



Sustainability in FAANG

Who are FAANG?



Facebook



Apple



Amazon



Netflix



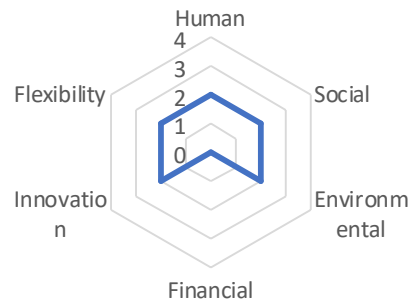
Google

- Term coined by US TV personality & ex fund-manager – Jim Cramer
- Collectively they make up 13% of the S&P 500 – The US' biggest index
- Market cap → \$3.8 Trillion (USD)
- If they were all one country, they'd be the fourth largest by GDP!
 - Just behind Japan and ahead of Germany & The UK
- The acronym had earned 691% in profits for investors between June 2013 to August 2018.

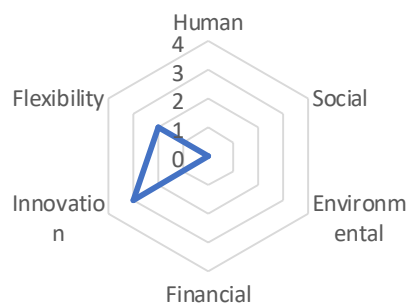
How do they fare against our analysis

2018	Human	Social	Environm ental	Financial	Innovation	Flexibility	TOTAL
Facebook	2	2	2	0	2	2	10
Apple	0	0	0	0	3	2	5
Amazon	1	1	1	1	4	3	11
Netflix	0	0	0	0	2	2	4
Google	1	0	2	1	4	3	11

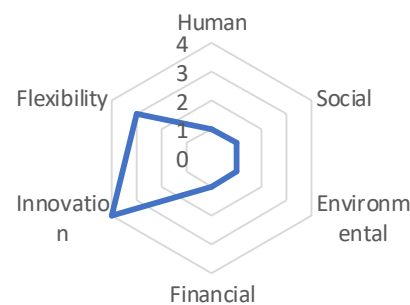
Facebook



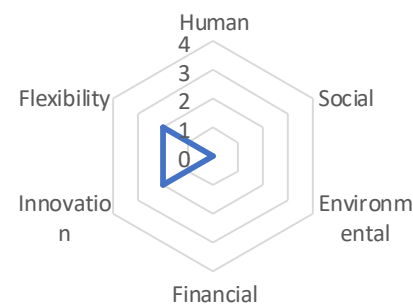
Apple



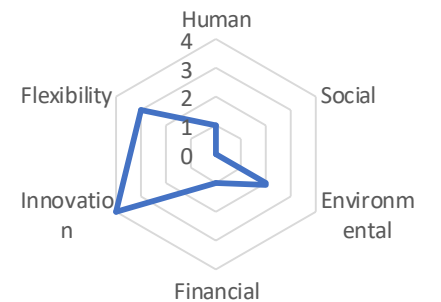
Amazon



Netflix

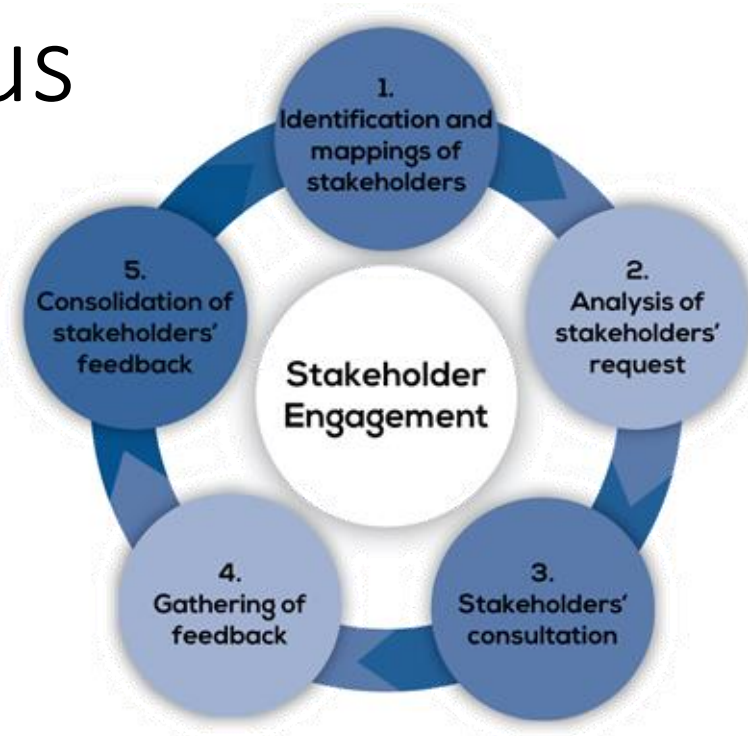


Google



What's missing for us

- Lack of GRI-referenced reporting
- Materiality analysis
 - Clear Stakeholder Engagement
- Specific SMART targets
- Data on progression
- Effort with stakeholders after bad press



Against the CDP

<u>Facebook</u>	Climate Change 2018	2018	Declined to participate	F
<u>Apple Inc.</u>	Climate Change 2018	2018	Submitted	A
<u>Amazon.com Inc.</u>	Climate Change 2017	2017	No Response	F
<u>Netflix, Inc.</u>	Climate Change 2018	2018	No Response	F
<u>Alphabet, Inc.</u>	Climate Change 2018	2018	Submitted	A

Sustainable?

facebook sustainability

Innovation for our world

We're committed to reducing our greenhouse gas footprint by 75% and reaching 100% renewable energy in 2020

Mac iPad iPhone Watch TV Music

Environment

Truly innovative products leave their mark on the world instead of the planet.

amazon

Sustainability

At Google, we strive to build sustainability into everything we do.

Read about our progress, explore tools, review reports, and discover ways to help the planet.

Sustainability & environment

Providing access to large datasets in the cloud can help researchers and innovators address a wide range of sustainability challenges. The Amazon Sustainability Data Initiative significantly reduces the cost, time, and technical barriers associated with analyzing large datasets to generate sustainability insights – regardless of an organization's size or computing power. [CONTINUE READING](#)

Netflix?



Facebook

Facebook is committed to fighting climate change.

We've set a science-based target to reduce our GHG emissions 75% in 2020. Our goal is to have a positive impact on the world by designing, building, and operating sustainably.

sustainability.fb.com

Climate Action

We're doing our part to fulfill the spirit of The Paris Agreement. Facebook is an active supporter of the We Are Still In coalition and we are constantly innovating to minimize our environmental impact.

In 2018, we achieved a 44% reduction in GHG emissions from 2017 levels and are more than halfway to our 75% goal.

This is equivalent to 265,000 metric tons of CO₂e or 56,000 passenger cars taken off the road for one year.



2020 GOAL

75%

reduction in GHG emissions, a science-based target.

44%

reduction in GHG emissions in 2018



2020 GOAL

100%

renewable energy used to support all our facilities – including our data centers.

Renewable Energy

Facebook was one of the first to commit to supporting our facilities with 100 percent renewable energy back in 2011. In 2018, our operations achieved 75% renewable energy and we are on track to meet 100% in 2020.

Our data centers are among the most energy-efficient facilities in the world. For each new data center Facebook builds, we add new renewable energy to the same electric grid as our facilities and we do it in a way that often increases options for other businesses in those communities. Today, we are one of the largest renewable energy purchasers in the world.

Water Stewardship

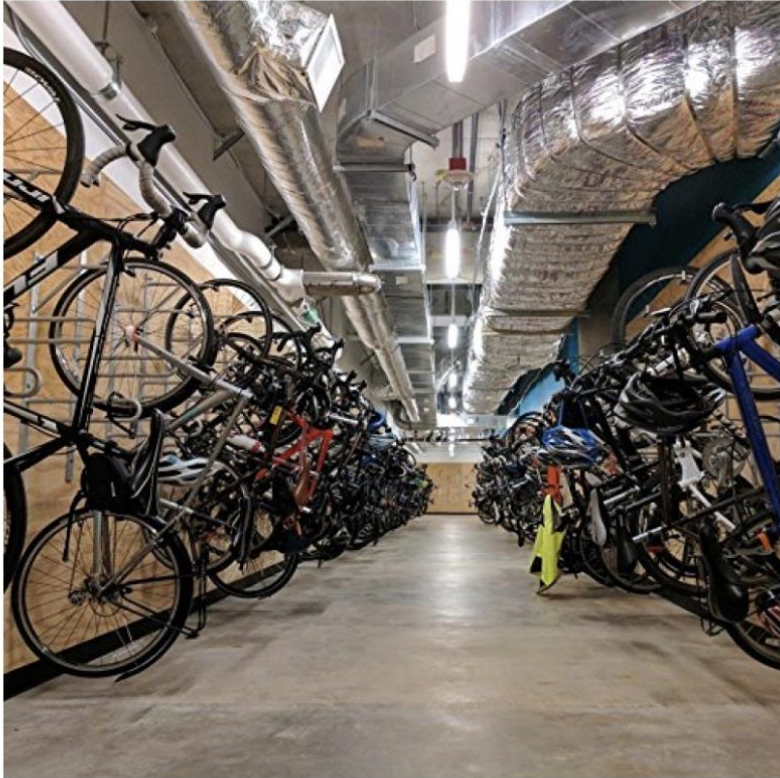
At Facebook, we believe every drop matters. We prioritize water stewardship across our operations and our facilities are among the most water-efficient in the world.

We're committed to creating circular systems that reuse water as much as possible. Our data centers are 80% more water-efficient than the average data center.



1.5b

gallons of water avoided in 2018 alone, that's the equivalent of 18.5 million bathtubs of water.



Working at Amazon

Amazon's urban campus

Several years ago we outgrew our space in Seattle and we made a conscious choice to invest in downtown Seattle—even though it would have been cheaper to move to the suburbs.



Sustainability

Delivering Shipment Zero, a vision for net zero carbon shipments

Shipment Zero is Amazon's vision to make all Amazon shipments net zero carbon, with 50% of all shipments net zero by 2030.




Sustainability

Amazon wind and solar farms

Amazon is committed to using 100% renewable energy across our global infrastructure. In April, we announced our latest milestone – three new wind farms in Ireland, Sweden, and the United

Our reports and case studies chart our progress and share insights and areas of growth for the future.

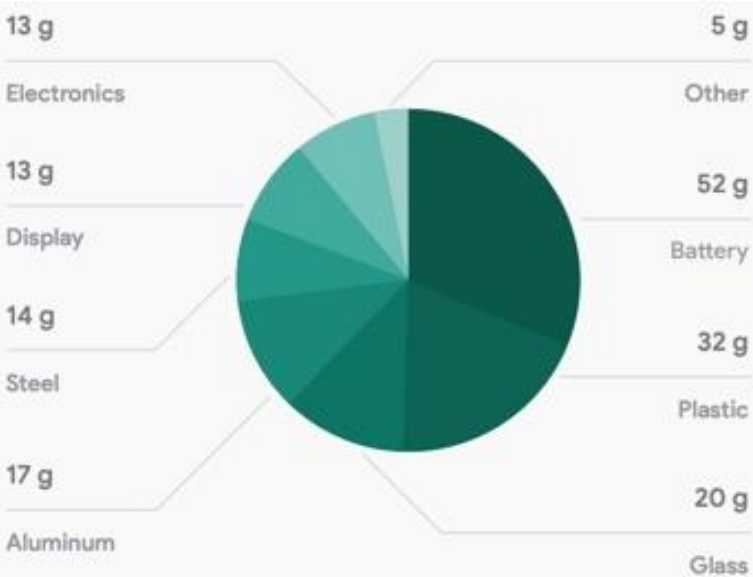
Type: All Environment Responsible Supply Chain Product Case studies Year: All

Title	Type	Year	Format
 Google Nest Hello Product Environmental Report	Product	2019	PDF

 Google Nest Cam IQ Outdoor Product Environmental Report	Product
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Materials used in Pixel 3a XL

Total materials: 166 g¹⁰



In 2017, we diverted

91%

of waste from our global data center operations away from landfills.

3 GW
of renewable energy

Google is the world's largest corporate purchaser of renewable energy. We've signed 26 agreements totaling nearly 3 GW of renewable energy—generating emissions savings equivalent to taking more than 1.3 million cars off the road per year.

\$2.5 billion
in equity commitments

Since 2010, we've committed to invest nearly \$2.5 billion in renewable energy projects with a total combined capacity of 3.7 GW.

40
carbon offset projects

Since 2007, we've partnered with more than 40 carbon offset projects to offset more than 17 million metric tons of carbon dioxide equivalent (tCO₂e).

11 years
of carbon neutrality

Google has been carbon neutral since 2007. Because of our renewable energy and carbon offset programs, our net operational carbon emissions during this period were zero.

100%
landfill diversion

Six of our operating data centers have achieved 100% landfill diversion.¹¹

100%
renewable energy

We matched 100% of the electricity consumption of our operations with purchases of renewable energy.

33,000 tCO₂e
savings

By using Google shuttles in the Bay Area, we saved 33,000 tCO₂e emissions—equivalent to taking 6,500 cars off the road every day for a year or avoiding 152 million vehicle kilometers (95 million vehicle miles) per year.

11.1 million square feet
LEED-certified

Over 1 million square meters (11.1 million square feet) of Google office facilities have achieved LEED certification.

2.3 million pounds
of food waste avoided

Google avoided more than 1 million kilograms (2.3 million pounds) of waste in our cafés globally by tracking pre-consumer food waste and using this data to inform future production levels.

29 million gallons
avoided

We achieved a 15% reduction in potable water intensity at our Bay Area headquarters, which is equivalent to avoiding the use of over 109 million liters (29 million gallons) of potable water.

98%
emissions reduction

A business using Gmail can reduce the GHG emissions impact of its email service by up to 98% compared with running email on local servers.

17 billion kWh
of energy savings

Nest Thermostats have helped customers save more than 17 billion kWh of energy combined, based on average savings studies—enough energy to power all of San Francisco's electricity consumption for three years.

0
net carbon emissions

Organizations that move IT infrastructure and collaboration applications from a self-managed data center or colocation facility to Google Cloud reduce the net carbon emissions of their computing to zero.

Target

Deadline

Designing efficient data centers

Energy

Maintain or improve quarterly PUE at each Google data center, year over year.

Annual

Waste

Achieve Zero Waste to Landfill for our global data center operations.

None

Certifications

Maintain ISO 50001 energy management system certification for all Google-owned data centers that meet certain operational milestones.

Annual

Advancing renewable energy

Energy

Match 100% of the electricity consumption of our operations with renewable energy purchases.

2017

GHG emissions

Maintain carbon neutrality for our operations.

Annual

Creating sustainable workplaces

Certifications

Pursue third-party green or healthy-building certifications for office projects, such as LEED, WELL Building Standard, and Living Building Challenge.

Annual

GHG emissions

Reduce single-occupancy vehicle commuting at our Bay Area headquarters to 45% of those commuting on any given day.

None

Provide electric vehicle charging stations for 10% of parking spaces at our Bay Area headquarters.

None

Waste

Reduce landfill waste per Googler at our Bay Area headquarters by 10% in 2017, compared with a three-year average baseline (2014–2016).

2017

Reading between the lines...

- Are the companies publishing their sustainability websites because they strongly hold those values
- Or is it a ploy appeasing to particular stakeholders?
- The lack of evidence suggests the latter...



Take Microsoft for example:

- GRI-Compliant reporting
- Shows consistent development
- No scandals

Year	Resilience Score
2003	1
2007	4
2013	7
2017	14



[Microsoft Corporation](#)

Climate Change 2018

2018

Submitted



[Microsoft Corporation](#)

Water 2018

2018

Submitted

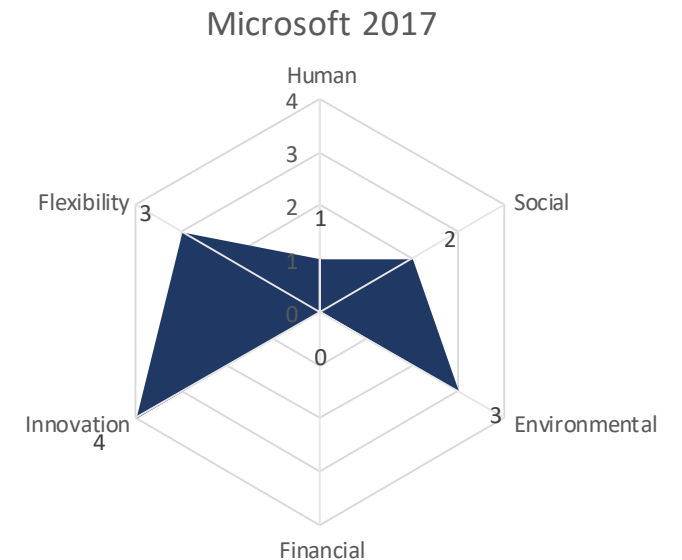


[Microsoft Corporation](#)

Climate Change 2017

2017

Submitted



Facebook, Inc. Common Stock
NASDAQ: FB

177.75 USD -4.29 (2.36%) ↓
Closed: 23 Aug, 7:58 pm GMT-4 · Disclaimer
After hours 177.40 -0.35 (0.20%)

1 day 5 days 1 month 6 months YTD 1 year 5 years Max



Apple Inc.
NASDAQ: AAPL

202.64 USD -9.82 (4.62%) ↓
Closed: 23 Aug, 8:00 pm GMT-4 · Disclaimer
After hours 201.80 -0.84 (0.41%)

1 day 5 days 1 month 6 months YTD 1 year 5 years Max



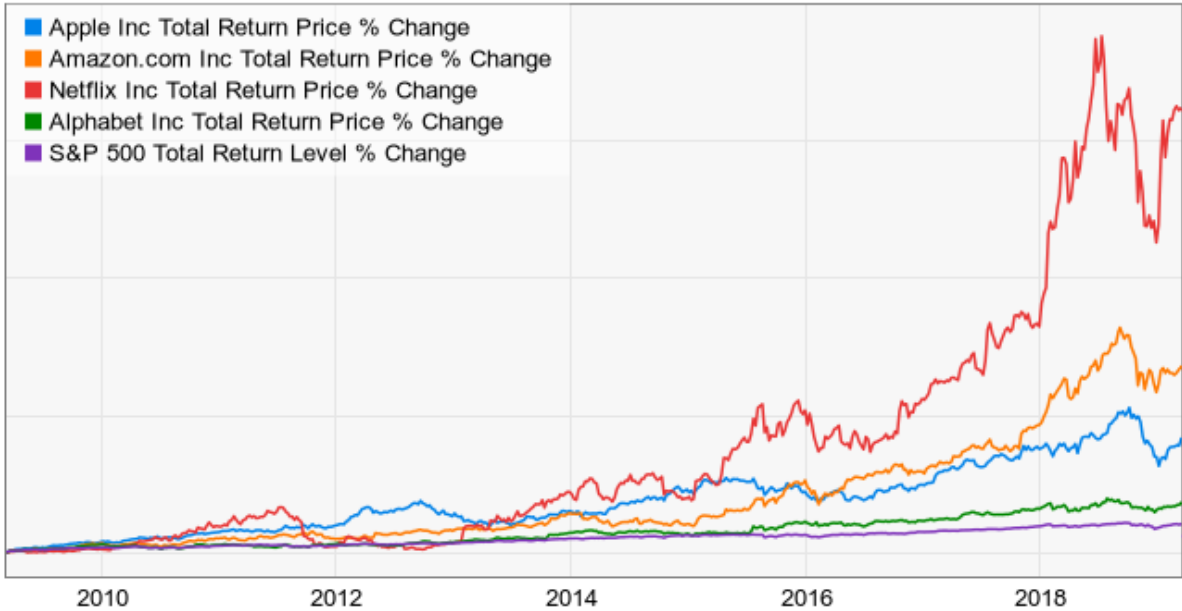
Amazon.com, Inc.
NASDAQ: AMZN

1,749.62 USD -55.98 (3.10%) ↓
Closed: 23 Aug, 7:59 pm GMT-4 · Disclaimer
After hours 1,745.10 -4.52 (0.26%)

1 day 5 days 1 month 6 months YTD 1 year 5 years Max



The Out-Performance of (F)AANG Stocks Since 2009



6.45K%
2.71K%
1.66K%
723.6%
412.5%

Netflix Inc
NASDAQ: NFLX

291.44 USD -5.49 (1.85%) ↓
Closed: 23 Aug, 7:59 pm GMT-4 · Disclaimer
After hours 290.75 -0.69 (0.24%)

1 day 5 days 1 month 6 months YTD



Class A
OGL

USD -37.94 (3.18%) ↓
Closed: 23 Aug, 7:59 pm GMT-4 · Disclaimer
After hours 1,745.10 -4.52 (0.26%)

1 day 5 days 1 month 6 months YTD 1 year 5 years Max





SCANDALS





'We are not robots': Amazon warehouse employees push to unionize



Apple silent amid iPhone 'chargegate' complaints

Amazon's Deep Bench Calms Investors Despite Bezos Scandal, NYC Rift

How did the companies respond?



FTC Slaps Facebook With \$5 Billion Fine, Forces New Privacy Controls



How could they improve?

- Introduction of a GRI-compliant report
- Maintain Stakeholder Engagement
- Change reporting methodology
 - I.e. Materiality Matrix
- Transparency
- SMART Targets
- Improve corporate image (less scandals)



Questions