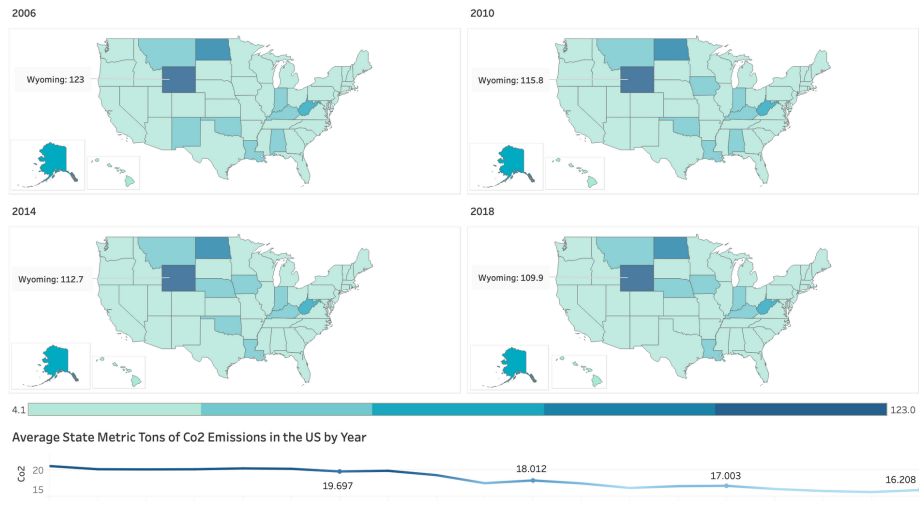
EMISSIONS AT THE SECTOR LEVEL

US Metric Tons of Co2 Emissions % by Sector



EMISSIONS AT THE STATE LEVEL

Metric Tons of Co2 Emissions per Capita in the US

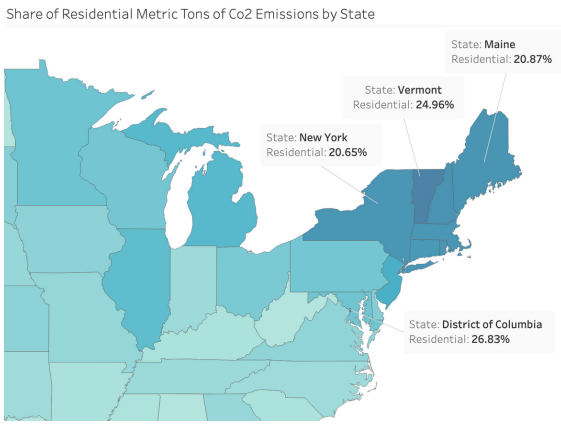


Average State Metric Tons of Co2 Emissions in the US by Year

EMISSIONS AT THE STATE & RESIDENTIAL SECTOR LEVEL

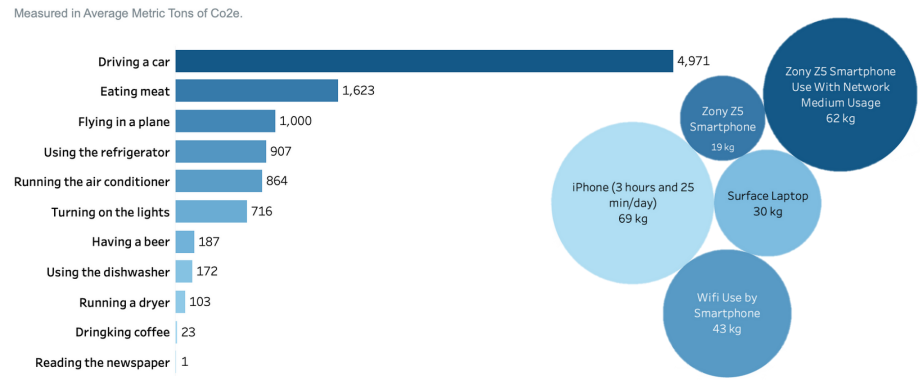
The top 10 states with the highest residential emissions are all in the Northeast.

Share of Residential Metric Tons of Co2 Emissions by State



EMISSIONS: HUMAN ACTIVITIES

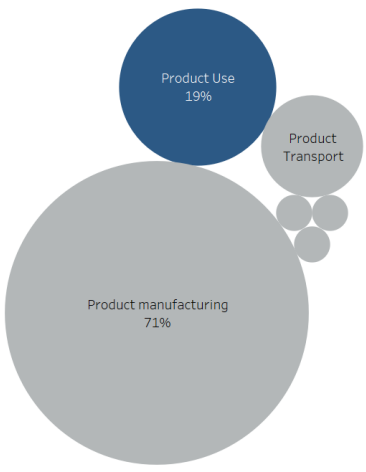
Measured in Average Metric Tons of Co2e.



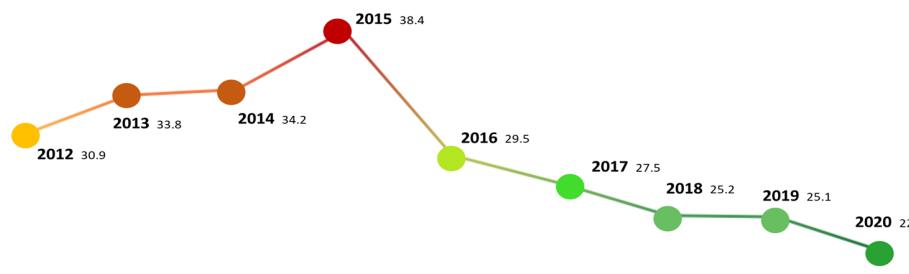
APPLE'S PRODUCT USE EMISSIONS

According to the 2021 Environmental Report the biggest generator of Apple's carbon footprint is the production processes. 71% of Apple's total carbon emissions come from manufacturing, with product use stages creating 19% of Apple's carbon emissions.

2020 Apple's distribution of greenhouse gas emissions

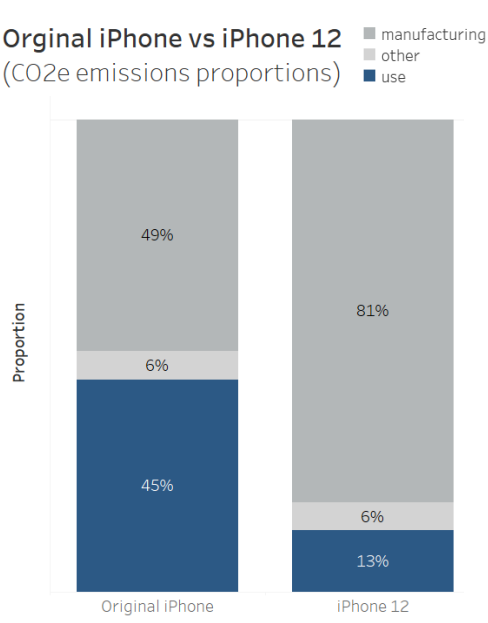


In 2020 Apple's carbon footprint amounted to 22.6 million metric tonnes (reduction from 25.1 million metric tonnes in 2019) with more than 15 million metric tonnes of emissions avoided with the use of energy efficiency.



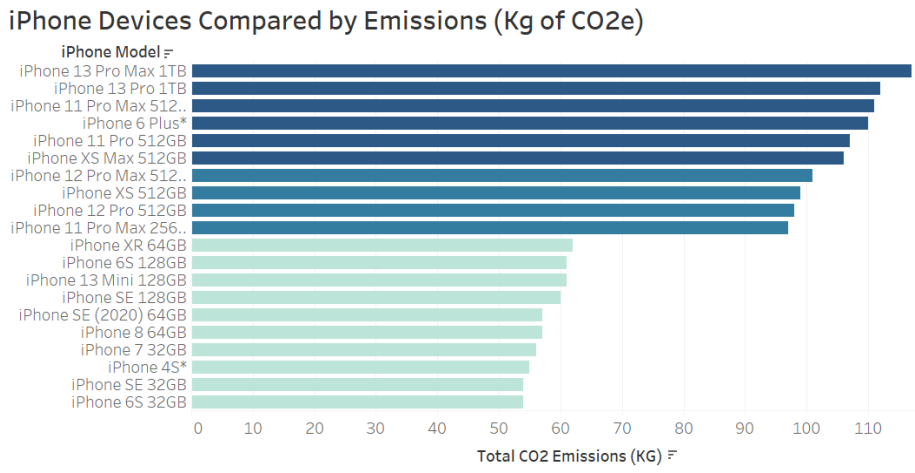
Product's emissions are still on the rise

Emissions are on the rise despite Apple's efforts of using carbon-neutral design solutions such as more power-efficient chipsets, 100% recycled tungsten, and rare earth elements.



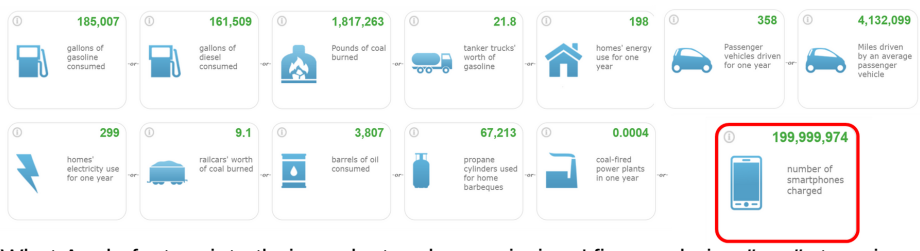
The original iPhone had 45% of its carbon footprint caused by consumer use and only 49% by manufacturing. But, as years went by and iPhones became more power-efficient and the software became more intelligent, the use stage of the latest iPhone 12 series causes only 13% (11kg of CO2-e) of their total lifetime carbon footprint.

iPhone Devices Compared by Emissions (Kg of CO2e)



1644.16 MT Co2e

Over 9 billion mobile connections worldwide and counting. The number of mobile phones on the planet is growing five times faster than the number of people.



What Apple factors into their product carbon emissions' figures during "use" stage is the device's use of power over 3-4 years. This includes how long the iPhone lasts on one charge and how much energy it requires to recharge.

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Group 5: Losa - Palladino - Yang - Zhang

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