



INTERNATIONAL EXPANSION STRATEGY  
DOORDASH'S ENTRY TO  
INDONESIAN MARKET



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# FRAMEWORK OUTLINE

Overview of 5 main assessments for DoorDash's expansion strategy.



# MARKET ANALYSIS

Indonesia has a rapidly growing food delivery industry, indicating significant growth opportunities for DoorDash.



### MARKET SIZE



**510.5 million**

orders from **38.2 million** consumers annually



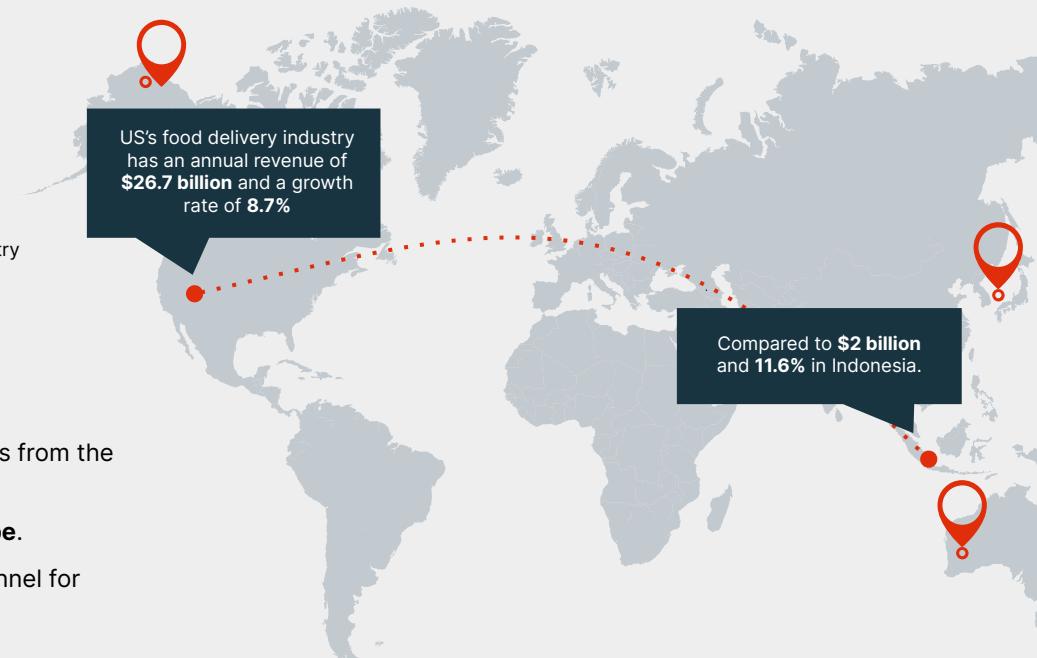
**\$2 billion**

in annual revenue



**11.6%**

in annual industry growth



### MACROECONOMIC TRENDS

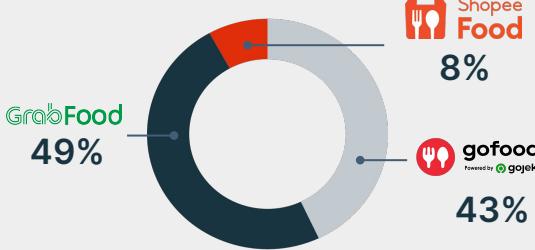
- Indonesia's **rapidly developing middle class** combined with impacts from the **COVID-19 pandemic** has led to significant growth in the industry.
- There is a trend of consumers **transitioning to the digital landscape**.
- Traditional trade channels** are still the most prominent buying channel for consumers, especially in **less developed regions**.

# MARKET ANALYSIS

With strong competition and local consumer behaviors, DoorDash will face several challenges to effectively penetrate the market.



## COMPETITIVE LANDSCAPE



## CONSUMER PREFERENCES



### LOCAL-MINDED

Consumers from all income levels tend to purchase from local businesses due to better value for money.



### TRUST

One of the key consumer attributes that affects **overall consumer behavior**.



### INCREASED BUYING POWER

Overtime, more consumers will purchase through **online means**.



### PRICE SENSITIVE

**Price** is the most impactful factor influencing purchase decision.

## MARKET ATTRACTIVENESS

### IS EXPANDING TO INDONESIA AN ATTRACTIVE INVESTMENT?



**Cheap labor** costs for dashers.



Excellent **growth opportunities** for new industry players.



Strong competition with significant **market power** and **competitive advantage**.

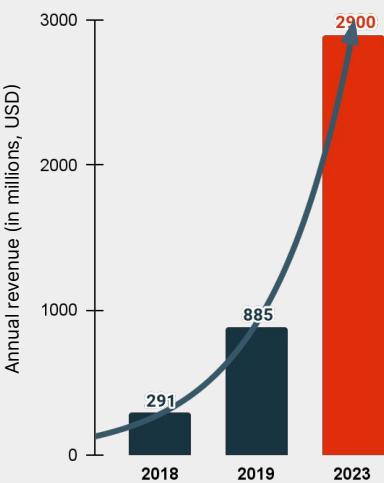
## KEY CHALLENGES FOR DOORDASH'S EXPANSION

- Product differentiation:** can DoorDash innovate to gain competitive advantage?
- Cultural Factors:** can DoorDash adapt to suit Indonesia's consumer preferences?

## COMPANY SNAPSHOT

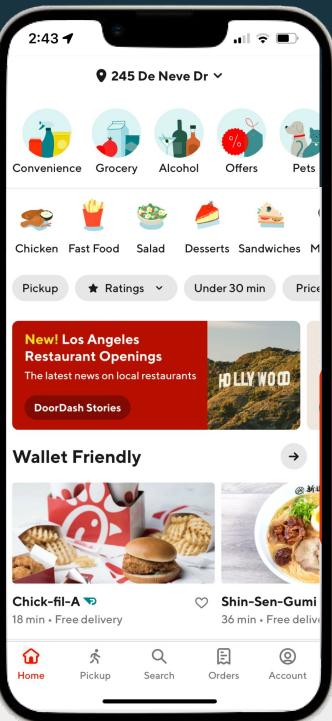
# COMPANY OVERVIEW

After DoorDash's launch in 2013, it has grown to become the largest food delivery company in the US.



### RAPID COMPANY GROWTH

DoorDash's revenues grew by **204%** from 2018-2019 and **226%** from 2019-2020, indicating continued growth overtime.



### ABOUT DOORDASH

American company founded in **San Francisco** operating as an **online food ordering and delivery** platform.

### LARGEST FOOD DELIVERY COMPANY IN THE US

Has a logistics platform across the US, Canada, Australia, and Japan that connects...



**450,000 + merchants**



**200 million + consumers**



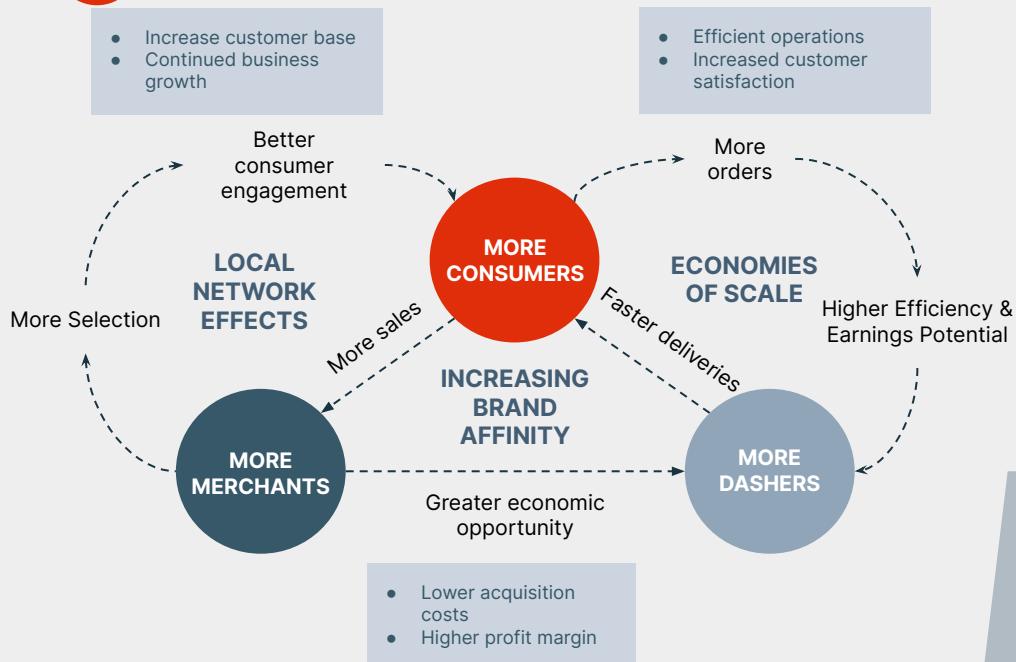
**1 million + dashers**

# COMPANY OVERVIEW

With a concrete business model and effective synergies, DoorDash can successfully contribute to the Indonesian food delivery space.



## CURRENT BUSINESS MODEL: THE DOORDASH FLYWHEEL



## SYNERGIES OF EXISTING CAPABILITIES



### TECHNICAL INNOVATION

- Well-established platform, systems and database.
- Machine learning algorithms further **personalize** selection to optimize **dasher efficiency**.



### FINANCIAL STRENGTH

- DoorDash currently has **significant revenue; projected to grow** at a strong rate.
- This large amount of cash will be able to finance and support potential market expansion schemes.



### BRAND REPUTATION

- A reputable name within the western market; increases **customer loyalty**, builds **confidence** in the market.
- Provides **invaluable customer data** for merchants; helps local, smaller F&B players.

# FINANCIAL ANALYSIS

DoorDash's projected revenue in Indonesia based on the company's revenue streams, current performance and market growth.

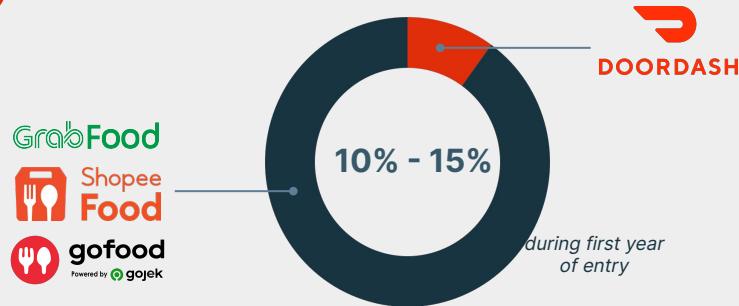
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## REVENUE STREAMS



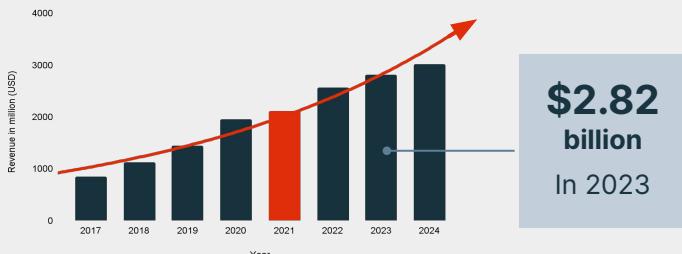
3

## DOORDASH'S MARKET SHARE IN INDONESIA



2

## FORECASTED REVENUE OF INDONESIA'S FOOD DELIVERY INDUSTRY



4

## DOORDASH'S PROJECTED REVENUE IN INDONESIAN MARKET (2023)

CONSERVATIVE

$10\% \times \$2.82 \text{ billion} = \$281.7 \text{ million}$

OPTIMISTIC

$15\% \times \$2.82 \text{ billion} = \$422.5 \text{ million}$

# FINANCIAL ANALYSIS

A breakdown and forecast of DoorDash's expansion costs.

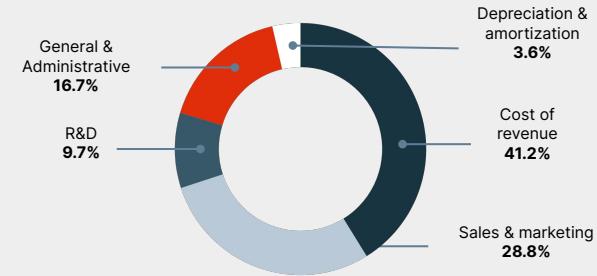
## PROCEDURE FOR COST FORECAST

- Use DoorDash's current revenue and costs in the US to determine cost-revenue ratio (efficiency ratio), which was found to be **1.09**.
- Based on projected revenue in 2023 and using the ratio of 1.09, DoorDash's **2023 benchmark cost** in Indonesia found.
- Reasonable to predict a **40% increase in marketing and R&D**.
- DoorDash's total costs in 2023 is forecasted to be **\$353-530 million**.

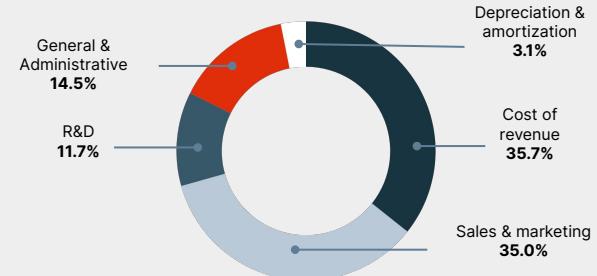
## ESTIMATED OVERALL COST

Cost Streams	Cost (conservative estimate) (in millions, USD)	Cost (optimistic estimate) (in millions, USD)
Cost of revenue, exclusive of depreciation and amortization	126.1	189.1
Sales and marketing	123.5	132.3
Research and development	41.4	44.4
General and administrative	51.3	76.9
Depreciation and amortization	11.1	16.6
<b>Overall Cost</b>	<b>353</b>	<b>530</b>
<b>EFFICIENCY RATIO</b>		<b>1.25</b>
<b>NET PROFIT MARGIN</b>		<b>-0.254</b>

## BENCHMARK COST BREAKDOWN



## ADJUSTED COST BREAKDOWN



# RISKS AND CONSIDERATIONS

A STEEPLE analysis assessing the barriers to entry in the Indonesian market.



## SOCIAL

- More R&D costs to understand local preferences
- Existing consumer loyalty towards competitors
- Majority of existing dashers already work for competitors
- Language barriers



## TECHNOLOGICAL

- Lack of digital infrastructure in Indonesia



## ECONOMIC

- High taxes for international companies (even higher rate than that in the US)
- Predominantly low-income demographic



## ENVIRONMENTAL

- Damaged infrastructure due to floods
- Poor traffic management



## POLITICAL

- Possibilities of political uprisings
- High rates of corruption creating additional costs



## LEGAL

- Fairly protectionist government policies
- Possibility of data privacy concerns
- Poor enforcement of laws and contracts



## ETHICAL

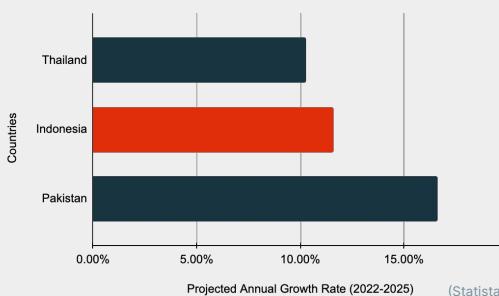
- Possible labor conflicts

# RISKS AND CONSIDERATIONS

Compared to other markets, Indonesia offers a balance of high growth potential and a robust business environment, making it an optimal location for expansion.

## 1 ALTERNATIVE 1: PAKISTAN

ANNUAL GROWTH RATE OF FOOD-DELIVERY INDUSTRY IN OTHER DEVELOPING COUNTRIES

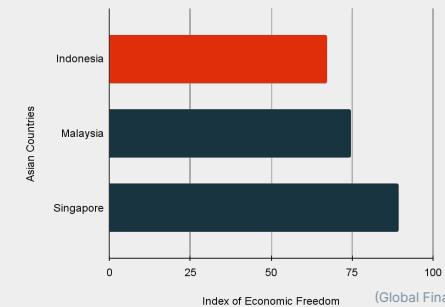


GLOBAL COMPETITIVENESS INDEX RANKING

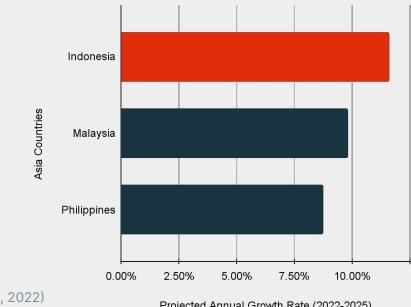


## 2 ALTERNATIVE 2: MALAYSIA

INDEX OF ECONOMIC FREEDOM IN OTHER COUNTRIES



ANNUAL GROWTH RATE OF FOOD-DELIVERY INDUSTRY IN OTHER DEVELOPING COUNTRIES



- + Pakistan is predicted to have the **highest growth rate** in the food delivery business amongst Asian countries.

- Indonesia has a better **physical infrastructure** than Pakistan; larger dashers' network, making it easier for DoorDash to conduct their business.

- + Malaysia is a country with similar socio-cultural landscape as Indonesia, but with a better **business environment** and **economic freedom**.

- In the food-delivery industry, Indonesia has **better prospects for growth**; Malaysian food delivery market is **more mature**.

## RECOMMENDED STRATEGY 1

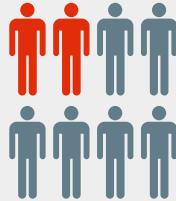
# PRICING STRATEGY

DoorDash will target mid to high income consumers with a combination of penetration pricing and competitive pricing strategies.



### TARGET DEMOGRAPHIC

Target middle to high income consumers



25%  
of the country

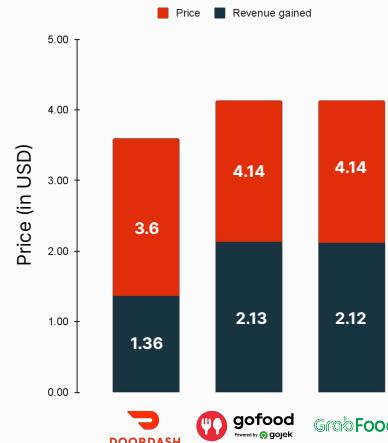
Target demographic take up majority of orders; located in urban cities where a lot of restaurants are available.



### PENETRATION PRICING → COMPETITIVE PRICING

- Begin with **penetration pricing** to establish a foundational customer base.
- Demographic has **high elasticity of demand** (lower prices will significantly increase quantity demanded).
- Offer **discounts** and **promotions** that keep initial prices lower than competitors'.
- Over time, transition to **competitive pricing** to **undercut competitors**.

### COMPARISON OF AVERAGE PRICE AND REVENUE GAINED PER ORDER



We're here, Indonesia!

Nikmati gratis ongkir untuk 30 hari!

Nikmati gratis ongkir untuk setiap pesanan diatas Rp. 100,000 untuk 30 hari kedepan. Hanya berlaku untuk pengguna DoorDash baru.

Gunakan promo sekarang



# PRODUCT DIFFERENTIATION STRATEGY

Strategies to differentiate DoorDash from other competitors for all three parties - Dashers, Consumers and Merchants.

## DASHERS

HIGHER COMPENSATION



- Establish **large dasher network** against competitors.
- Develop **better relationships** with the labor force.

## CONSUMERS

PRODUCT VARIABILITY AND  
LONGER OPERATIONAL HOURS



- Collaborate with **convenience stores** such as Indomaret and Alfamart.
- **24/7 operational hours** to capture vibrant nightlife scene in Indonesia.

## MERCHANTS

CUSTOMER DATABASE



- Provide **extensive customer database** to incentivize merchants to use DoorDash.
- Provide opportunities for merchants to **expand their business**.

# OPERATIONAL STRATEGY

Through localization strategies, DoorDash can tackle social risks by improving customer accessibility and consumer personalization, alongside the help of a highly-skilled workforce.

## OFFER ALL AVAILABLE PAYMENT METHODS



- Improve **customer accessibility** amongst middle class population.
- **Cash payments** for population that doesn't have access to online wallets or credit cards.
- **Buy now, pay later (BNPL), interest free!**

## OFFER RANGE OF LANGUAGES



- Consumers can use DoorDash in **Indonesian and Javanese**, the 2 main languages in Indonesia.
- Create a more **personalized consumer experience** within less urban regions.



## CONNECT WITH LOCAL FOOD STALLS

- Adds products variability, competitive advantage, and a **degree of localization**.

## EXPAND PROJECT DASH INITIATIVES

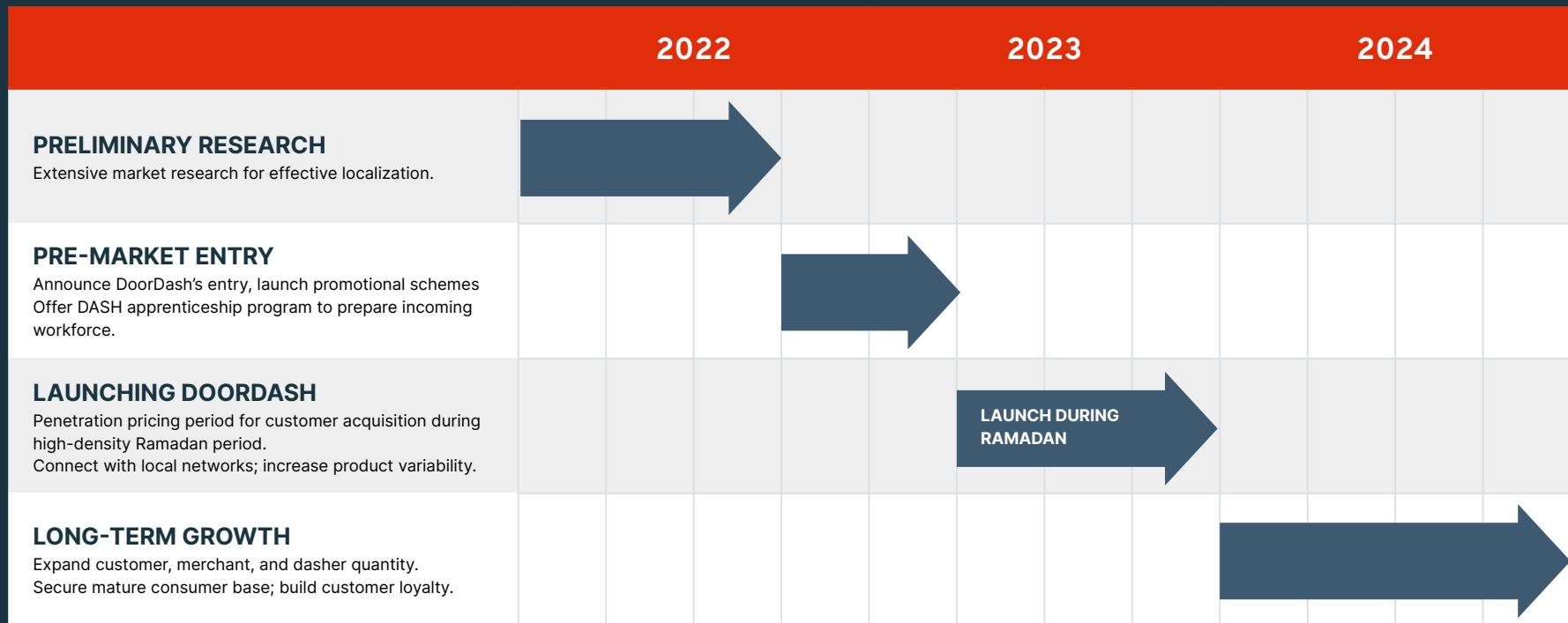


- Offer **educational opportunities** for company employees through STEM-based apprenticeships with SMASH.
- Develop **company loyalty** amidst **high-skilled workforce**.
- Improve **brand reputation**.



# IMPLEMENTATION TIMELINE

A recommended timeline for DoorDash's short and long-term strategies, with an expected launch in March 2023.



# APPENDIX

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## A. TOTAL REVENUE GENERATED BREAKDOWN AND PRICE PER ORDER

	Grabfood	Gojek	Doordash
Restaurant Commision Fees	30%	25%	20%
Delivery Fees	20.1%	25.4%	16.9%
Platform Fees	1%	1%	1%
Total Percentage of Revenue	51.3%	51.4%	38%
Revenue per Order (USD)	2.12	2.13	1.36
Total Price per Order (USD)	4.14	4.14	3.6

## C. PROJECTED COST BREAKDOWN: CONSERVATIVE

Cost Segments:	DoorDash's Benchmark Cost Breakdown in Indonesia 2023
Cost of Revenue	\$126.11
Sales and marketing	\$88.22
Research and development	\$29.59
General and administrative	\$51.26
Depreciation and amortization	\$11.06

\*\*extrapolating from current breakdown in the U.S.

## B. EFFICIENCY RATIO CALCULATION

DoorDash's Total Annual Revenue in the US	\$4,888
DoorDash's Total Annual Costs in the US	\$5,314
<b>Cost-Revenue Ratio</b> (Efficiency Ratio: Cost/ Revenue)	<b>1.09</b>

## D. PROJECTED COST BREAKDOWN: OPTIMISTIC

Cost Segments:	DoorDash's Benchmark Cost Breakdown in Indonesia 2023
Cost of revenue	\$189.15
Sales and marketing	\$132.32
Research and development	\$44.38
General and administrative	\$76.88
Depreciation and amortization	\$16.59

\*\*extrapolating from current breakdown in the U.S.

L.E.A.P TOWARDS SUSTAINABILITY

# LALALIME'S ACQUISITION OF PANGAIA



Leilany Chan

Everett Tung

Ethan Lau

Agastya Rao

Alison Hui



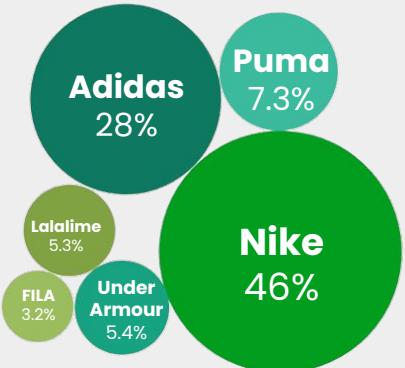
# SUSTAINABLE ACTIVEWEAR MARKET OVERVIEW

The sustainable activewear market is growing at a rapid strong rate, indicating promising opportunities.

## AT A GLANCE:



## COMPETITIVE LANDSCAPE:

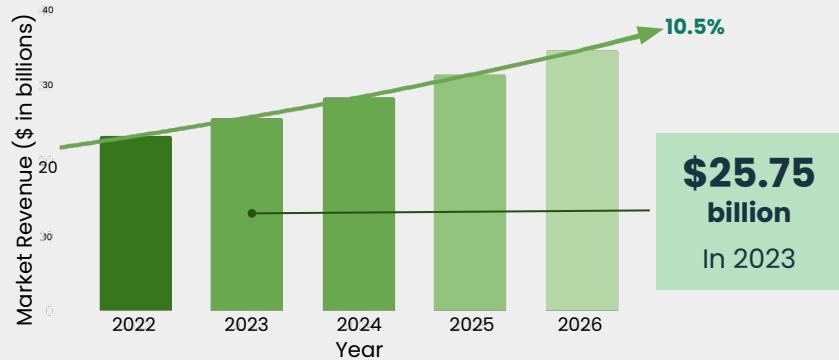


Major competitors in the **activewear industry** are also moving towards **sustainability**.

Unique advantages of activewear have increased in **acceptance** among consumers

## GROWTH DRIVERS:

### Sustainable Activewear Market Revenue



- Increase in **environmental** and **health consciousness**
- Rising **middle class** and more **disposable income**
- Trend in **athleisure** and sustainability

## CONSUMER HESITATION:

- Lack of **knowledge** and **visibility** of sustainable clothing
- **High price** of sustainable clothing
- “Limited” in **style** and **availability**

# LALALIME OVERVIEW



Founded in 1998, Lalalime has become one of the world's largest lifestyle-inspired athletic apparel companies.

## Targets:

### SHORT TERM

Introduce a **more sustainable** line of clothing within Lalalime

### LONG TERM

**100%** of products made **sustainably** and meet **climate targets by 2050**

## Highlights:

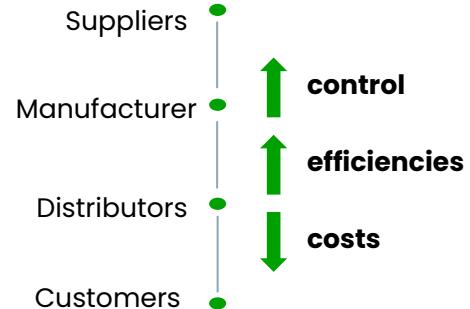


Mature **Feedback Collection** Mechanism

Move towards **sustainable materials**

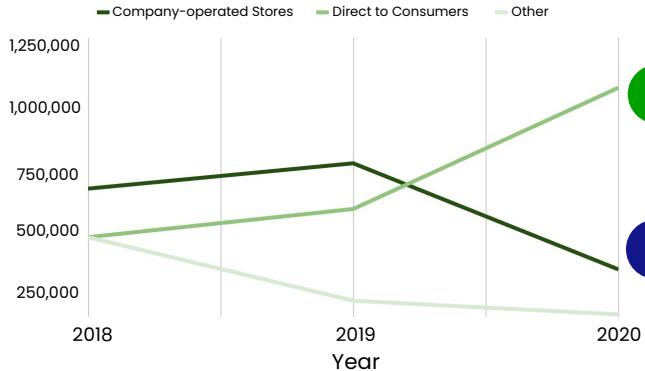
Acquired **digital at-home workout platform**

## Vertical Retail Strategy:



## Financials:

### Revenue Stream Breakdown



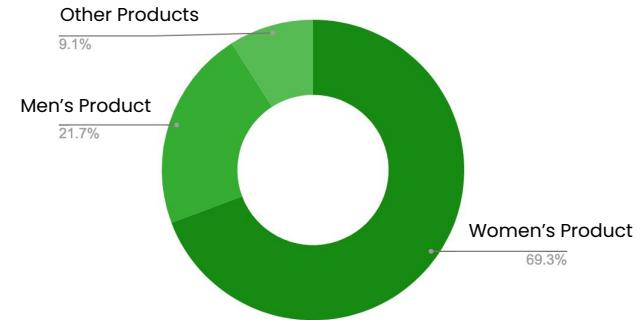
**Net Revenue: \$4.4B**  
Increase by 11%

**Gross Profit: \$2.5B**  
Increase by 11%

**Direct-to-consumer Net Revenue: 101% > \$2.3B**

**Company Operated Stores Net Revenue: 34% > \$1.7B**

### Sales Breakdown

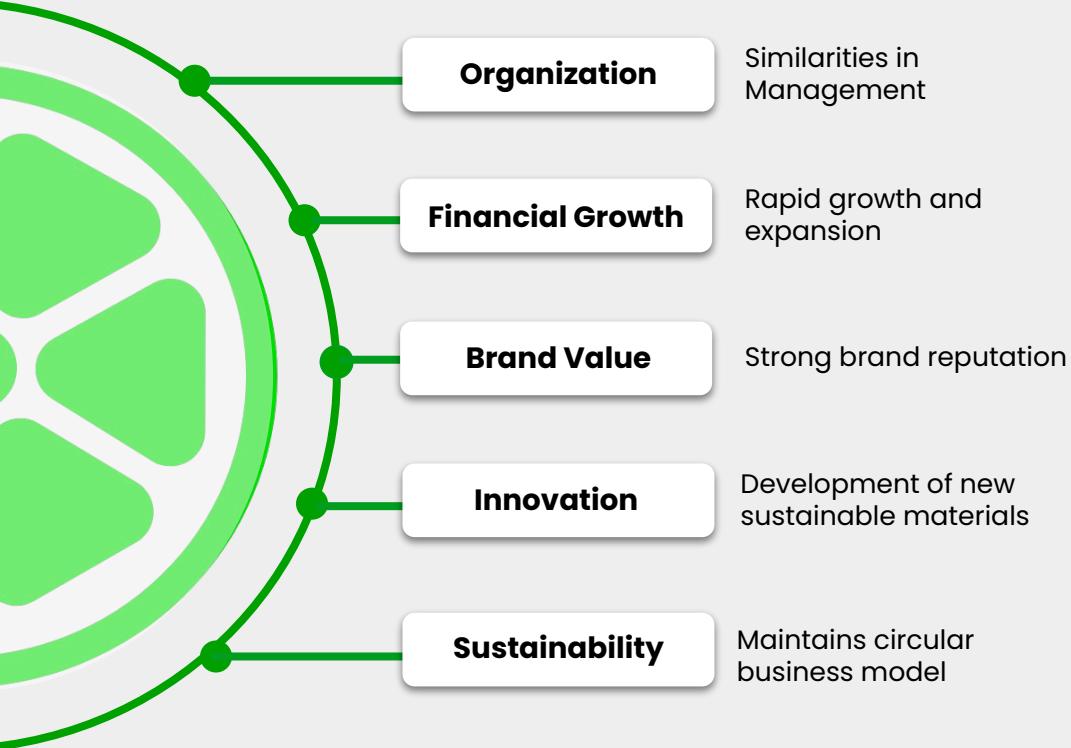


# CRITERIA FOR TARGET COMPANY



5 key factors that determine a target company that will propel Lalalime into the sustainable athletic apparel industry.

## Factors in Consideration:



Similarities in Management

### Financial Growth

Rapid growth and expansion

### Brand Value

Strong brand reputation

### Innovation

Development of new sustainable materials

### Sustainability

Maintains circular business model

## Potential Companies:



### Alo Yoga:

- Distinctive branding
- Relationships with celebrities
- 100% sweatshop free



### Tentree

- Unique business model
- Innovative materials
- Unexpected job opportunities



### Girlfriend Collective

- Size inclusive
- Specific marketing
- Circular business model

# TARGET COMPANY OVERVIEW



Pangaia is a vibrant company that has already made a mark on the sustainable clothing market.

## PANGAIA



pan | pæn — gaia | gaiə

**Pan** - All-inclusive **Gaia** - Mother Earth

Launched in **2018** in the UK and has since spread



Pangaia is a direct-to-consumer **materials science company** bringing breakthrough textile innovations and patents into the world through **everyday lifestyle products**

2020 Revenue:  
**\$75 Million**

Aims to make sustainable materials more **accessible**

Garnered a strong following contributing to the company's **potent** brand value



## Innovation:



FLWRDWN



C-FIBER™



PPRMINT™

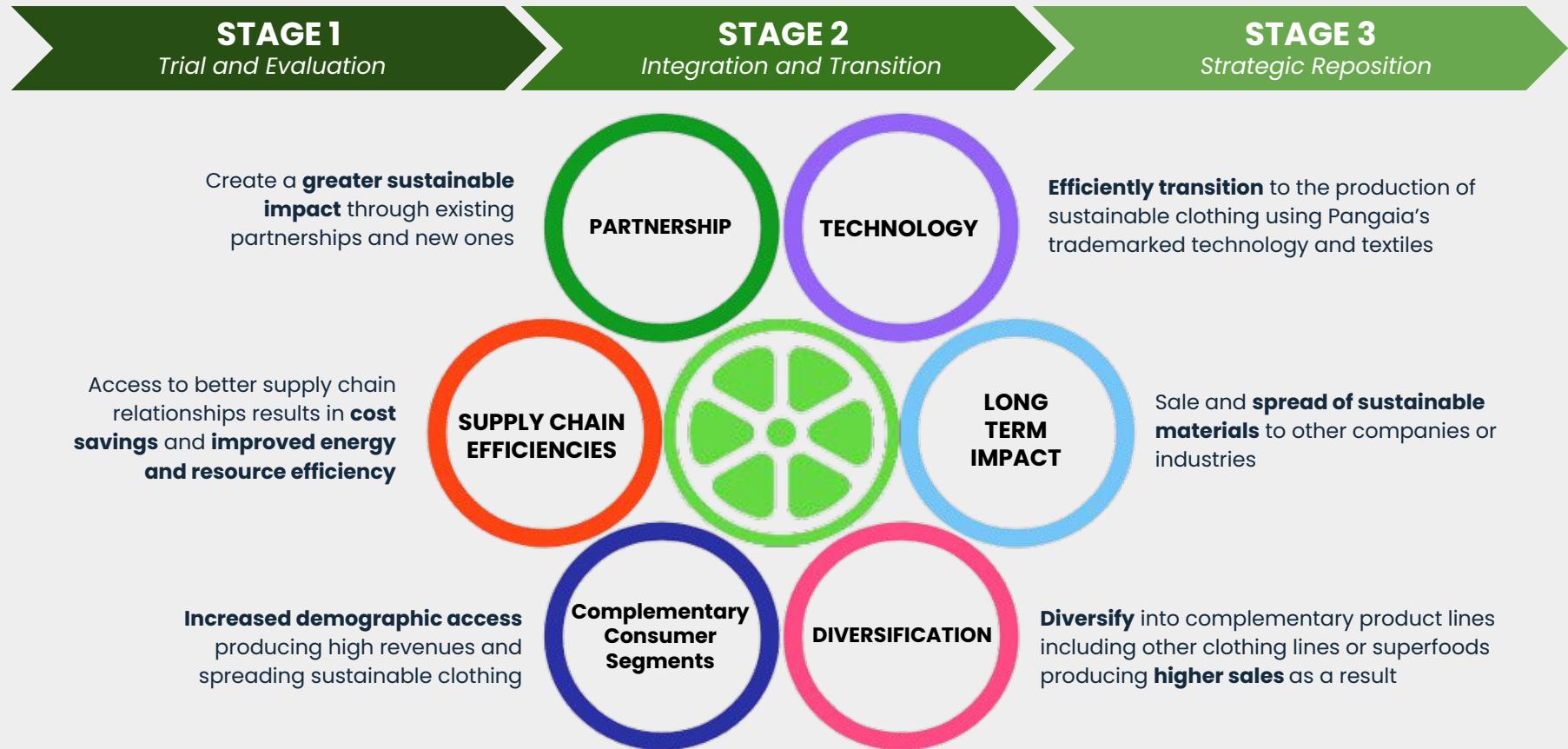
## Sustainability Stages:

1. Meeting SDG goals has been the **focal point** since Pangaia's inception
2. 3 stages into becoming a **carbon-positive company**
3. Pangaia has strong partnerships with **SeaTrees** and **Milkywire**

# SYNERGIES AND INTEGRATION TIMELINE



The 6 key synergies from our acquisition and the integration timeline thereafter.





# FINANCIALS OF ACQUISITION

The projected costs and revenue growth that lead to an overall recommendation for this acquisition.

## Cost Streams Projection:



## Acquisition Cost Projection:

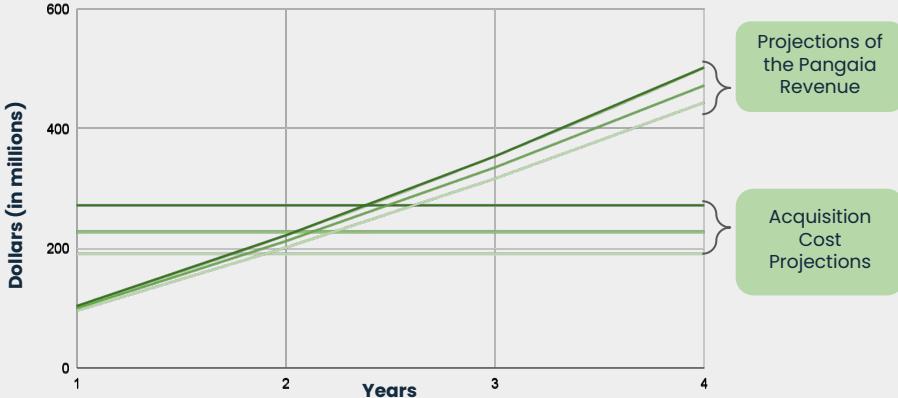


## Revenue Projection (2023):



## Break-Even Projection:

### Revenue and Cost Projection



**Break-Even Point : 1.73 – 2.6 YEARS**

● Changing consumer tastes, market saturation, or unforeseen events may affect the projected revenue growth rate

● Upon consideration of the various yearly cost streams, the true break even years will be later than those shown on the graph

# RISKS + MITIGATIONS



5 key risks identified and respective mitigants.

## KEY RISKS

1

**Discrepancies in brand identity, culture, and management**

2

**Transferability of Technology**

3

**Difficulty in Capturing Synergies**

4

**Macroeconomics Disruptions**

5

**Consumer Preferences**

## MITIGATIONS



a transition task force/team can help support the collaboration and research



creating a crossover activewear line as a start may help transfer the tools and technique



a slow roll out with trial periods in conjunction with Lalalime's fitness acquisition to help smooth out the process



Lalalime's factories will adapt to Pangaea's technology, creating a more secure supply chain for Pangaea



Provide succinct and educational information about the positive impacts of sustainability on labels and tags

# IMPLEMENTATION STRATEGIES



Implementation strategies that will ensure a smooth integration between Lalalime and Pangaia.



## THE CAPSULE WARDROBE



A selection of **interchangeable** clothing pieces that **complement** each other

To **further their integration**, capsule wardrobes will include pieces from Lalalime and Pangaia

### Benefits

- Novel and fresh method of shopping for clothing
- Customizable and curated closet essentials
- Increased lifespan due to trendiness and durability



## CIRCULAR GUEST MODEL

**20%**

On average, we wear only 20% of what we own

**80 LBS**

Globally, 80 pounds of clothing is thrown away each year

With a **highly flexible trade-in policy**, along with the capsules, guests can resell, repair, and recycle purchased products from both Lalalime and Pangaia



## SOCIAL MEDIA CAMPAIGN



### Fitness Challenge

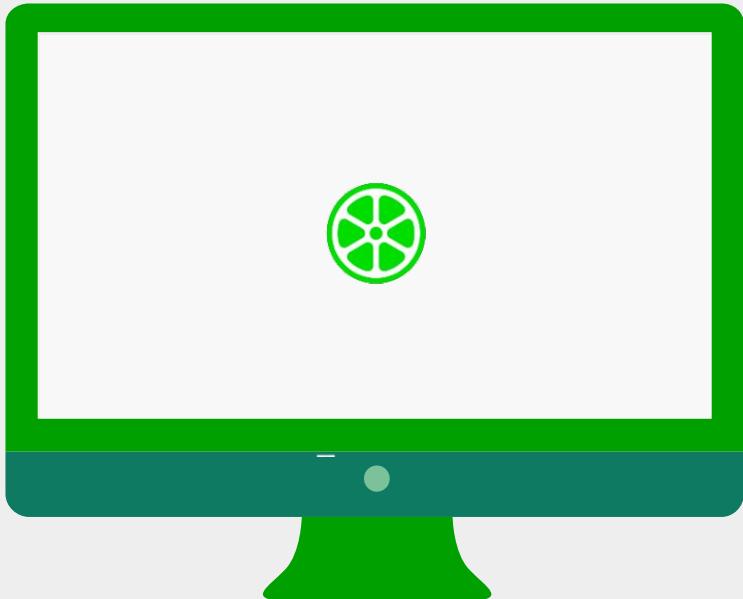


### Interactive Filters

- Collaborate with fitness influencers
- Create at-home workout plans
- Add Lalalime filters to raise awareness

# THE LALALIME ECOSYSTEM

The future of Lalalime.



**The Lalalime Alliance**  
Connect, Collaborate, Create



**The Lalalime Program**  
All in One Fitness Package



**The Lalalime Leap**  
Leap Towards Sustainability

# APPENDIX



**Table 1: Finding acquisition cost to revenue ratio**

Company	Annual Revenue	Acquisition Cost, or Enterprise Value	Acquisition Cost-Revenue Ratio
Prana	100	188.5	1.89
Athleta	37	150	4.05
Allbirds	219.3	700.24	3.19

**Table 2: Predicting Acquisition Cost**

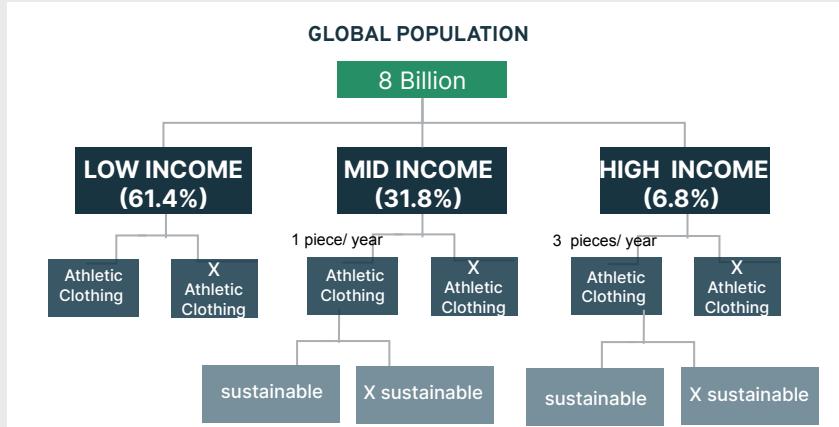
\*Pangaia's Annual Revenue is \$75 million

in \$millions	Average	25th percentile	75th percentile	Max	Min
Acquisition Cost-Revenue Ratio	3.044x	2.539x	3.624x	4.054x	1.885x
Acquisition Cost	228	190.425	271.763	304.05	141.375

**Table 3: Annual revenue forecasting based on different CAGRs**

Percentage	Classification	2020	2021	2022	2023	2024	2025
10.50%	Industry Average	75	82.88	91.58	101.192	112	123.56
9%	Pessimistic	75	81.75	89.11	97.13	105.87	115.4
5%	More Pessimistic	75	77.25	79.57	81.95	84.41	86.95
3%	Super Pessimistic	75	77.25	79.57	81.95	84.41	86.95
12%	Optimistic	75	84	94.08	105.37	118.01	132.18

**Graph 1: Market Sizing (Sustainable Global Activewear)**



Sustainable Athletic Clothes Sold:

**8 billion x 31.8% x 20% x 20% = 101.76 million**

**8 billion x 6.8% x 50% x 40% x 3 = 364 million**

Total Revenue:

$$\begin{array}{r}
 \textbf{466.16} \\
 \textbf{million} \\
 \times \textbf{\$50} \\
 \text{average price per} \\
 \text{piece of clothing} \\
 = \textbf{\$23.3 billion} \\
 \text{in revenue per year}
 \end{array}$$



ADAPT Consulting

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# Evaluation of Apple's ESG Strategy: A Roadmap to Net Zero

# Meet the ADAPT Team



Aaron Yeo



David Gruuber



Alison Hui



Peter Goh



Eileen Tracy

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# A Summary of our Findings

# We assessed Apple's environmental performance across four main areas

**1**

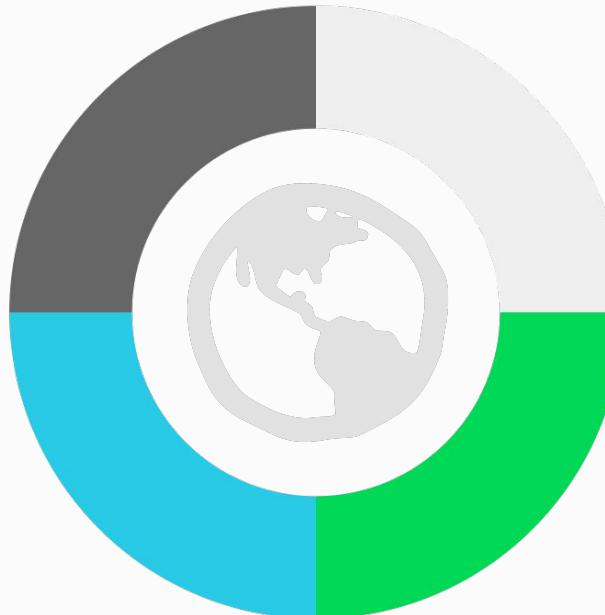
## Strategy and Goals

How ambitious our Apple's targets? Are they setting science-based targets?

**2**

## De-Carbonization Initiatives

Is Apple taking strides to reduce their carbon footprint in their operations?



## Carbon Footprint Transparency

Does Apple follow accredited reporting standards (GRI, CDP, etc.)?



## Use of Offsets and Removals

Is Apple over reliant on carbon offsets? Are more than 10% of their base year emissions being offset?

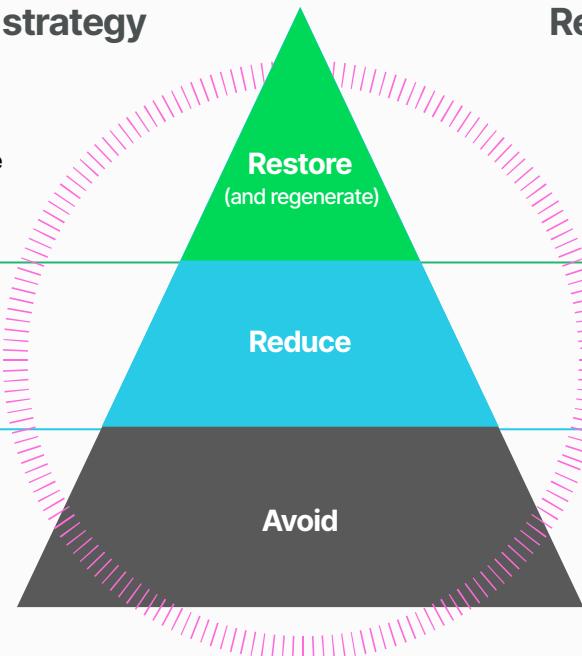
# Three recommendations for Apple to move towards sustainable, system-wide change

## Gaps in Apple's existing climate strategy

Apple's initiatives align with existing regulations but **fall short of emerging climate standards**; lack of holistic climate goals company-wide

Apple has been criticized for replacing, instead of fixing products; **annual product cycle promotes high material use**

65% of carbon emissions from **product manufacturing**; decarbonizing supply chain needs to be more aggressive



## Recommendations to address gaps

### Reframing a Holistic Climate Strategy

Stand at the forefront of climate efforts through increased transparency and investments in climate and biodiversity

### Revitalizing the product life cycle

Pilot product lines that extend product-life cycle through modular design and emphasizing repairability

### Building Apple GreenHubs

Low-carbon manufacturing hubs in emerging locales with high opportunities to scale

2

# Baselining and Research

# Apple has set ambitious targets for carbon neutrality, but lacks climate positive solutions

1

100% neutrality across **corporate** carbon footprint

2

100% neutrality across **entire company** carbon footprint, including products

3

100% clean energy across **entire product value chain**, from manufacturing to product use



Addresses both upstream and downstream emissions

Achieved 100% neutrality for corporate footprint

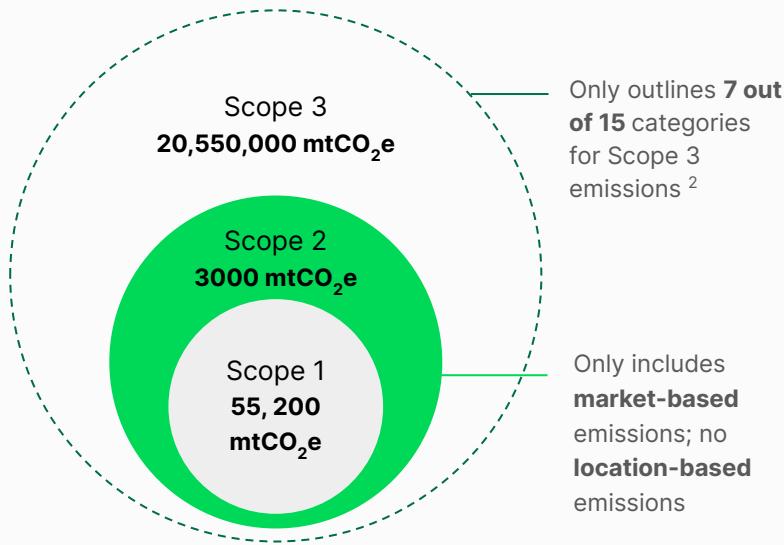


Does not account for all GHG emissions

No outlined mid-term environmental goals for 2030-2050

# A snapshot of Apple's governance and climate disclosures<sup>1</sup>

## GHG Emissions



## Climate Disclosures



### Water

**1,527 million gallons;**  
reports water use from high-stress areas



### Land Use

No reporting on sites owned, leased, or managed in key biodiversity areas



### Landfill Waste

**33,260,990 lbs; 71%**  
waste diverted from landfills

## Governance Disclosures



### Board Qualifications

Has one board member with climate competencies



### Stakeholder Engagement

No materiality issues disclosed



### Incentives

Executive team & managers receive bonuses for emissions & energy reductions

[1] Following Planet Pillar in [World Economic Forum's Core Metrics](#) for corporate sustainability disclosures

[2] Missing: 1) Capital goods, 2) fuel and energy-related activities, 3) waste generated in operations, 4) upstream leased assets, 5) processing of sold products, 6) downstream leased assets, 7) franchises, and 8) investments

# Raw Materials, Distribution, and Recovery are key improvement areas in Apple's LCA<sup>1</sup>



## Supply



**Materials Sourcing**  
Strong push for recycled materials

**Supplier relations**  
Responsible Sourcing of Materials mandate



## Production



**Clean energy**  
Strong investments in clean energy amongst suppliers

**Efficient Manufacturing**  
Innovative processes with manufacturers

**Eliminating toxic chemicals**  
Phasing out PFAs with Toward Zero Exposure Program



## Distribution



**Materials Usage**  
Less plastic usage

**Transporting Products**  
Using ocean freight and pilot programs



## Product Usage



**Clean energy**  
Significant investment in clean-energy programs

**Energy efficiency**  
Apple products beat STAR energy efficiency ratings by more than 50%



## Recovery



**Product longevity and durability**  
4-year trade-in value

**Product Repairs**  
Embraces right-to-repair, though historically poor

**Landfill Waste**  
2.5m tons waste redirected

**Carbon offsets**  
High quality offsets



Weak env. commitment



Moderate env. commitment



Strong env. commitment

[1] See Appendix A-E

# Apple is has room to align with emerging environmental regulations...

Regulation <sup>1</sup>	Climate Corporate Data Accountability Act (SB 253)	Climate-Related Financial Risk Act (SB 261)	SEC Rules for Standardized Climate Disclosures	EU Corporate Sustainability Reporting Directive
Year in effect	Starting 2026	Starting 2026	Starting 2024	Starting 2024
Considerations for Apple	<ul style="list-style-type: none"> <li><span style="color: green;">✓</span> Apple reports direct emissions and general Scope 3</li> <li><span style="color: green;">✓</span> Apple employs third-party auditors</li> <li><span style="color: red;">✗</span> Scope 3 reporting could be more comprehensive to comply with CDP reporting standards</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: green;">✓</span> Apple details both physical and transition risks from climate change</li> <li><span style="color: green;">✓</span> Apple has comprehensive climate mitigation and adaptation strategies</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: green;">✓</span> Apple has disclosed BOD oversight of climate issues</li> <li><span style="color: red;">✗</span> Needs further disclosure of material issues affecting business strategy</li> <li><span style="color: red;">✗</span> No specific line items for capitalized costs, expenditures expensed, or losses related to offsets and RECs in financial statements.</li> </ul>	<ul style="list-style-type: none"> <li><span style="color: green;">✓</span> Apple is committed to transparency in ethical conduct and lobbying practices</li> <li><span style="color: green;">✓</span> Apple has a dedicated section of their annual management report</li> <li><span style="color: green;">✓</span> Apple discloses how administrative, management, and supervisory bodies oversee sustainability issues</li> </ul>

<sup>1</sup> See Appendix F

# ... and could make stronger commitments towards evolving global climate standards

	Description of env. standard	Committed? <sup>1</sup>	How well does Apple comply?
 SCIENCE BASED TARGETS	Comprehensive framework for companies and financial institutions to set emissions reduction targets in line with the latest climate science	✓	Apple has committed and set targets compliant with the SBTi guidelines but has only reported 7/15 of the Scope 3 emission categories
 TCFD   TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES	Framework for companies and financial institutions to disclose climate-related financial risks and opportunities	✓	Their ESG report includes disclosures aligned with TCFD, showcasing efforts towards transparency and addressing climate-related financial information
 Taskforce on Nature-related Financial Disclosures	Framework for organizations to report and act on evolving nature-related risks and opportunities	✗	Apple's robust environmental policies and initiatives show efforts that typically align with frameworks like the TNFD
 Voluntary Carbon Markets Integrity Initiative	Ensure integrity and transparency in the voluntary carbon market	✗	Not committed, however, Apple has disclosed comprehensive details about some carbon offsets that they retired

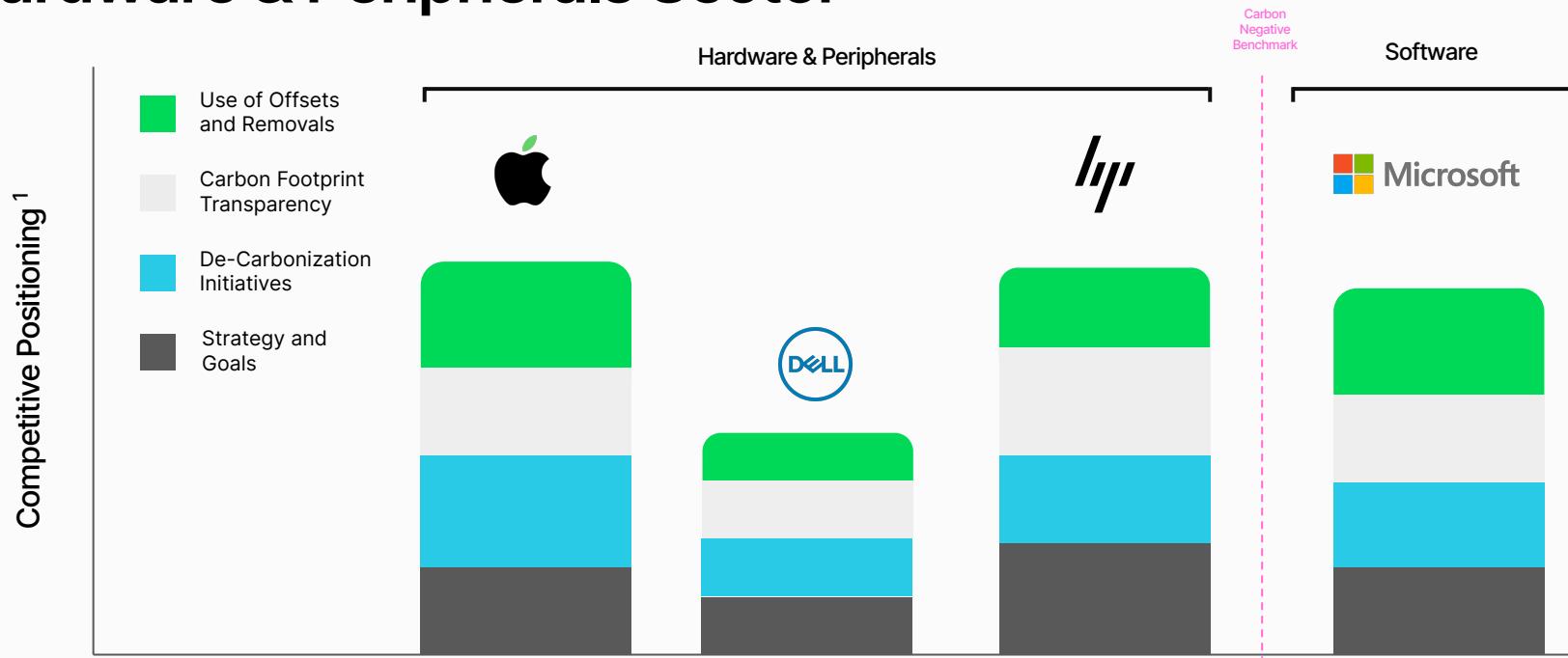


# Competitive Landscape

# We assessed Apple's environmental performance relative to major players in the Information Technology industry...

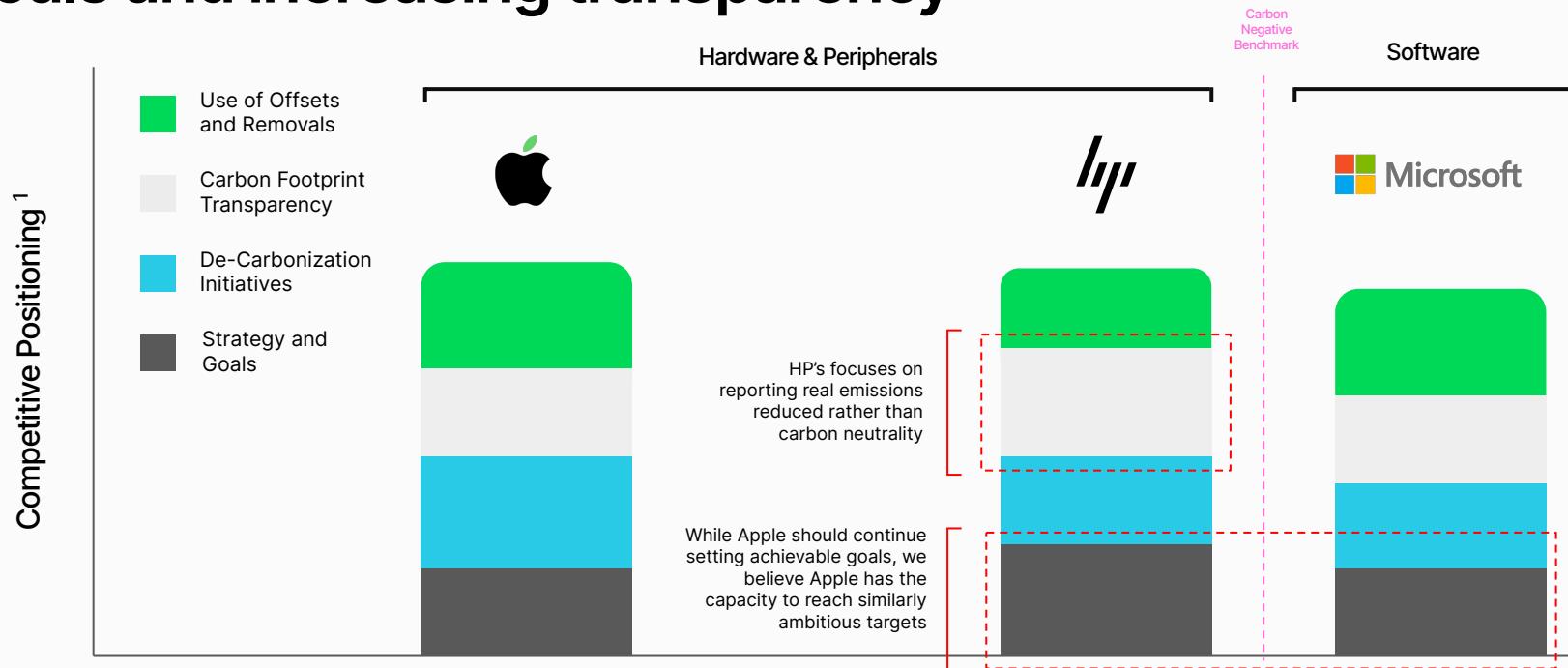
	Hardware & Peripherals			Software
	Apple	Dell	Hewlett Packard Enterprise	Microsoft
<b>Strategy and Goals</b>	2030 - Carbon Neutral 2050 - Net zero	2050 - Net Zero	2025 - Carbon Neutral 2040 - Net Zero	2030 - Carbon Negative
<b>Carbon Footprint Transparency</b>	Moderate alignment with CDP & SBTi	Weak alignment with CDP & SBTi	Strong alignment with CDP & SBTi	Strong alignment with CDP & SBTi
<b>De-Carbonization Initiatives</b>	Realistic targets, direct investments, less RECs, LCA has room for improvement	Insufficient targets	Ambitious net zero target, but heavy use of RECs	Focus on offsetting rather than emission reduction
<b>Use of Offsets and Removals</b>	Active investment in high quality carbon removal offsets	Low level of usage	Lack open disclosures	Active investment in CDR, nature-based solutions and DAC

# ... and determined Apple's position as best-in-class in the Hardware & Peripherals Sector



[1] Conducted qualitative research from a scale of 1-5 for each criteria being evaluated

# Apple has room to improve in setting more ambitious goals and increasing transparency



[1] Conducted qualitative research from a scale of 1-5 for each criteria being evaluated

4

# Discussion and Analysis

# Based on our research, Apple needs a more concrete roadmap to net-zero...

## Strategy and Goals



Ambitious targets only lagging behind Microsoft & HP.

**Ambitious Targets and Steady Progress:** Apple is **first in industry** to be carbon neutral across corporate emissions. **Strong emissions reduction progress** relative to competitors

**Lack of Concrete Roadmap:** Apple **lacks a roadmap to net-zero** between 2030 - 2050, and **does not have a materiality map** in its disclosures

**Governance Structure:** CSO, executive team & managers receive bonuses for emissions & energy reductions, but lack of incentives for larger Apple team

## De-Carbonization Initiatives



Though Apple leads the way, there is room for growth.

**Renewable Energy:** Focus on ownership, investments and long term PPA and low (3.5% of total load, 8% of Supplier) use of RECs. **20+ GW** of clean energy commitments, of which **66% are operational**. Strong initiatives for clean energy in product use

**Supplier Clean Energy Program:** While pledged suppliers make up 80% of Apple's direct spend, some **heavy emitters have not committed**

**Distribution:** Transition towards ocean freight, with **95% less emissions**

# ... and needs to establish stronger climate transparency

## Carbon Footprint Transparency



Apple leads in industry but lacks comprehensive reporting

**Incomplete Methodology for Emissions Reporting:** Does not follow full CDP framework for Scope 2 and 3 emissions

**Independent reporting:** Apple hires a third-party auditor for environmental reporting<sup>1</sup>

**False Carbon Neutral Claims:** Apple had to backtrack on its carbon neutral claims after IPE found that more disclosure about suppliers are needed<sup>2</sup>

## Use of Offsets and Removals



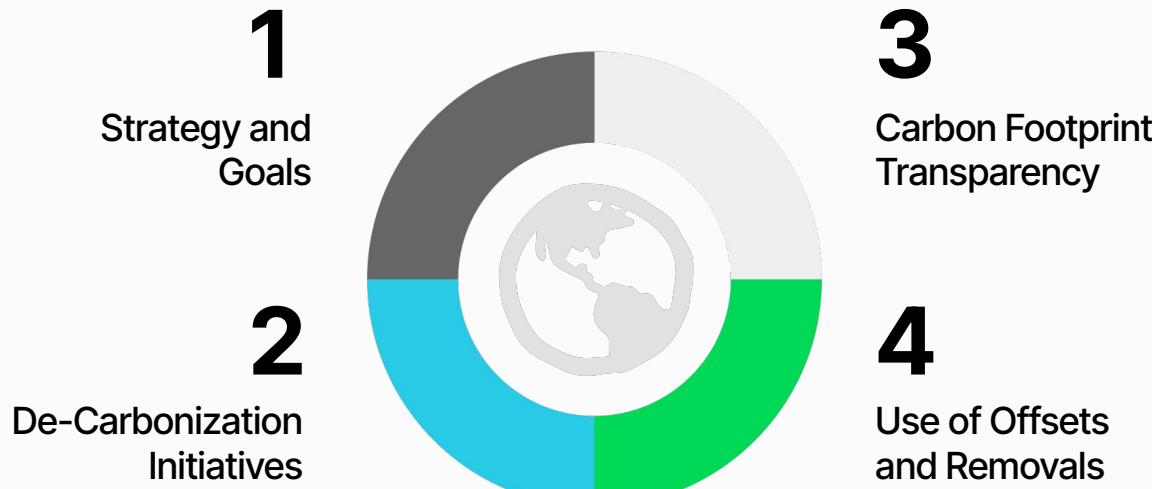
Apple actively invests in high quality removal projects<sup>3</sup>

**Focus on Carbon Removal:** Rather than low quality carbon avoidance, Apple focuses on high quality carbon removal offsets

**Restore Fund:** Apple launched a USD 220 million Restore Fund in nature based solutions, that removes carbon while restoring critical ecosystems

**Compliance with global climate standards:** Apple has room to improve by integrating a biodiversity framework into its removal strategy

# Apple's environmental performance across 4 main areas



Apple shows a strong commitment to corporate net-zero with innovative and high quality programs.

Short-term goals for 2030 are on-track for success, but long-term goals leave opportunities for innovation on the table.

We've identified three areas for improvement:

- Unclear roadmap for long-term implementation
- Trailing behind industry leaders' goals
- More transparent reporting for existing net-zero standards needed



# Our Recommendations

# Three solutions to help Apple reach net zero

## 1 Apple GreenHubs

Direct future renewable energy initiatives towards creating low carbon manufacturing hubs



## 2 Redefining the Product Life Cycle

Extend product-life cycle through modular design and emphasizing repairability



## 3 Reframing a holistic climate strategy

Stand at the forefront of climate efforts through increased transparency and investments in climate and biodiversity



# Apple GreenHubs: Redefining Sustainable Manufacturing

## Description

Direct future renewable energy initiatives towards creating low carbon manufacturing hubs. Concentrate investments and efforts on clean energy initiatives specifically in locales with the potential to adopt, apply, and centralize advancements within manufacturing sectors at scale

## Why?

65% of total Scope 1-3 emissions comes from product manufacturing<sup>1</sup>, and only 24% of supplier energy procurement mechanisms comes from renewable energy certificates<sup>2</sup>

Apple needs to find more effective ways to nurture its Supplier Clean Energy Program

## Our Solution



Enable more suppliers to meet carbon neutral goals



Stimulate economic development and job creation



Directly influence default grid mix of the area



Boost share of direct investments in supplier renewable energy procurement over renewable energy certificates

### Stakeholders Engaged

Suppliers, Government, Public Perception

### Est. Emissions Abatement<sup>3</sup>

1.53 mtons CO<sub>2</sub>e



# Apple GreenHubs: Redefining Sustainable Manufacturing

## Description

Direct future renewable energy initiatives towards creating low carbon manufacturing hubs. Concentrate investments and efforts on clean energy initiatives specifically in locales with the potential to adopt, apply and centralize advancements within manufacturing sectors at scale

## Risks

### Financial

The development of low carbon manufacturing hubs requires significant infrastructure

### Regulatory

Complex regulatory landscape associated with renewable energy projects and manufacturing in less developed regions

### Environmental

Projects can have significant environmental impacts, including habitat destruction, biodiversity loss, and more

## Mitigation

1

Selection of locations based on existing infrastructure, scalability, and proximity to key resources & logistics networks

2

Collaborate with governments/private sector entities to share the investment and risk

3

Conduct relevant assessments and integrate sustainable design principles into the project



# Apple GreenHubs: Redefining Sustainable Manufacturing



## Tesla Gigafactory in Nevada, USA

*It is designed to be powered entirely by renewable energy sources, with a combination of on-site solar, wind, and geothermal energy*

### COST REDUCTION

The Gigafactory has achieved economies of scale in battery production, significantly reducing the cost of batteries

### HUB EFFECT

Since its inception, the factory has created 7,059 jobs as of mid-2018, with the total economic impact of construction estimated at \$3.2 billion

## KEY ROI ELEMENTS

### Energy Efficiency

Renewable sources like solar and wind are becoming increasingly cost-competitive with traditional fossil fuels

### Access to New Markets

Manufacturing hubs focusing on low carbon practices can tap into the market demand for sustainable products

### Brand Enhancement

Apple would be able to lower Scope 3 emissions by enabling its suppliers to have access to clean energy and attain low carbon emissions while expanding into new locations

### THE HUB EFFECT

Large-scale renewable energy projects can stimulate local economies by creating jobs and developing new skills in the workforce. This can lead to broader community growth

## CASE STUDY



# Revitalizing the Product Lifecycle

## Description

Emphasize repairability to reduce consumption and foster environmentalism throughout the product lifecycle. Incorporate modular design to meet demand for long-lasting products as well as opportunities to increase market share among environmentally conscious consumers

## Why?

78% of consumers care about sustainable products<sup>1</sup>

Despite Apple's commitment to improving product lifespan and repairability, Apple has had a history of **restricting access to repairs**<sup>2</sup>

Apple must **expand access to trade-in and product recovery** programs to wider markets

## Our Solution



Devices designed for easy disassembly, component accessibility, and replacement to extend product lifespan



Offer upgradeable modular component options and model compatibility to reduce manufacturing emissions

### Stakeholders Engaged

Consumers, product designers

### Est. Emissions Abatement<sup>[3]</sup>

1.09 mtons CO<sub>2</sub>e



[1] McKinsey, 2023 [2] Appendix E [3] Appendix

# Revitalizing the Product Lifecycle

## Description

Emphasize repairability to reduce consumption and foster environmentalism throughout the product lifecycle. Incorporate modular design to enhance sustainability and meet consumer demand for long-lasting products

## Risks

### Financial

Longer lifespan of products could lead to reduced frequency of purchases, impacting profit margins

### Technological

Significant engineering challenges that may constrain design flexibility and lead to compromises in form factor and aesthetics

### Strategic

Long trajectory of design within a highly competitive and ever-evolving market

## Mitigation

1

Create pilot program for separate “eco” product line before expanding into entire portfolio

2

Allocate substantial resources on components that are most likely to need repair or upgrading

3

Implement agile product management that allow for rapid iteration and adaptation to market feedback



# Revitalizing the Product Lifecycle



## Framework Laptop

*Centering its design around repairability and modularity, thereby addressing key environmental concerns associated with electronic waste*

### GROWING CUSTOMERS

Introducing modularity to portable computers has shown demand for a new niche in the market

### ENHANCED PRODUCT LONGEVITY

All replacement parts are available through Framework's marketplace with step-by-step guides to extract maximum value from a single product

## CASE STUDY

### KEY ROI ELEMENTS

#### Market Expansion

Modularity allows for customisable configurations that appeal to cost-conscious consumers, but also to tech-enthusiast early adopters

#### Diverse Revenue Streams

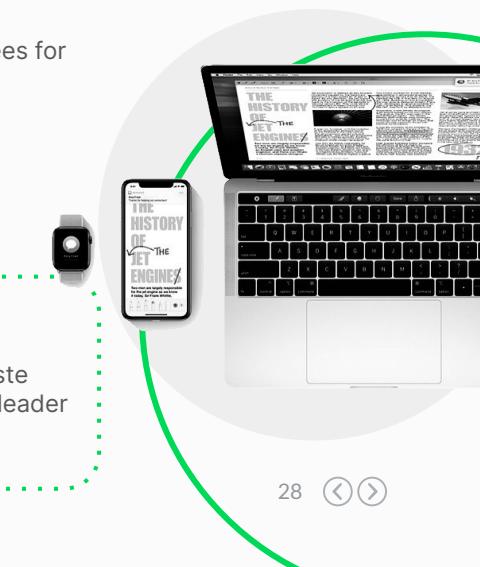
Alongside selling individual components and offering streamlined repair services, Apple can offer installation fees for consumers unfamiliar with tech upgrades

#### Ecosystem Lock-in

Consumers invested in products with longer life-cycles are more inclined to engage with other Apple products/services (ie. iCloud, Apple TV, Airpods, etc.)

### EARLY MOVER'S ADVANTAGE

Being ahead of the curve in terms of repairability and waste reduction can position Apple as an innovator and market leader for high-end modular tech products



# Reframing a holistic climate strategy

## Description

Given the evolving landscape of sustainability standards, Apple needs to pivot towards a more holistic climate strategy by creating organization-wide incentive structures and leveraging its leadership in technological innovation to create climate solutions

## Why?

Apple's initiatives align with regulations but fall short of emerging climate standards<sup>1</sup>

Apple should engage its workforce to further integrate sustainability across business functions

## Our Solution



Institute a supplier disclosure framework to track emission reduction



Incorporate new standards - TNFD, SBTN - into Apple's sustainability framework



Embed climate-based incentives across all business functions (i.e. internal carbon fee)



Leverage innovation capabilities by empowering employees in climate initiatives (i.e. incubate employee-led climate solutions)

### Stakeholders Engaged

Talent, Customers,  
Suppliers, Management

[1] Appendix G [2] Appendix E



# Reframing a holistic climate strategy

## Description

Given the evolving landscape of sustainability standards, Apple needs to pivot towards a more holistic climate strategy by creating organization-wide incentive structures and leveraging its leadership in technological innovation to create climate solutions

## Risks

### Operation

The programs are resource-intensive and requires a significant commitment to mentorship, funding, and support infrastructure

### Implementation

There may be resistance from various stakeholders, leading to lack of engagement

### Implementation

There may be integration challenges with diverse supplier and internal company systems

## Mitigation

1

Roll out the program in phases, starting with pilot projects to test for interests and costs

2

Implement comprehensive education and awareness campaigns to inform importance of sustainability and innovation initiatives

3

Incorporate flexibility within frameworks to ensure easy application to all suppliers and business departments



# Reframing a holistic climate strategy



## Sustainability at Google

*Google sets ambitious sustainability goals for the entire organization, influencing many aspects of its operations*

### ✓ EMPLOYEE ENGAGEMENT

Employees can take on a 20% project—an opportunity to work on something outside of primary role

### ✓ INTERNAL TRAINING

Google provides training and educational resources to employees about sustainability practices, both for professional and personal development.

## CASE STUDY

### KEY ROI ELEMENTS

#### Innovation streams

Allowing employees to dedicate time to sustainability projects can lead to the development of creative initiatives

#### Employee Engagement

Companies known for their sustainability initiatives can attract high-quality employees who value purpose-driven work.

#### Market Differentiator

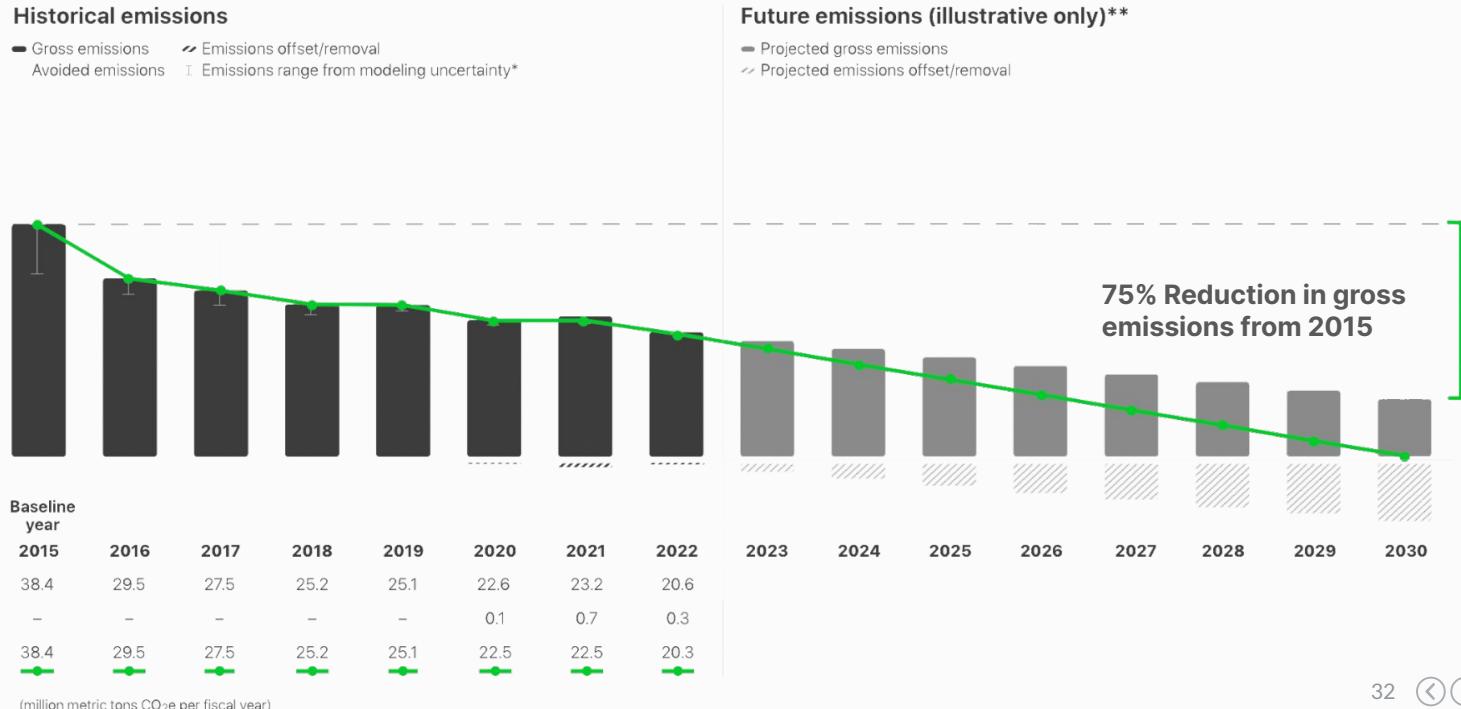
A strong commitment to sustainability can appeal to a growing segment of environmentally and socially conscious consumers

### INDUSTRY LEADER

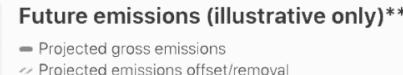
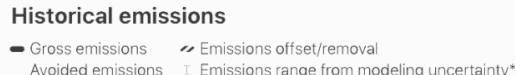
Encouraging internal sustainability and innovation enhances competitiveness and brand value by fostering creativity and aligning with evolving consumer and employee values



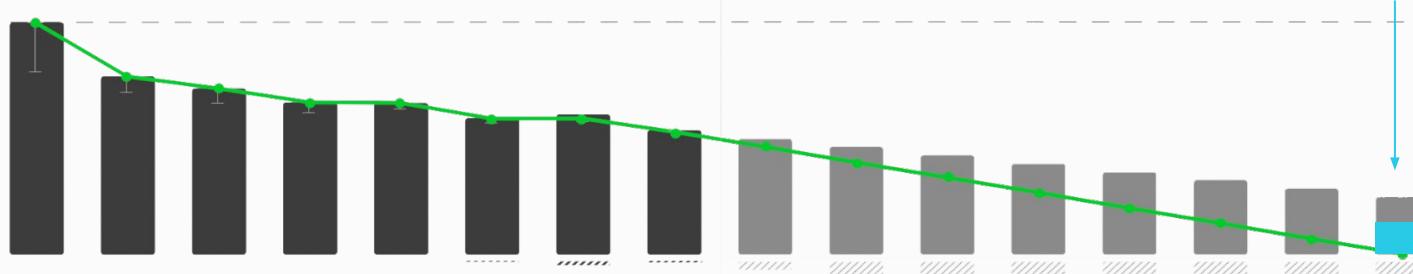
# Our recommendations provide a more robust strategy towards net zero



# Our recommendations provide a more robust strategy towards net zero



2.62  
million mt  
reduction in offsets<sup>1</sup>

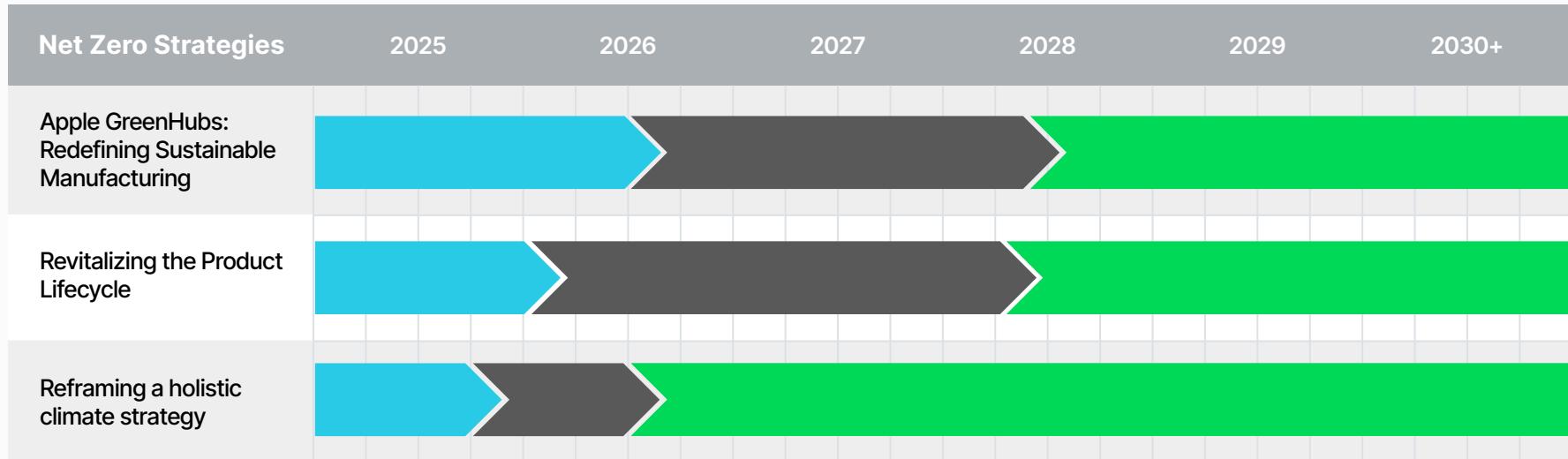


	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Gross emissions	38.4	29.5	27.5	25.2	25.1	22.6	23.2	20.6								
Carbon offsets/removal	-	-	-	-	-	0.1	0.7	0.3								
Net emissions	38.4	29.5	27.5	25.2	25.1	22.5	22.5	20.3								

[1] Appendix M-N

(million metric tons CO<sub>2</sub>e per fiscal year)

# Implementation Timeline



Planning

Development

Implementation

# Thank you!



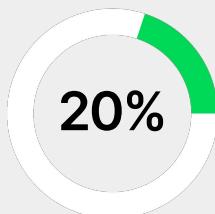


# Appendix

# LCA: Supply



## Materials Sourcing



**average recycled content** of Apple products shipped in 2022

- **Supplier responsibility standards** ensures identification and mitigation of risks align with UN Guiding Principles
- 2025 pledge for **100% recycled tin soldering, cobalt** in Apple batteries, **gold plating** in circuitry, **rare earth elements** in magnets

## Supplier Relations

**250+**

Suppliers

in 28 countries signed  
**clean energy pledge by 2030** in Supplier Clean Energy Program

- Pledged suppliers make up 80% of Apple's **direct spend** for materials, manufacturing, and assembly
- However, Apple has **785 suppliers in 31 countries** worldwide
- Most notably, heavy emitters like **Foxconn** are not included in the list

## Environmental Commitment

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# LCA: Production

## Clean Energy

**20+**  
GW

of clean energy commitments, of which nearly **two-thirds are operational**

- Invested nearly **500MW of solar and wind projects** in Japan and China to date in 2023
- Green Power Trading Program** aggregates suppliers in China to allow access to PPAs
- Investments in **China Clean Energy Fund** has invested in over **650MW** of renewable electricity

## Efficient Manufacturing

**63B**  
Gallons

total water savings from **Clean Water Program** through reclaimed water use

- Low-water design** at the product and site level
- Working with imec to meet **Sustainable Semiconductor Technologies and Systems** to develop new fabrications focused on efficient production of semiconductors

## Eliminating Toxic Chemicals

- Since the **1990s** Apple has been proactively identifying and replacing harmful chemicals ahead of regulatory standards.
- Apple is a founding signatory of the **Toward Zero Exposure** program, and has removed nine chemicals from supply chain identified as priorities
- Committed to **phasing out use of PFAS** and restricting supplier usage

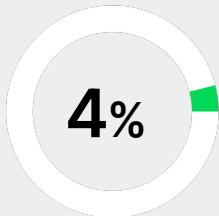
## Environmental Commitment



# LCA: Distribution



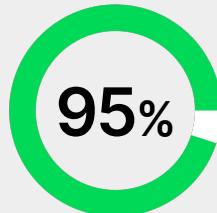
## Materials Usage



of Apple's packaging in 2022 utilizes plastic, with commitments to eliminate it completely by 2025

- Replaced **plastic** lamination with proprietary overprint varnish
- Using **recycled fibre** in **66%** of packaging shipped in 2022
- Prioritizing **responsibly sourced virgin fibre** when recycled fibre isn't available

## Transporting Products



Emissions reduction in **ocean freight** compared to air freight in new product lines launched in 2022

- Pilot programs in Europe trialing **hydrogen fueled heavy-duty trucks**
- Rewarding vendors offering low-carbon transport options such as **e-bikes and e-cars**
- **Vague information** on decarbonization from product transport in environmental report

## Environmental Commitment

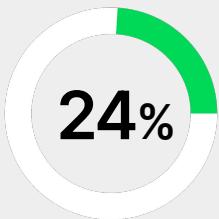
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# LCA: Product Usage



## Clean energy



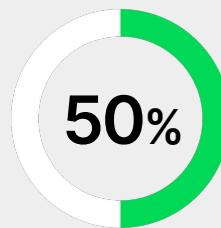
of Apple's carbon footprint or **4.82 million mtons CO<sub>2</sub>e** used for product use

**320-600 MW**

large-scale solar and wind project investments in US and EU

- **Clean Energy Charging** feature launched in US-based iPhones starting Fall 2022; optimizes energy use when grid uses cleaner energy sources

## Energy Efficiency



average less energy used on Apple products compared to ENERGY STAR standards

- Newer products have higher energy savings, especially products built with Apple silicon M1/M2 chips
- High-intensity products, such as Mac Studio Display, are on average **only 25% less energy efficient**

## Environmental Commitment

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# LCA: Recovery



## Product longevity and durability

- iPhones retain their value **longer than competitor products** encouraging customers to hold onto them longer for future trade-ins
- Durable designs rigorously test realistic conditions

## Product repairs

- Introduced **Self Service Repair** program in 2022 in Europe and the USA for 45 products. **Independent Repair Provider program** for independent repair businesses has expanded to **200+ countries** worldwide.
- However, for many years, Apple sought to **restrict access to guides and parts** to support independent repair services; in 2023, Apple backtracked and embraced the right to repair movement<sup>1</sup>

## Environmental Commitment

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## Landfill waste

**150+**

**Supplier Facilities**  
are zero-waste certified

- **2.5m mtons** of waste redirected from landfills as part of Apple's Zero Waste Program for Suppliers.
- **Apple Trade In program** only available in 25 countries

## Carbon offsets

**324.1 k**

mtons CO<sub>2</sub>e offsetted

- Offsets secured from high quality carbon credits (See Appendix H)
- Projects focused on protecting forests, wetlands, and grasslands



[1] <https://www.inverse.com/input/culture/apples-repair-policies-are-utterly-shameful-and-shouldnt-be-allowed-e-waste-recycling-macbooks-t2> ; <https://www.theverge.com/23910066/right-to-repair-law-newsom-california-sb-244>

# Summary of Regulations

## Climate Corporate Data Accountability Act

- Required to report **direct emissions** for **2025** starting in 2026 and **Scope 3 emissions** for **2026** starting in 2027.
- Employ **independent auditors** for **emissions verification**.

## Voluntary Carbon Market Disclosures

- **Comprehensive details** about **carbon offset projects** - protocols, location, timeline, type, project durability, independent validation, and annual emission reduction.
- Required disclosures **updated annually**, and report **accountability measures** for projects **not meeting goals**.

## Climate-Related Financial Risk Act

- Detail both **physical** and **transition risks** due to climate change, along with **mitigation and adaptation strategies**.
- 

## EU CSRD

- Contributions to climate change mitigation and adaptation, sustainable use and protection of water and marine resources, transition to a circular economy, pollution prevention and control, and protection and restoration of biodiversity and ecosystems
- How administrative, management, and supervisory bodies oversee sustainability issues, including risk management and internal controls over the sustainability reporting process.
- Disclosures on ethical conduct and lobbying practices, ensuring transparency in how the business engages with regulators and other stakeholders.
- Must disclose its plans to ensure that its business models and strategies are aligned with limiting global warming to 1.5 °C in line with the Paris Agreement and the EU's European Climate Law aimed at achieving climate neutrality by 2050. /
- Required to obtain third-party assurance over their CSRD disclosures, initially "limited" assurance, moving towards a "reasonable" assurance standard by 2028.
- Information must be reported in a dedicated section of their annual management report, ensuring accessibility and transparency of sustainability information.



# Adherence to Regulations

Climate-related scenario	Scenario analysis coverage	Temperature alignment of scenario	Parameters, assumptions, analytical choices
Physical climate scenarios	RCP 8.5	Company-wide <Not Applicable>	In alignment with the recommendations of the Task Force for Climate-related Financial Disclosure (TCFD), in fiscal year 2020 we conducted a climate-related scenario analysis to better understand Apple's exposure to climate change and the impact of climate change on our operations and supply chain. i) How the selected scenario(s) were identified, with reference to the inputs, assumptions and analytical methods used: To assess physical risks, we used two scenarios that capture a broad range of future climate projections: a below 2°C scenario (RCP 2.6) and a business-as-usual scenario (RCP 8.5). We then used global climate models from the intercomparison project (CMIP5) that corresponded to these representative concentration pathways. We considered changes over time in three key hazards: heatwaves, heavy precipitation, and drought. We also undertook additional analyses to understand potential future changes in the frequency and intensity of tropical cyclones. Inputs included the geographic locations and activities performed at facilities. ii) Time horizon and rationale: The analysis incorporated multiple timeframes (short- and mid-term), extending through 2040 to account for the expected lifespan of major facilities. This timeframe also allowed us to capture divergence in the climate models. iii) Areas of your organization considered: The analysis considered physical and transition risks to our global facilities (offices, retail stores, and data centers) as well as our top 200 suppliers by direct spend.

## Description of response and explanation of cost calculation

To mitigate the increased risk of power disruption to our direct operations due to an extreme weather event, we continue to integrate our response to climate change-related risks into how we respond to overall disruption risks, like deploying back-up generators, micro-grids, and onsite renewable energy, as we have at Apple Park offices in California and Apple-operated data centers. For example, at our data center in Denmark (1 of 8 Apple-operated global data centers), we deployed a power system design based on resilient substation design. This enables resiliency from system outages from any cause, including climate-related extreme weather events, while eliminating the need for backup diesel generators, reducing our carbon footprint and local air emissions. The result of these improvements is increased system resiliency to extreme weather and outage risks. These processes include systematically reviewing supply chain risks per product, considering factors like supplier performance, including financial health, performance relative to Apple's code of conduct, and single source risks. We then prioritize the improvements based on risk level and take appropriate action to mitigate and provide increased resiliency against disruptions due to climate-related extreme weather events. We don't track any separate costs that are incurred to manage climate-related extreme weather events, because we already manage overall disruption risks from a variety of causes including climate.

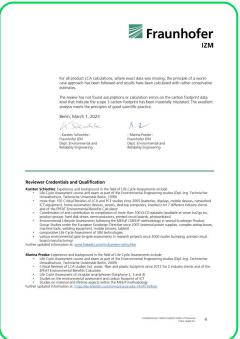
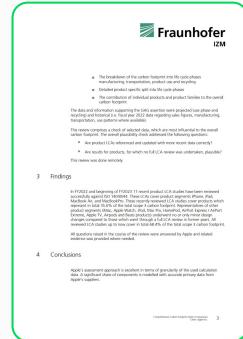
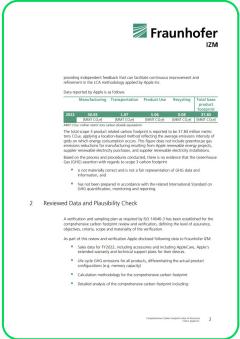
# Apple's carbon offset projects

We retired the following carbon offsets toward our corporate emissions footprint for 2022.

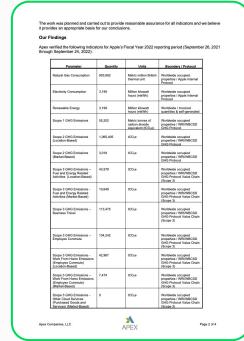
Project name	Project description	Vintage	Volume retired	Registry link
Alto Mayo	The Alto Mayo Protected Forest (AMPF) covers approximately 182,000 hectares of land in the Peruvian Amazon of extremely high value for biodiversity conservation and watershed protection. The threats to the area have increased in the last decade with the development of regional infrastructure projects and the rising price of coffee — the main crop grown in this area — leading to increasing deforestation and the subsequent loss of ecosystem services that this area provides. In response, Conservation International and its allies in the region designed the Alto Mayo Conservation Initiative (AMCI) to promote the sustainable management of the AMPF and its ecosystem services for the benefit of the local populations and the global climate. With the financial support of carbon financing, these actions are facilitating the conservation of large expanses of forest with associated climate change mitigation benefits while also creating opportunities for the sustainable development of local communities.	2016–2018	9,100	<a href="https://registry.verra.org/app/projectDetail/VCS/944">registry.verra.org/app/projectDetail/VCS/944</a>
Chyulu Hills	The Chyulu Hills REDD+ Project (CHRP) is a multi-partner initiative designed to promote climate change mitigation and adaptation, restore biodiversity, and create alternative livelihoods under the UN scheme of Reducing Emissions from Deforestation and forest Degradation (REDD+). It's located in the Tsavo-Amboseli ecosystem in southeastern Kenya and stretches over an area of over 410,000 hectares. Its main geographic feature is the volcanic Chyulu Hills mountain range, from which the project derives its name. This project presents a broad ecosystem approach, including REDD+, to provide long-term sustainable financing and management to maintain the ecological integrity of an iconic African landscape. The project will help protect a very high-value wildlife and biodiversity area while supporting the development needs of Indigenous and other local communities.	2017	315,000	<a href="https://registry.verra.org/app/projectDetail/VCS/1408">registry.verra.org/app/projectDetail/VCS/1408</a>

# Independent Assurance

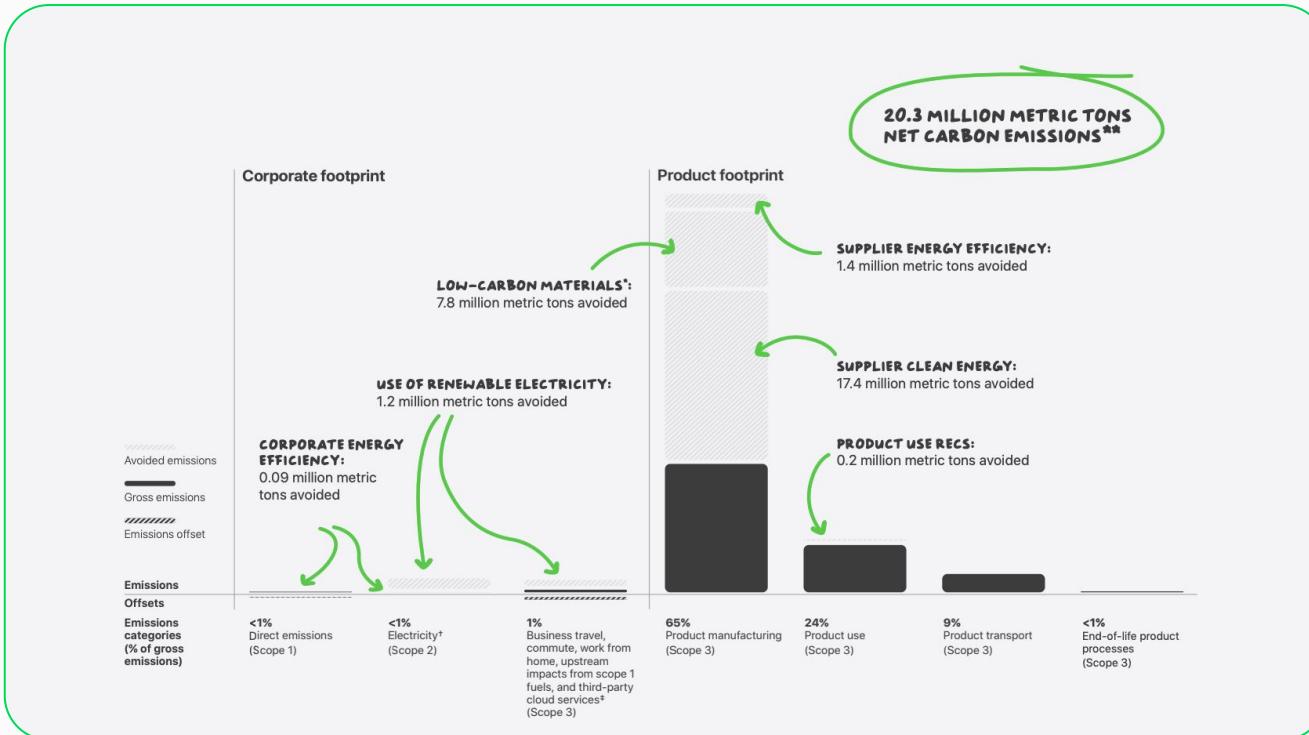
## Fraunhofer Institute



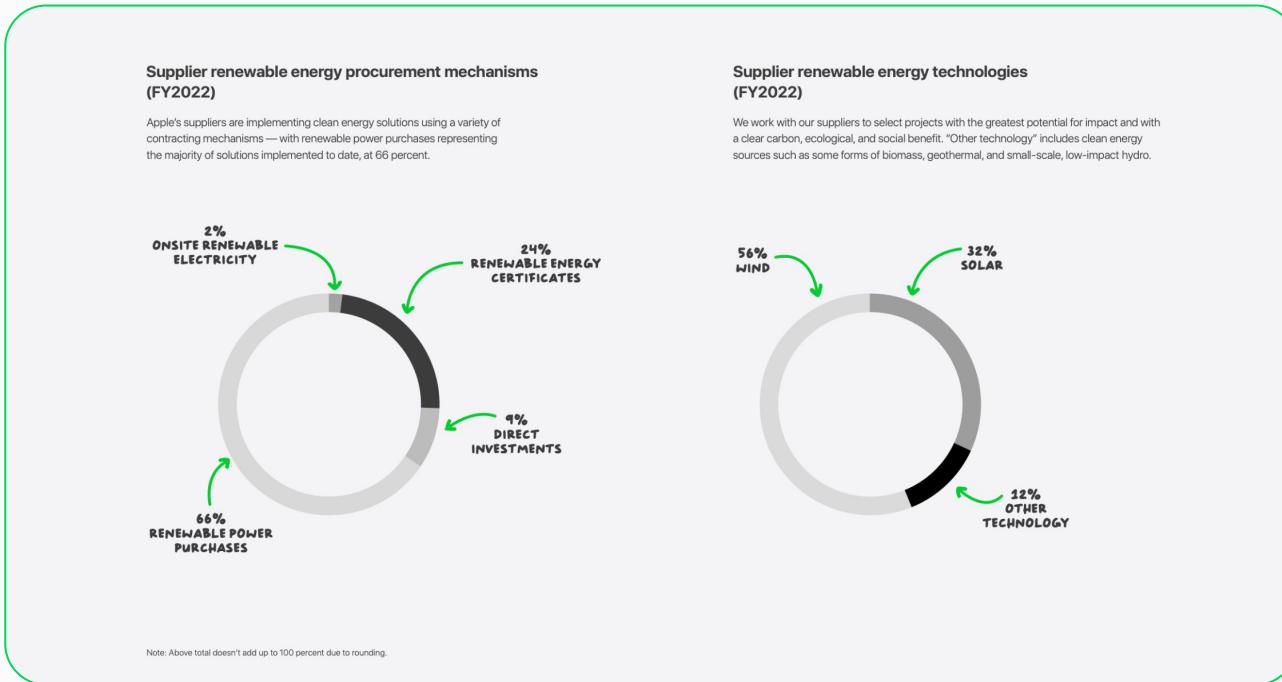
## Apex



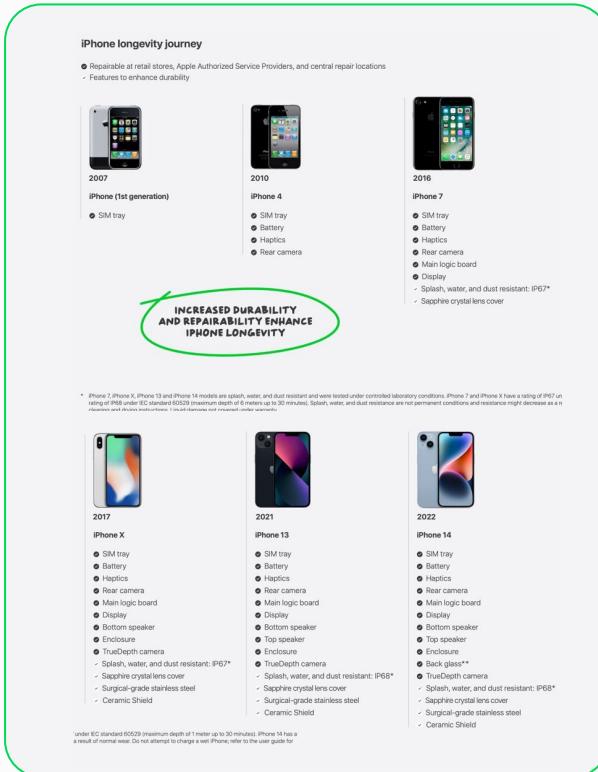
# Recommendation: Apple GreenHubs - Product Manufacturing Footprint



# Recommendation: Apple GreenHubs - Current Supplier Renewable Electricity Solutions



# Recommendation: Apple Loop



## Designing products with repairability in mind

We continue to make progress designing more durable products and offering customers more repair options. At the same time, we're working to make repairs more accessible and affordable. iPhone, for example, has even more repairable modules than before, in addition to enhanced durability features and water resistance. iPhone 14 and iPhone 14 Plus introduced an updated internal design that improved the repairability of the back glass and ease of access to internal components, making fixes easier. In the new internal design, the aluminum housing and back glass are no longer one enclosure, so repairs to the back glass don't require replacing the housing. The 13-inch MacBook Air with Retina display (2018) and later models also allow for battery replacement with a stretch-release adhesive, facilitating component access. And iPad mini (6th generation) and iPad Air (5th generation) now support the same unit battery replacement in select locations. We've also expanded availability of repair parts in countries around the world to support vintage products for up to seven years. For example, a program for Mac notebooks makes battery repair available for up to 10 years after the product was last distributed. For more information, refer to the support page about availability of service parts past warranty.

# Calculations for Estimated Carbon Abatement

Supplier Energy Mix	
Solar (Percentage)	32%
Wind (Percentage)	56%
Other (Percentage)	12%
Solar - Dollar to Energy Produced	168,192
Wind - Dollar to Energy Produced	321,930
Other - Dollar to Energy Produced	490,122

Capacity	
Solar Capacity	143.9
Wind Capacity	251.8
Other Capacity	54.0

Investments	
Green Bonds (unallocated, millions \$)	1500
Current Investment (millions \$)	589.7
Current Clean Energy Capacity (MW)	707
MW/million \$	1.2
<b>Added Capacity from New Investment (MW)</b>	<b>449.6</b>
<b>Total Capacity after Investment (MW)</b>	<b>1156.6</b>

# Carbon Emissions Breakdown Calculations

Fairphone	Net Carbon Emission by Parts (kg)	Proportion
Battery	1.75	5.00%
Rear Camera	1.05	3.00%
Selfie Camera	0.11	0.31%
Reported Emissions per phone sold	35	8.31%
Apple	Estimated Carbon Emissions*	
Battery	3.25	
Rear Camera	1.95	
Selfie Camera	0.2042857143	
Reported Emissions per phone sold	65	
Net Carbon Emissions when upgrading all 3 parts	5.4	
Savings per Unit:	59.6	
Units sold (2023)	235,000,000	
Total carbon saved	1092389.4	
Percentage of customers that care about sustainable products*	78%	*As reported by McKinsey Consumer Insights Report
Adjusted Ratio	10%	
Anticipated Consumer Adoption Rate	7.80%	
Estimated Carbon Emissions Avoided (kg)	1,092,389,443	

ADAPT Consulting

