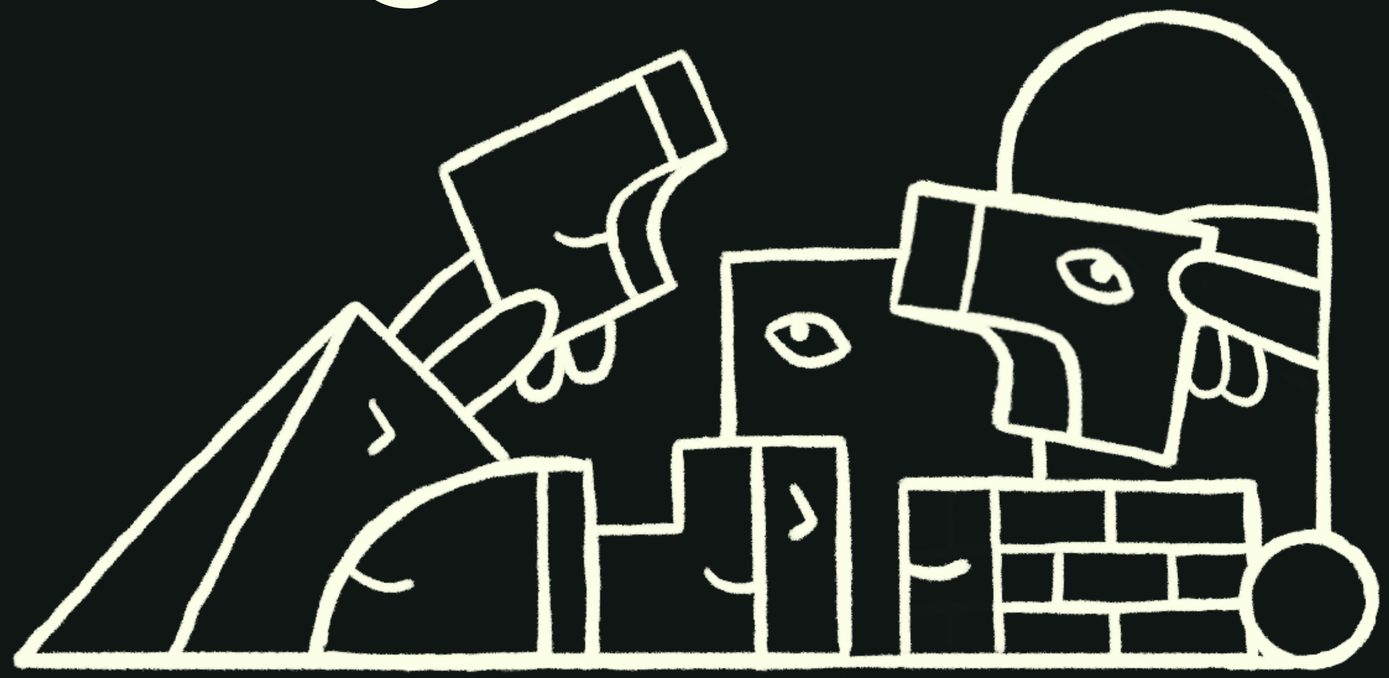
How to become a Climate-Conscious Product Manager



Climate
Product
Leaders

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Illustrator : Victor Kurc
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https://climateproductleaders.org/

Climate
Product
Leaders

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About Us

Climate Product Leaders

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LINKEDIN

Antoine Cabot

I work as a Senior Product Manager at Salesforce, where I am deeply engaged in the advancement of digital process automation. My professional journey is characterized by a commitment to leveraging software solutions to enhance operational efficiency across diverse organizations.

I strive to integrate sustainable practices into the core of product development, ensuring that the digital solutions I oversee are environmentally conscious and contribute positively to the planet. This dedication to sustainability is a reflection of my belief in the importance of corporate responsibility in addressing environmental challenges.

My vision is to blend technological innovation with sustainable practices, creating a synergy that leads to solutions which are not only efficient and effective but also environmentally sound. The goal is to set a precedent in the tech industry, demonstrating how digital automation can go hand-in-hand with ecological stewardship.

In both my personal and professional life, I am committed to exploring and implementing strategies that promote sustainability. From reducing air travel to moving to a plant-based diet, this commitment is an integral part of my identity, influencing the way I approach product management and shaping the future of digital process automation in a way that respects and preserves our planet.

LINKEDIN

François Burra

As a Product Lead and UX strategic consultant, I have spent over a decade collaborating with startups and agencies across Canada and the US. Rooted in my background in social entrepreneurship and international business, I have always sought to make a positive societal impact through my work.

In 2020, I co-founded a groundbreaking vegan investment club in Canada, aiming to democratize vegan investing. Additionally, I actively engage in policy advocacy and promote the transition to plant-rich diets for environmental and ethical reasons.

After working as the Product Lead for a Canadian FinTech acquired for $64M in 2021, I decided to take almost a full year off to focus on personal growth. During this time I underwent therapy to help me reconnect with myself and my intuition, and reignited my creativity.

This inward journey led me to immerse myself in climate studies, awakening me to the profound impact of digital technology and Information and Communications Technology (ICT) on the climate crisis and biodiversity. Fuelled by this realization, I redirected my career toward confronting the climate emergency head-on. My focus shifted to assisting digital peers, product teams, and companies in harnessing the power of the net zero opportunity and reducing their digital emissions.

I now train product teams on sustainable digital practices (with Product for Net Zero), help companies measure digital footprint (with fruggr), and build low-carbon experiences.

Acknowledgments

We couldn't have started this playbook, let alone finish writing it, without the support of some amazing people we met in our respective climate journey and the climate community at large.

A big shoutout to:

- Terra.do for giving François the incredible opportunity to understand the climate crisis through their Learning for Action flagship course. It also allowed him to meet some truly remarkable peers and connect with Chris Moisan, who mentored him at Terra.do.
- Chris Moisan and Dan O'Connell from Product for Net Zero for inspiring François to see the connection between the climate crisis and digital sustainability and trusting him to teach alongside them to amazing companies and product peers. Many of the insights and reflections in this playbook come from their exceptional training program.
- Peter Stovall for making the introduction between Antoine and François. Our connection was instant and led to us committing, after only 20 minutes of talking, to create this playbook 💚.
- Vanille Windenberger for fearlessly taking on the challenge of effectively designing and communicating the playbook's content in a fun, accessible, and comprehensive way.
- Abigail Blake for skillfully improving the content, making it more positive, future-focused and accessible.
- Our 24 amazing reviewers who provided thoughtful feedback and challenged us to improve every bit of this playbook. We're forever grateful for your time and dedication to bringing the best climate practices for product managers and fostering climate action further.
- Amazing existing resources and organizations that inspired us. You'll find them all listed in the Sources section at the end but here are a few instrumental ones: GR491, GreenIT, W3C, Green Software Foundation, The Shift Project, Sustainable Web Design, and obviously Product for Net Zero.
- The Climate Communities and its peers that supported both our journey. To name a few online communities: Terra.do, ClimateAction.Tech, Work On Climate, and My Climate Journey.
- And every individual who supported us over these past 6 months from idea to release.
- François: A big thank you to my life partner, Dawn, who never fails to support me, keeps pushing me to be the best version of myself and to trust my intuition.
- Antoine: I am deeply grateful to my wife, Emeline, and my three children, who consistently inspire and motivate me to dedicate my efforts toward climate action every day.

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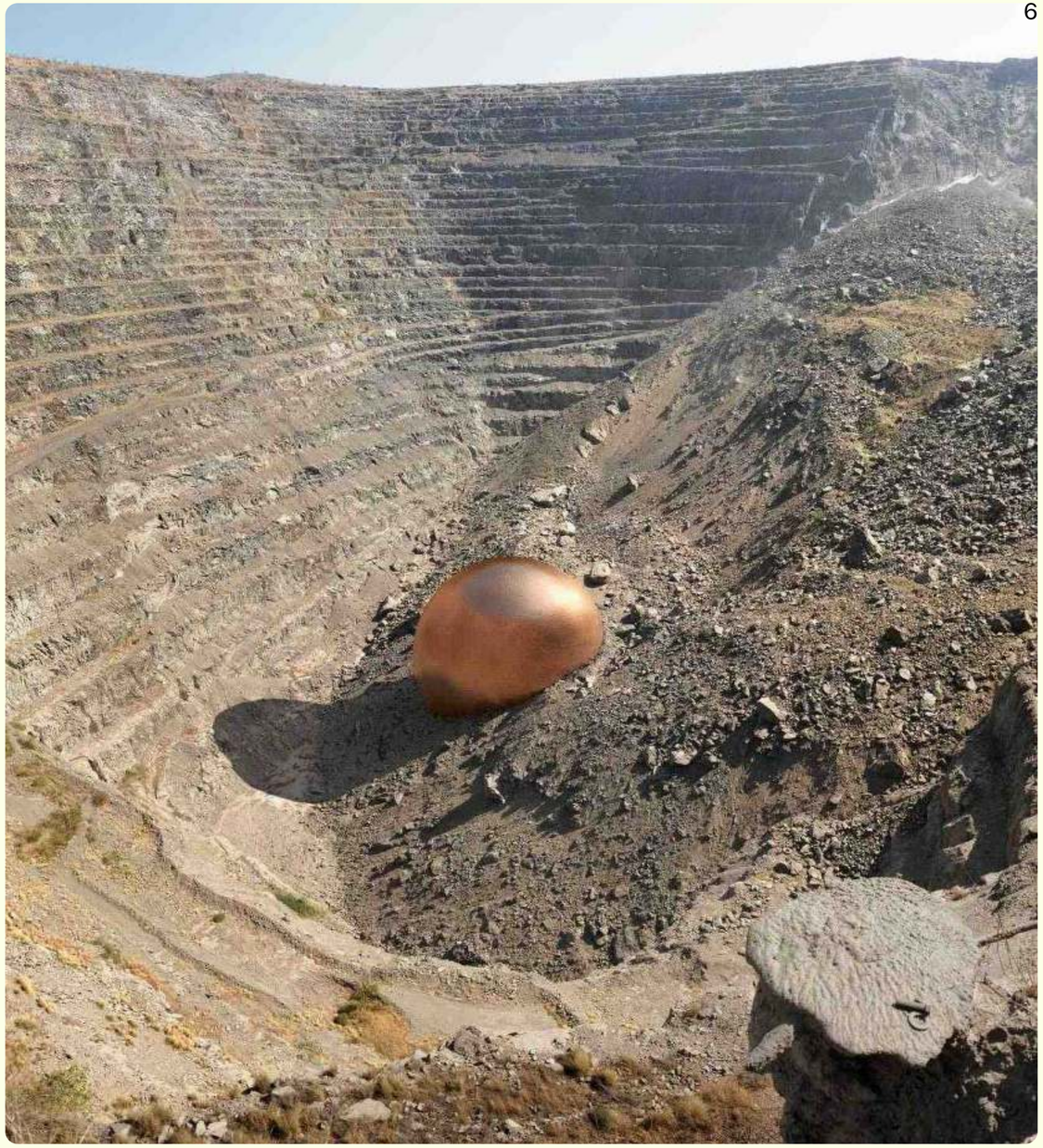
- **Yoann Castanié**
  Co-Founder, Product & Experience Designer - Collective.Design

Introduction

Digital Is Physical

The digital revolution, while transformative, carries a profound environmental footprint. It is estimated that the Information and Communications Technology (ICT) sector alone accounts for approximately 3.7% of global greenhouse gas emissions — a figure larger than the entire aviation industry and equivalent to road freight. With projections suggesting that this number may reach up to 14% by 2040, the consequences for our climate and biodiversity cannot be overstated.

This playbook seeks to illuminate the often-overlooked fact that the digital world is indeed physical: tethered to the environment in a multitude of ways. Every byte of data, every online transaction, and every digital innovation leaves a mark on our planet. It's crucial to recognize that the servers, data centers, end-user devices, and vast infrastructure enabling our digital experiences are grounded in physical reality, consuming environmental resources and energy.



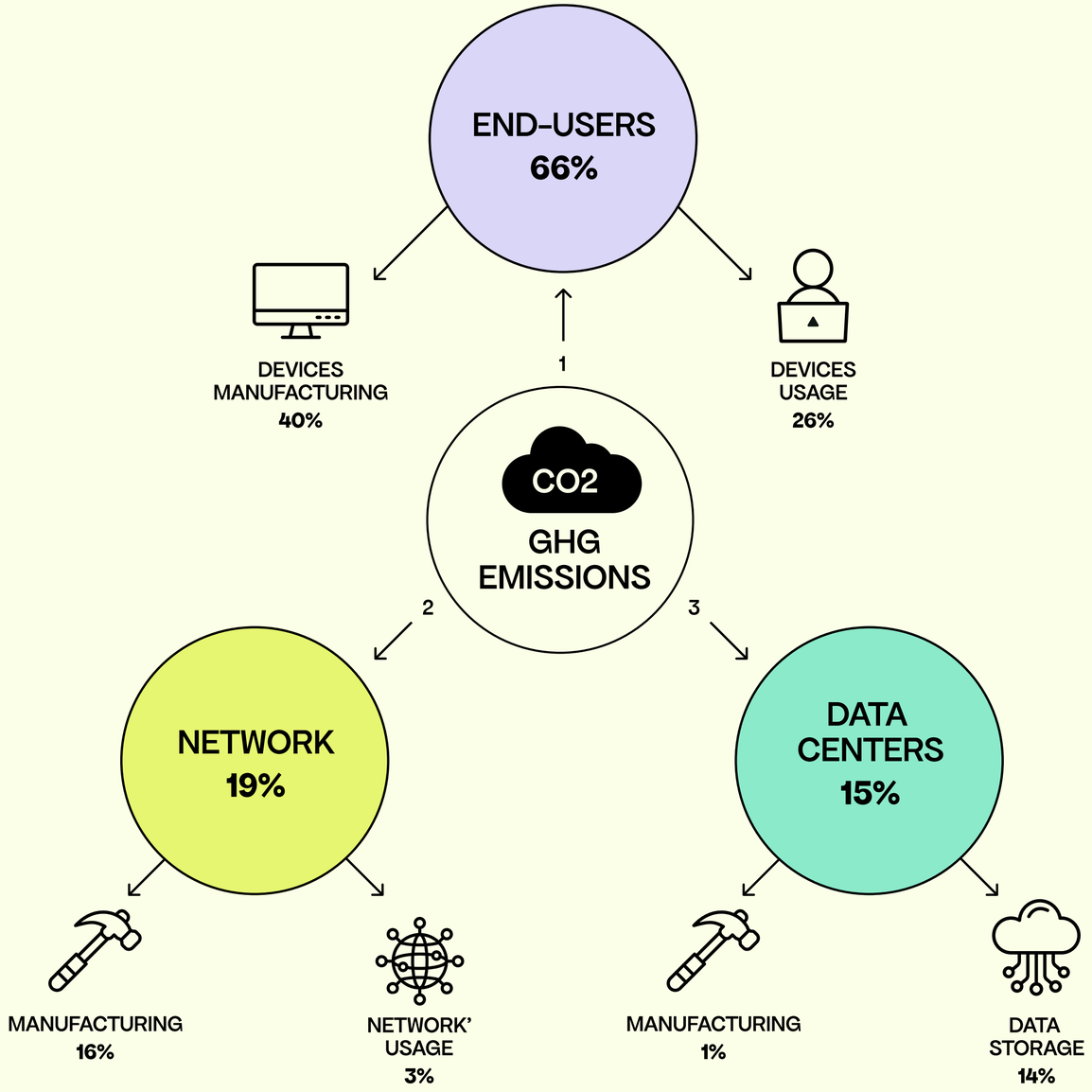
Palabora Mine, South Africa
4.1 million tons of copper extracted

Introduction

Contribution To Global Warming

Given that manufacturing or production accounts for 57% of greenhouse gas emissions related to digital and the internet, we need to take all possible measures to lower manufacturing demand. This can be achieved by reducing the number of connected objects and flat screens, as well as increasing the lifespan of equipment.

On the other hand, usage or operation represents 43% of digital emissions. To address this, it is important to build low-carbon and sustainable digital services and products.



The environmental footprint of the digital world by GreenIT

Introduction

Corporate Responsibility And Consumer Expectations

Organizations across the globe, from Tech to Financial Services, should care deeply about this impact, not only because of the ethical imperative to safeguard our planet but because consumers, stakeholders, and regulators are increasingly expecting and demanding sustainable practices (see REEN Law in France, Web Sustainability Guidelines (WSG) 1.0 or European Green Deal). Today, software products are interwoven with our daily lives and are integral to nearly every industry. Consequently, product management stands at the crossroads of determining how this digital future unfolds.

The Strategic Role Of Product Managers

Product managers, as the strategists guiding product direction, have a unique opportunity and responsibility. They have the power to influence design, consumption, and the overall life cycle of products, they actively collaborate with all departments and tie the strategy to the execution. They can drive innovation that not only meets user & business needs but does so in an ecologically conscious manner. Their decisions can pivot organizations towards a path that values functionality and sustainability.

Business Benefits Of Sustainable Practices

Adopting a sustainable approach to digital product management offers a host of compelling advantages that reach far beyond the obvious environmental benefits. In the realm of business operations, weaving sustainability into your organizational strategy can create a unified vision that enhances collaboration across departments. This focus also aligns closely with the values of an increasingly eco-conscious workforce, which in turn boosts employee satisfaction and retention rates.

Sustainability can also drive innovation and differentiate yourself from the competition. It can drive higher customer attraction and retention, which could lead to greater marketing and PR value.

> “50% of consumers were willing to pay more for a sustainable brand or sustainable products”

Executive Summary of State of Green Software by the Green Software Foundation

Introduction

Sustainability As A Performance Enhancer

From the viewpoint of product development, sustainability is more than just a buzzword. It's a performance enhancer. By optimizing resources and reducing waste, you not only decrease your carbon footprint but also speed up development cycles, reduce infrastructure costs, and improve security and resilience.

A well-optimized, eco-friendly product is generally leaner and faster, resulting in improved SEO, enhanced user experience, and increased conversion and click-through rates. Customers will appreciate and reward with loyalty. Ultimately, it will make your experience more accessible and inclusive, broadening your target audience and improving your social performance as a business.

The Urgency Of Climate Action

As we stand on the brink of irreversible climate change, product managers must acknowledge and champion their role in transitioning the world towards a nature-positive economy.

This playbook lists 33 best practices to equip product managers with the knowledge and strategies to make this transition seamless and impactful. It is intended to be a work companion and a guide to help you make better decisions regardless of your past experience in product management. By embracing the principles in this playbook, we can ensure that our digital advancements support sustainable development while remaining competitive and serving our users better.

Benefits Of Best Practices

In this playbook, each best practice is accompanied by a set of benefits, helping you construct a compelling case for wider adoption. These benefits are organized into three distinct categories: environmental impact, business advantage, and product enhancement.

ENVIRONMENTAL — GHG Emission Reduction, Reduced Electronic Waste, Reduced Electrical and Water Consumption, etc.

BUSINESS — Customer Attraction & Retention, Employee Acquisition & Retention, Regulatory Compliance, Reduced Costs, etc.

PRODUCT — Lighter, Faster and More Resilient Product, Improved Conversion Rate, Faster Development Cycle, etc.

Embed Into Your Rituals

Dive into the heart of integrating environmental sustainability into every facet of product management. It's all about making green choices as part of your every day. Here, you'll explore how routine decisions and actions can collectively drive significant environmental progress, transforming novelty green initiatives into a standard operating procedure that's second nature.

01 MEASURE THE ENVIRONMENTAL IMPACT OF YOUR BUSINESS

Why Does It Matter?

Understanding the source of your business emissions is important to prioritize the most effective pathway to reduce emissions. It will also help you to realize the contribution of digital technologies to the overall carbon footprint of your operations.

Since most emissions originate from your supply chain (scope 3), measuring them can be challenging as you depend on suppliers to provide this information and data points.

Nonetheless, as you cannot improve what you cannot measure, your journey towards sustainability must commence here in order to create a more impactful, deliberate, and effective action plan.

What Can I Do?

- ✓ Connect with the right people: It could be your ESG team, sustainable leaders internally, or external providers with, ideally, some experience in digital emissions measurement
- ✓ Quantify your company's value chain (scope 1, 2 and 3) carbon emissions and perform a cradle-to-grave lifecycle analysis on your product
- ✓ Include impacts from devices, networks, and data centers across their life cycle (manufacturing, distribution, usage, to end of life)
- ✓ **CHOOSE THE RIGHT METRICS** and make sure you can measure them fairly quickly to begin assessing improvements
- ✓ Identify measurement frequency and who's leading the effort
- ✓ Pinpoint opportunities for emission reduction. Consider the top-line revenue opportunities (eg. customer acquisition, adoption of greener products, improved performance and UX, etc.) and bottom-line cost savings (lower hosting fees, streamlined development, etc.) when presenting your findings to the team.
- ✓ Prioritize opportunities for emission reduction and build a roadmap accordingly
- ✓ Repeat annually, or in line with your business development strategy

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Cross-departmental participation in green initiatives

Things To Consider

As a product leader, it's important to recognize that your impact and influence can extend beyond the digital realm. As an example, if shipping emissions are a big chunk of the emissions profile of your e-commerce business, you could lower emissions by reducing the return rate of your physical product (by helping users buy the right product, at the right size, colour, specs, etc.) and by partnering with sustainable, electric local shipping companies.

In 2022, approximately 16.5% of items purchased online were returned in the US. Imagine the impact you could make by offering a better purchasing experience! Read more on how to **INFLUENCE YOUR VALUE CHAIN AND PARTNERS.**

02 CHOOSE THE RIGHT METRICS

Why Does It Matter?

Even though all business contexts are different, a set of key environmental metrics should help you drive positive impact. These metrics are generally greenhouse gas emissions (starting with carbon emissions), energy consumption, water consumption, resource use and depletion, water/air/soil pollution, ecotoxicity, biodiversity, etc. Some are more obvious than others, and you won't track them all on day one.

But metrics will be key to making informed and effective decisions to reduce your impact on the environment. Plus, you'll see when you're making progress.

What Can I Do?

- ✓ Start simple, reliable, and consistent. You, your product team, and the data team must trust the data to be credible and convincing when interacting with stakeholders, and building momentum towards climate action.
- ✓ Consider both absolute metrics (e.g. CO2e) and relative metrics (CO2e per page, visit, user, employee, revenue generated, etc.)
- ✓ Factor different types of impact: greenhouse gas emissions (in g of CO2e or kg of CO2e), Energy consumption (in kWh), Water consumption (in cl or l), depletion of natural resources, etc.
- ✓ Measure data transfer parameters: page weight (in KB), number of requests, and load time (in s). Keep in mind that it will not be the absolute way to measure but it is a good starting point in your journey.
- ✓ Use the right tools for your context and your needs. See more in **TRACK YOUR DIGITAL FOOTPRINT.**
- ✓ Report these metrics against OKRs and KPIs and include those metrics in your ESG reporting

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Building trust through transparent data collection and valuable insights

Things To Consider

We recommend keeping things simple at the beginning. If you don't measure anything, go for a proxy (80% accuracy is better than not tracking anything). Observing trends consistently over time is more important than being 100% accurate, and will support you to identify the next steps and keep moving forward.

Measuring your digital footprint once will be a major milestone and should be celebrated. From there, you could set up a dashboard and monitor environmental impact on an ongoing basis to measure progress (or regress), and share your data-backed victories with stakeholders.

03 TRACK YOUR DIGITAL FOOTPRINT

Why Does It Matter?

Zooming in on digital emissions and impact is critical to building a coherent plan to start or accelerate your sustainable journey. Whether you manage a website, a platform or an app, there are different service providers, tools, and platforms to help you measure your impact and build a compelling pathway to sustainability.

What Can I Do?

- ✓ CHOOSE THE RIGHT METRICS
- ✓ Figure out whether you have the resources internally to undertake an initial audit and ongoing measurement, or if you may need to outsource this phase
- ✓ There are some great free tools that can help you to get started and measure simple web pages, such as Ecograder or Beacon - both powered by CO2.js. You can also get a Digital Ratings or Score using Sustainable Web Design or eco Index - the latter is available only in French.
- ✓ Other tools offer specific measurements depending on your needs, such as CO2.js for websites, apps, and platforms, Greenspector for user scenarios or web apps, Step CI for APIs, or Cloud Carbon Footprint for cloud services
- ✓ You can understand the impact of existing third parties with BuiltWith or Are my third parties green
- ✓ We recommend that you go with tools designed with companies like yours in mind that offer specialist features, such as fruggr.io, Verdikt, or Greenframe if you're ready to invest in a comprehensive solution
- ✓ Make sure measurements include impacts from devices, networks, and data centers across their life cycle (manufacturing, distribution, usage, to end of life)
- ✓ Breakdown your product by functional units: a page (e.g. homepage), a user flow, a set of features (e.g. authentication), an API, or a squad (e.g. payment)
- ✓ Identify the top 5 most frequently viewed pages, features, or user flows and measure page weight and emissions individually for those
- ✓ Measure aggregated page weight and emissions for features or user flows
- ✓ Measure underlying services: APIs, Cloud, and third parties
- ✓ Compare your metrics against industry benchmarks or competitors if possible
- ✓ Communicate findings, prioritize the biggest reduction opportunities with your team, and build a roadmap accordingly

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Cross-departmental participation in green initiatives

Things To Consider

You'll need to CONVINCE AND COLLABORATE WITH INTERNAL stakeholders to perform such audits. Learning how to speak to all departments and understand how everyone would benefit from knowing more about their digital footprint will be key. Consider securing a budget to hire specialists.

As described above, you'll find many free and open-source tools and digital-specific carbon accounting companies (this market is growing fast, especially in Europe). Here's a list of tools and companies the Green Software Foundation recommends.

We recommend solutions that can be measured on an ongoing basis and ideally provide tailored recommendations for your product or business.

03 TRACK YOUR DIGITAL FOOTPRINT

”Sustainability should be a default practice in product management, not an afterthought. It’s about creating products that not only succeed in the market but also respect and preserve our world.”

Yvon Chouinard,
Founder Of Patagonia

04 SET ENVIRONMENTAL OKRS

Why Does It Matter?

Decarbonization efforts and net-zero targets are becoming the new norms and key for your brand reputation and trust. Whether or not you use OKRs or an alternative approach to quantifying your successes, setting environmentally-focused objectives alongside your business goals, that the whole team can get on board with, is the difference between an ambition, and a successful emissions reduction strategy.

What Can I Do?

- ✓ Identify an expert in digital sustainability with clear support from leadership and with allocated resources (employees and budget)
- ✓ Have a look at the Science Based Targets Initiative (SBTi) and its recommendation for 50% emissions reduction by 2030 (on all three scopes) with a 90% long-term target for 2040 or 2050.
- ✓ Focus on cutting emissions by 90% first, then remove or offset the remaining 10% (according to the SBTi Net Zero Standard)
- ✓ **CHOOSE THE RIGHT METRICS**
- ✓ Define some inspiring climate-specific and outcome-oriented objectives (e.g. reduce digital carbon footprint by 5% by the end of the quarter)
- ✓ Embed climate-related Key Results in non-climate Objectives (e.g. reduce cloud bill as part of a profit maximization objective)
- ✓ Include an environmental input into your prioritization framework, on top of the business and user values
- ✓ **TRACK YOUR DIGITAL FOOTPRINT**, set up dashboards and monitor after each release or sprint
- ✓ Report on environmental progress and % of completion on a weekly, monthly, quarterly, and yearly basis. It should not be any different than other Key Results.

What Does Success Look Like?

- A clearly articulated vision and mission underscoring commitment to societal and global challenges
- Cross-departmental participation in green initiatives
- Adoption of cleaner electricity sources for operations
- Established targets for reduced carbon and greenhouse gas emissions
- Employee retention reflecting a positive and sustainable work environment

Things To Consider

A lot of groundwork needs to happen before succeeding in prioritizing climate or environmental OKRs. **ORGANIZE TALKS, RAISE AWARENESS, AND PROMOTE TRAINING**, **SET UP A CLIMATE WORKING GROUP**, and **CONVINCE AND COLLABORATE WITH INTERNAL STAKEHOLDERS** will be needed to maximize your chances.

In the meantime, you can also apply best practices from the next 2 chapters: avoiding building useless stuff, considering hardware impacts, striping and simplifying your experience, decluttering your product, etc.

There are climate-positive product management decisions and best practices that won't require your whole organization or executive team to approve (such as setting a page weight limit in your Definition of Done). Lead by example, showcase your success, and you will organically create a buzz around this work stream.

05 PRIORITIZE CLIMATE INITIATIVES

Why Does It Matter?

Your backlog holds great potential for engagement with your stakeholders and communicating what is important for the product moving forward and why. Refining it with your team is a great moment to incorporate and address climate considerations as part of the process. Once tickets are prioritized into a sprint, you will have identified and mitigated some climate risks and impacts.

What Does Success Look Like?

- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Adoption of cleaner electricity sources for operations
- Established targets for reduced carbon and greenhouse gas emissions

What Can I Do?

- ✓ Create user stories (US) specific to climate and sustainability that will help to support your entire product (systemic impact across features)
- ✓ Use tags to identify climate and sustainability-specific US
- ✓ Consider energy consumption and GHG emissions during grooming and sprint preparation. Some features may be ‘oversized’, and others may be more energy-consuming or complex than you thought.
- ✓ Ideate on early-stage solutions and compare their environmental impact
- ✓ Assign an estimated environmental impact to user stories or product increments, including both backend and frontend impacts
- ✓ Prioritize climate and sustainability-specific user stories in your sprint planning, just as you would prioritize bugs, security tickets, technical debt, refactoring, etc.
- ✓ Consider a climate-focused sprint as a means of applying all the best practices discussed. Normalise your climate action by ensuring that the same discussions continue to take place on an ongoing basis.

Things To Consider

When you **TRACK YOUR DIGITAL FOOTPRINT**; leveraging data to explain and support the prioritization of climate features that will help reduce your emissions will be easier.

We recommend that you keep the discussion about the impact you are trying to achieve rather than the specific way to improve performance and metrics. Empower and trust your team to know what to do if you are clear about priorities and acceptable trade-offs. Aim for improvement, not perfection. Making climate part of the prioritization process is a huge step forward!

06 INCLUDE THE PLANET IN YOUR BRIEF

Why Does It Matter?

As a product manager, your biggest opportunity to make an impact is before your new feature or product is released. This is when you define and communicate what success means, how you plan to achieve it, and what is needed from stakeholders, both within your product team and other departments.

The Product Requirement Document (PRD) or brief document materializes this unique moment to raise awareness and introduce environmental and climate goals, KPIs, benefits, opportunities, and considerations.

What Can I Do?

- ✓ Set environmental and emission reduction product goals and link them to the OKRs or other strategic goals. Connect them with tangible business and user opportunities and benefits to facilitate their adoption.
- ✓ Build the business case by estimating environmental benefits and gains from the new service, product, or feature to convince stakeholders
- ✓ Go beyond targeted users: consider non-users (persons impacted by your service directly or indirectly) and non-human persona (animals or the planet)
- ✓ List environmental KPIs (more in **CHOOSE THE RIGHT METRICS**)
- ✓ Set a carbon budget for the initiative (or feature) and set alerts when the budget is exceeded
- ✓ Consider environmental Key Failure Indicators (KFIs) to get alignment on non-acceptable scenarios (e.g. a feature or product being too energy-intensive or emitting too much carbon emissions for the business or user value created)
- ✓ **SCAN CONSEQUENCES** to complete the brief
- ✓ Add a section for environmental considerations (listed as risks, uncertainties, or opportunities)
- ✓ Identify and prioritize risks based on two factors: probability or likelihood, and impact. Then, identify actions to eliminate or mitigate them
- ✓ Define feature life expectancy and conditions/triggers for retirement
- ✓ Explore opportunities to **PROMOTE GREEN USER BEHAVIOURS**
- ✓ **TRACK YOUR DIGITAL FOOTPRINT**: know which tools you plan to use to measure, include dashboards as part of the scope, and monitor after the release or sprint

What Does Success Look Like?

- Inclusion of environmental metrics in product analytics and reporting
- Cross-departmental participation in green initiatives
- Adoption of cleaner electricity sources for operations
- Established targets for reduced carbon and greenhouse gas emissions

Things To Consider

Like any brief or team alignment exercise, the hard part of the process happens before the meeting. You should start by educating your peers, researching, finding compelling data points to support your case, and benchmarking the competition to create some internal FOMO.

To increase your chances of success and be ready for these discussions, we'll delve more deeply into how to **CONVINCE AND COLLABORATE WITH INTERNAL STAKEHOLDERS** in the last chapter. Also, make sure to onboard your marketing team. They will be a great ally to make sustainability shine internally and with your users. This is another excellent opportunity to create positive momentum! More on **SHARE YOUR COMMITMENT, ACTIONS, AND JOURNEY PUBLICLY.**

07 ONBOARD DEVELOPERS AND DESIGNERS

Why Does It Matter?

Product managers have significant influence over the ‘Definition of Ready’ and the ‘Definition of Done’. Embedding climate considerations into your day-to-day product design and development process will drive a culture of sustainability in your business. This will set the tone and expectations for the acceptable practices and values the team should aim for and provide clear frameworks to follow during planning, design, development, and release phases.

What Can I Do?

- ✓ Define a weight budget (in KBs) or carbon budget (in CO2e) to respect in your Definition of Ready (DOR) on a certain page or scenario
- ✓ Choose the right tools to measure test case and acceptance criteria (more in TRACK YOUR DIGITAL FOOTPRINT)
- ✓ Make sure it includes back and frontend impact
- ✓ Verify if best environmental practices have been embedded into the user story (e.g. support old devices and OS, verify usage of multimedia, optimize multimedia content, apply "minimum by default" approach for specs, etc.), more on this in the next 2 chapters
- ✓ Run tests to verify if best environmental practices have been implemented correctly
- ✓ Identify when and why the DOR or Definition of Done (DOD) are not followed and leverage this learning opportunity to identify challenges, clarify concepts, and refine your product process
- ✓ Share successes during sprint reviews or demos, highlighting the environmental value created and the value for the business, users, and the environment
- ✓ Use sprint review or demo to excite your stakeholders over the benefits and impact of your environmental improvements or achievements
- ✓ Discuss climate success, surprises, and failures with your squad during the sprint retrospective. Sustainable Design will likely be a new skill and add new considerations for everyone. The retro is a great opportunity to improve, learn from each other, clarify climate concepts, etc.
- ✓ Monitor environmental impact after each release/sprint
- ✓ Co-create your internal low-carbon and low-impact playbook, toolkit or manifesto with your team

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Efficient utilization of data centers and servers for greener operations

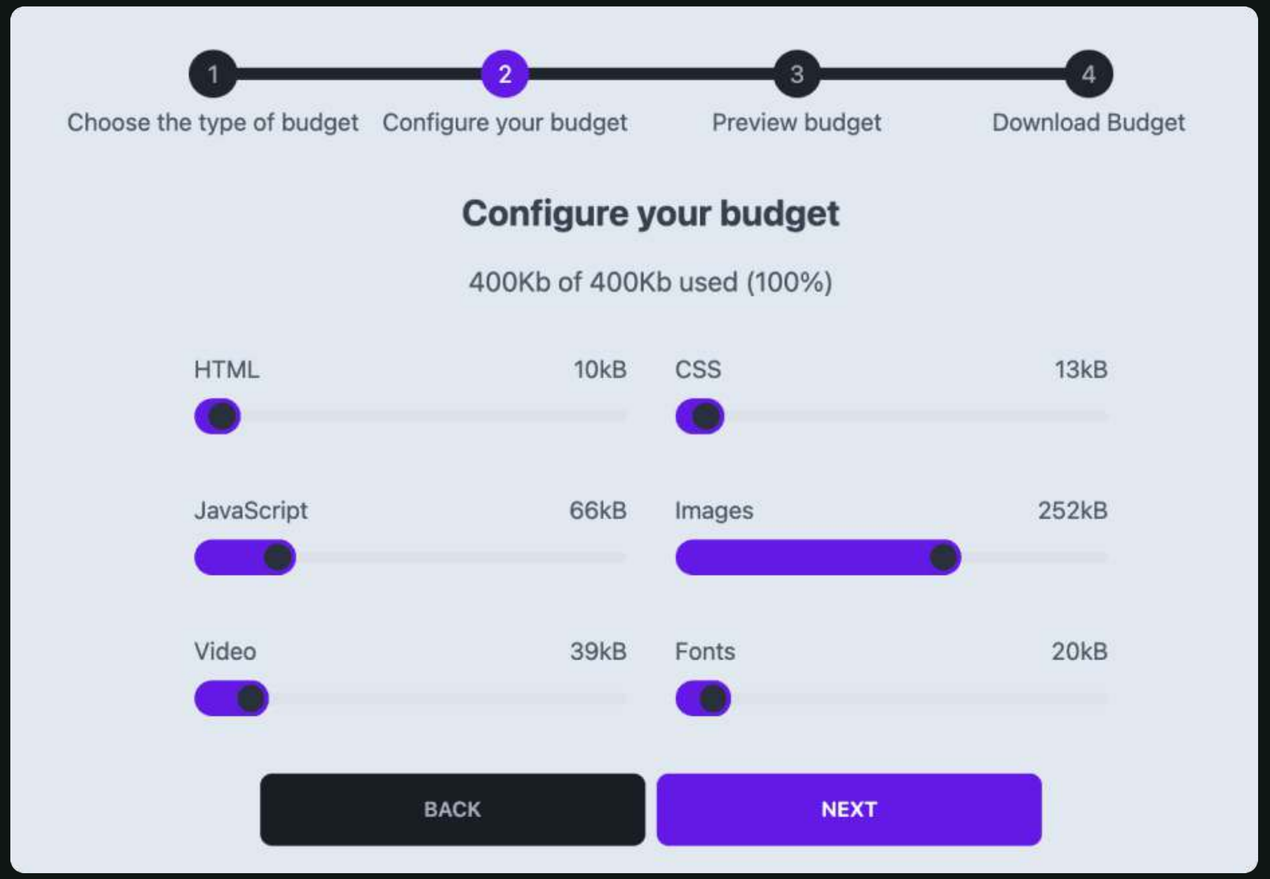
Things To Consider

Focus on starting small and building momentum with your team if it’s not possible to implement all the best environmental practices at first. You will be able to raise the standards as your team gets excited with the results and sees value in the approach and its impact.

We recommend you find ways to track the adoption of sustainable practices in your team over time and across the other product teams. Having a visible and tangible way to measure it will make it easier to identify and address challenges.

We recommend that you look out for solutions such as Homeric.ai and Trainual that can help you not only create your climate playbook (like what you’re reading) or toolkit, but also disseminate it throughout the organization and teams.

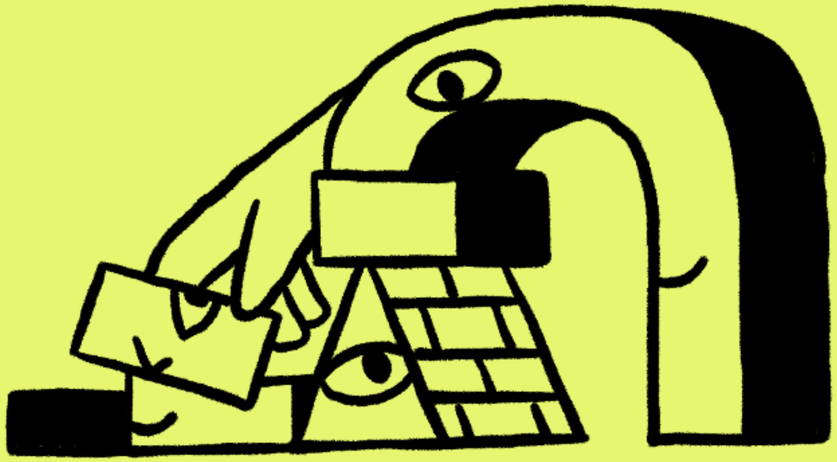
07 ONBOARD DEVELOPERS AND DESIGNERS



performancebudget.io is a performance budget calculator that can come in handy for defining clear requirements and expectations with designers and developers. It sets limits on data transferred per type of asset, which can be used as a proxy for GHG emissions.

Build Mindfully

This section navigates the principles of creating products that are as kind to the environment as they are innovative. It advocates starting with an eco-conscious mindset right from the drawing board, ensuring every product journey prioritizes minimal ecological impact alongside meeting business objectives. It's a thorough exploration of the balance between technological advancement and environmental responsibility.



“We no longer have the luxury of time or resources to create services that don’t serve a purpose in society”

Climate Product Leaders

08 EVALUATE SOCIETAL USEFULNESS

Why Does It Matter?

Recently, the introduction of mandatory ESG (Environmental, Social & Governance) reporting has dramatically increased the focus for large organizations to go further than finance as a business driver. The world's resources are limited and those that remain should be used carefully.

With the future called into question, it is fundamental to consider the impact of what we create for society as a whole, and whether our products positively impact, or at least complement, known societal challenges. We no longer have the luxury of time or resources to create services that don't serve a purpose in society, we do have the power as product managers to make sure they meet critical global needs. Thoughtful digital products can make a tangible impact.

What Can I Do?

- ✓ Make sure your vision and business fit into at least one of the 17 Sustainable Development Goals (SDGs)
- ✓ If your product doesn't fit within the SDG framework, try to think broadly about how useful your product is to society
- ✓ Engage stakeholders and communities to gather input, assess societal needs and the relevance of your solution
- ✓ Communicate your commitment to your employees, investors, clients and network

What Does Success Look Like?

- A clearly articulated vision and mission underscoring commitment to societal and global challenges
- Collective efforts to gauge and reduce ecological footprints
- Employee retention reflecting a positive and sustainable work environment

Things To Consider

We recommend considering societal usefulness when launching a new project or business and looking beyond its financial performance. If the company already exists, try reframing your vision and mission using the SDG framework shared here (or equivalent) and **SET ENVIRONMENTAL OKRS.**

If your business vision or mission does not fit any Sustainable Development Goal, we encourage you to scan the potential consequences on society, people, and the planet. No business exists in isolation; we're all interconnected. See more about this in the following best practice **SCAN CONSEQUENCES.**

09 SCAN CONSEQUENCES

Why Does It Matter?

Although technology brings knowledge and innovation on a large scale, it also demands responsibility. We cannot ignore the many crises we face or create new services or products without considering their impact on people, the economy, society, and the environment.

It's important to remember that digital is physical. The production of devices to host and run software includes mineral extraction, population displacement, water pollution from the filtration process of minerals, manufacturing, transportation, and more. Sustainable design becomes essential for addressing the climate emergency, maintaining a competitive business edge, and moving towards a regenerative society.

Consequence scanning is essential during the product discovery phase. It helps you identify potential gaps, risks, and unintended consequences of your digital product at an early stage.

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Employee retention reflecting a positive and sustainable work environment
- A clearly articulated vision and mission underscoring commitment to societal and global challenges

What Can I Do?

- ✓ Identify impact and consequences (intended and unintended) of your feature, product or service on the environment and society
- ✓ Use the 9 planetary boundaries to structure your thinking about environmental consequences.
- ✓ Investigate all lifecycle phases from deployment, usage, and retirement, both from your organization and third-party services (also called Digital Lifecycle Assessment)
- ✓ Identify unknowns and blockers
- ✓ Understand the control and influence you have over consequences
- ✓ Consider stopping a feature or product's discovery, delivery or availability if sizeable negative consequences are unavoidable
- ✓ Avoid or mitigate negative consequences
- ✓ Acknowledge and optimize the positive consequences

Things To Consider

We recommend you scan consequences during the kickoff of a new project and as part of the definition of ready (DOR) before sprint planning. Always remember to collaborate with diverse key stakeholders to maximize your chances to identify more potential consequences.

We also invite you to use these handy toolkits, The Tarot Cards Of Tech, Consequences Scanning or Stop Designing for Yesterday. If you don’t have much time to invest in this activity, hiring sustainability experts can be an option if you have a budget. Type "climate job boards" into your preferred search engine, and you'll find dozens of sites to post your needs.

09 SCAN CONSEQUENCES

”Mindful product design means thinking about how what we create affects the world beyond just the bottom line.”

Tim Brown,
CEO Of IDEO

10 VALIDATE THE USER JOURNEY AND NEEDS

Why Does It Matter?

Every product we develop consumes resources, so we need to make them count. Validating user journeys during the discovery phase, before building, is crucial as uncertainties can lead to unnecessary and unused features. Time, money, energy and materials go to waste, for which there is an environmental cost.

Remember: about 80% of features and products fail after launch. So don't build something until you've done everything you can to reduce the risk of launching something that no one will use. In many cases, it will require convincing your management chain that doing good user research is time and money well spent in the long run, not to mention, you will have a thoroughly researched and effective product at the end of it!

What Does Success Look Like?

- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Reduction in maintenance costs, reflecting efficient design and execution
- Optimization leading to reduced cloud expenditure
- Accelerated development cycles emphasizing efficient resource use

What Can I Do?

- ✓ Identify key research questions and the right research methods (qualitative and/or quantitative): interviews, surveys, usability tests, etc.
- ✓ Define your target audience and choose your participants wisely
- ✓ Avoid main cognitive biases
- ✓ Create user personas and map their journey to identify behaviours, needs, and pain points
- ✓ Identify anti-persona early (ideally during consequence scanning)
- ✓ Identify user devices required
- ✓ Prioritize personas and user journeys
- ✓ Prototype and test user interactions and key hypotheses before development
- ✓ Gather user feedback at each stage to refine the journey

Things To Consider

User research is not a new field. Feel free to rely on existing resources out there. For example, the well-known Value Proposition Design book by Strategyzer and the practical step-by-step guide to frame your research, How to Write a User Research Plan That Sets Your Project Up for Success.

If research is not part of your process yet, do some simple math and calculate the cost of defining, building, and maintaining the feature or product you want to build. Now, share the costs with your key stakeholders or N+1. It should quickly amount to 5 or 6 figures and may change their minds about investing 5% to 10% of that budget to avoid building useless software.

11 REMOVE NON-ESSENTIAL FEATURES FROM THE SCOPE

Why Does It Matter?

Think Minimum Viable Product (MVP) here. We know that eliminating non-essential features reduces the cost of your project, streamlines development, reduces product bloat, minimizes technical debt and environmental impact. While this is a challenging task, the benefits for your users, business, and the environment make it incredibly worthwhile.

What Does Success Look Like?

- Accelerated development cycles emphasizing efficient resource use
- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Reduction in maintenance costs, reflecting efficient design and execution
- Optimization leading to reduced cloud expenditure
- Rigorous data security measures ensuring compliance and protecting user trust

What Can I Do?

- ✓ 🔎 **VALIDATE THE USER JOURNEY AND NEEDS**
- ✓ Prioritize user stories using the User Story Mapping technique (range reduction)
- ✓ Imagine an MVP, V1, and V2 of each story (depth reduction)
- ✓ Split your user stories into different releases
- ✓ Keep only the must-haves
- ✓ Regularly review and reassess feature relevance

Things To Consider

Try your best to be critical about why you include user stories in the MVP: What would happen if you remove a user story from the MVP? Would the user experience or business goals be drastically damaged? If not, you may remove it from the scope.

Finally, keep in mind the 3 U's rule. Is the feature going to be **useful, usable, and used**? This should help you to include only features you have high confidence in.

Also, because we all know perfection doesn't exist, you will still have the opportunity to 🗑 **KILL UNUSED FEATURES.** However, this is not an ideal approach and will come at a price for your product, the business, and the environment.

12 PRIORITIZE A MOBILE-FIRST APPROACH

Why Does It Matter?

In the era of smartphones (53% of global internet usage is mobile), embracing a mobile-first strategy is vital for crafting streamlined, light, and efficient digital products. Less space on the screen means less content and features, which directly leads to less data transfer, less energy consumed, and a better user experience because your users can solve their needs faster. It also ensures that the user experience is optimized for most users who access content on their mobile devices while curbing the necessity for purchasing newer devices and contributing to e-waste.

What Does Success Look Like?

- Streamlined product performance, exemplified by faster load times
- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Reduction in maintenance costs, reflecting efficient design and execution

What Can I Do?

- ✓ VALIDATE THE USER JOURNEY AND NEEDS
- ✓ Develop a mobile-specific content and design strategy
- ✓ REMOVE NON-ESSENTIAL FEATURES FROM THE SCOPE
- ✓ Use responsive design to ensure that content displays properly on different screen sizes
- ✓ OPTIMIZE MULTIMEDIA FILES FOR MOBILE DEVICES
- ✓ Test your website or application on various mobile devices, operating systems, and speed connections

Things To Consider

Testing your design with older devices, operating systems, and slow-speed connection is best. This will make your experience more inclusive and accessible and help curb the necessity for the purchase of newer devices and contributing to e-waste. More in AVOID OBSOLESCENCE TACTICS.

Like any digital product or experience, you should continuously monitor and optimize for mobile performance and user experience. If you're new to mobile-first design, remember to use consistent design patterns that are flexible enough to be used on different screen sizes. You are building one cohesive experience, not different experiences with different brands based on the screen sizes or devices..

13 AVOID OBSOLESCENCE TACTICS

Why Does It Matter?

Manufacturing end-user devices such as smartphones, computers, tablets, etc. accounts for 40% of global digital greenhouse gas emissions (GHG). It is the single largest source of emissions (the next biggest source is the usage of these end-user devices, estimated at 26%). It's fairly simple: We must do everything we can to mitigate the desire to purchase new devices (smartphones, computers, tablets, etc.) by ensuring that digital products are able to function on as many existing devices as possible.

What Can I Do?

- ✓ Understand current devices used by target users
- ✓ Assess hardware impact from your current product to end-users and internally as well. For example, are you constraining or incentivizing users to upgrade and buy new devices? Which devices are you currently supporting?
- ✓ Give preference to standard and proven technologies, ideally open source (more in **REUSE AND RECYCLE**)
- ✓ Design software for backward compatibility with older devices and operating systems
- ✓ Choose PWAs (Progressive Web Apps), usable both on mobile and desktop, instead of Native Apps (which usually require the latest OS and newer devices). It helps in reducing data storage, physical infrastructure, and data transmission. It also streamlines the design, development, and testing processes.
- ✓ Be mindful of obsolescence tactics (hardware limitations, software updates) and dark patterns (upgrade pop-ups, feature gating) and avoid them
- ✓ Extend product lifecycles through software updates
- ✓ Educate users on best practices to extend devices' lifespan
- ✓ If you manage equipment, ensure that it is repairable and upgradable. If you don't, **INFLUENCE YOUR VALUE CHAIN AND PARTNERS** to promote best practices from the circular economy.

What Does Success Look Like?

- Measures to extend the longevity of hardware, reducing e-waste
- Active steps to minimize Electrical and Electronic Equipment Waste
- Enhanced user experience leading to improved conversion rates and overall satisfaction

Things To Consider

You have three main types of obsolescence that you can have an impact on:

1. Hardware Obsolescence: There are two types: technical, which occurs when new technologies make older devices outdated, and functional, which happens when hardware no longer meets users' needs due to changes in technology or requirements.
2. Software Obsolescence: Planned obsolescence is when companies intentionally design software to become obsolete, forcing users to purchase upgrades or new products. Compatibility obsolescence occurs when software is no longer compatible with older hardware or operating systems, requiring users to upgrade their devices to continue using the latest software.
3. Psychological Obsolescence: Perceived obsolescence refers to the belief that a product is no longer fashionable or desirable, while social obsolescence is driven by peer pressure and social trends that influence individuals to replace their products with newer ones to fit in or maintain a certain image.

14 REUSE AND RECYCLE

Why Does It Matter?

Reusing and recycling code reduces development time and cost and conserves energy. As servers process fewer tasks, energy usage and the carbon footprint of software development diminish. Thus, your software development becomes more climate-considerate. Modularizing your code base greatly reduces your product's overall carbon footprint by measuring each function's impact.

What Does Success Look Like?

- Accelerated development cycles emphasizing efficient resource use
- Emphasis on open-source resources for broader community benefit
- Adoption of cleaner electricity sources for operations
- Established targets for reduced carbon and greenhouse gas emissions

What Can I Do?

- ✓ Perform benchmark activities, draw inspiration from others, and reuse existing successful patterns in development and design
- ✓ Use a Design System with reusable design components
- ✓ Create functions and modules that can be reused across projects
- ✓ Make use of well-documented existing libraries rather than building functionalities from scratch
- ✓ Share and use open-source solutions to avoid duplicating efforts
- ✓ Regularly update and improve existing code to ensure it remains reusable
- ✓ Write detailed documentation, making code more understandable and easier to repurpose

Things To Consider

Not all purposes or contexts may require the reuse of existing code, especially if you have a very old piece of software or due to security and intellectual property considerations. It's vital to maintain a balance between generic and project-specific code to ensure the optimal recycling and reuse of code. Proper documentation is key, as it ensures longevity and comprehensibility.

Quality control is paramount: reused code should be thoroughly tested to ensure it doesn't introduce errors or security vulnerabilities. Additionally, fostering a culture that values sustainability in terms of product delivery and environmental responsibility is a driver for success.

15 LEVERAGE AI IN A SUSTAINABLE MANNER

Why Does It Matter?

With the energy consumption of the internet set to double by 2030, AI and Large Language Models (LLM) are going to thrive in with this trajectory, but this isn't a surprise. AI is projected to account for 50% of the energy consumption of the internet by 2050 (compared to less than 1% today). These numbers highlight how responsible and mindful we must be when considering integrating AI into an organization's operations, products, or services. There is no doubt that the big wave of AI is heading for us (for some, it is upon us already), but make sure you have considered sustainable approaches before diving in.

What Can I Do?

- ✓ Make sure that AI is needed to solve the problem: maybe predictive AI will be sufficient and you will not need to train a generative AI model. Don't be drawn in by the hype, or at least be aware of it!
- ✓ Never default to generative AI, use the most efficient model first and ask your user to opt-in to get advanced functionalities
- ✓ Consider whether to deploy the model locally or in the cloud
- ✓ Use the most efficient hardware available for training and deploying your model during low electricity demand periods or based on data center locations
- ✓ Avoid training your model from scratch. Instead, use open-source models by default and fine-tune them.
- ✓ Use the most efficient model that fits your product capabilities (eg. the right size LLM for the right problem)
- ✓ Select third party APIs (e.g. Bard) based on their footprint, including energy source
- ✓ Bake in prompt engineering techniques that promote efficiency in your model
- ✓ Project what would be the climate impact of your AI-powered feature or product if it becomes hugely successful (in terms of energy and water consumption)
- ✓ Assess the impact of AI on your organization's emissions profile now and in the years to come and consider that the positive impact of adopting AI outweighs the environmental and societal impact
- ✓ Promote AI applications that reduce waste and energy consumption
- ✓ Employ AI to improve and accelerate climate action

What Does Success Look Like?

- Adoption of cleaner electricity sources for operations
- Reduced water usage in operations
- Established targets for reduced carbon and greenhouse gas emissions

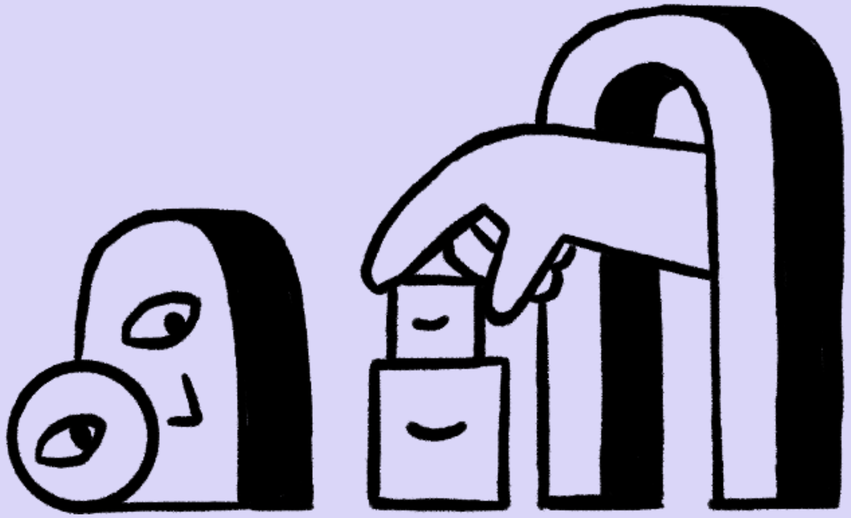
Things To Consider

We recommend raising awareness among your stakeholders of AI's impact so it's implemented responsibly. Monitoring and improving AI efficiency should also be prioritized, as adoption can fly fast. Make sure the positive impact of adopting AI outweighs the environmental and societal impact. For example, if the potential carbon savings of using an AI to optimize code is dwarfed by the carbon emitted during training, it is probably not a good idea.

We also encourage you to join climate change and AI conversations and communities to uncover the latest updates on the topic and mingle with AI experts and organizations.

Design Frugally

Focus shifts to the elegance of minimalism in digital design. This part is all about making big impacts with smaller ecological footprints. It champions the cause of designing digital solutions that are not only effective but also environmentally responsible, challenging the norm of heavy digital consumption with strategies for longevity and sustainability.



”Frugality is not about being cheap, it’s about being resourceful and innovative.”

Jugaad Innovation,
Navi Radjou

16 BUILD STRAIGHT PATHS TO USER VALUE

Why Does It Matter?

Keeping your users on your product for longer may not necessarily translate into better business results (e.g. they may get lost or distracted and leave).

However, what is certain is that the longer users use your product, the more greenhouse gas emissions it emits as it directly relates to energy usage and processing capabilities in data centers. In other words, cut out the fluff, and keep it short and sweet!

What Does Success Look Like?

- Accelerated development cycles emphasizing efficient resource use
- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Reduction in maintenance costs, reflecting efficient design and execution
- Optimization leading to reduced cloud expenditure

What Can I Do?

- ✓ **VALIDATE THE USER JOURNEY AND NEEDS**
- ✓ **PRIORITIZE A MOBILE-FIRST APPROACH**
- ✓ **REMOVE NON-ESSENTIAL FEATURES FROM THE SCOPE**
- ✓ Optimize content for search
- ✓ Ideate and A/B test on early-stage solutions and compare their environmental impact
- ✓ Consider leveraging non-digital or more frugal digital solutions (eg. SMS or email) to replace web or mobile interactions
- ✓ Make key features accessible in the navigation and on key pages
- ✓ Customize the user experience for each target audience
- ✓ Leverage user metrics to streamline and improve the user experience

Things To Consider

We encourage you to provide the best experience while removing the fluff that doesn't serve the brand or the business. **REUSE AND RECYCLE** existing features can help you avoid reinventing the wheel and reduce your scope.

If your entire business relies on the attention economy, this best practice might not be as easy as other businesses/products but there are still some valuable takeaways you could implement to streamline your user experience.

17 REDUCE PAGE WEIGHT AND COMPLEXITY

Why Does It Matter?

Page weight has been increasing tremendously over the past few years, as evidenced by the 594% growth in mobile page weight over the past decade. In 2022, the median page weight on desktops was 2.3MB.

We must aim for smaller page sizes and simplified codebases to reduce energy consumption and carbon emissions. The weight of a page has direct implications on CPU usage and makes older devices quickly obsolete.

What Does Success Look Like?

- Streamlined product performance, exemplified by faster load times
- Reduction in maintenance costs, reflecting efficient design and execution
- Optimization leading to reduced cloud expenditure

What Can I Do?

- ✓ **USE MULTIMEDIA WISELY**
- ✓ **OPTIMIZE MULTIMEDIA FILES**
- ✓ Remove unnecessary or unused code (scripts, frameworks, and plugins)
- ✓ Remove duplicate modules in Javascript bundles
- ✓ Reduce the impact from third parties (check BuiltWith and Are my third parties green)
- ✓ Avoid infinite scroll and carousels. Prefer pagination and “load more” options.
- ✓ Use lazy loading to reduce the elements downloaded
- ✓ Use partial content reloading of specific elements (rather than the whole page)
- ✓ Use system, standard or web-safe fonts to avoid downloads
- ✓ Use darker colors and themes (less energy-intensive and more accessible)
- ✓ Prefer static pages

Things To Consider

We encourage you to audit and optimize website or app assets regularly. These environmental, performance considerations and improvements will become an integral part of how cross-functional teams work once you **INCLUDE THE PLANET IN YOUR BRIEF.**

Education will be key for your organization and product squads to keep discovering best practices to apply. For this, nothing is better than to **ORGANIZE TALKS, RAISE AWARENESS, AND PROMOTE TRAINING** and **SET UP A CLIMATE WORKING GROUP.**

17 REDUCE PAGE WEIGHT AND COMPLEXITY

“Cultivate a culture of intentionality, precision and minimalism”

Climate Product Leaders

18 USE MULTIMEDIA WISELY

Why Does It Matter?

3D, animations, videos, audio, and images are among the most energy-intensive content to store, transfer and load on user devices (CPU and memory usage). More video or audio content does not necessarily translate into better business performance.

They are hard to scan, aren't search-friendly, aren't always accessible, and can quickly become outdated. We recommend using them only when they compliment your user experience or business objectives.

What Does Success Look Like?

- Streamlined product performance, exemplified by faster load times
- Optimization leading to reduced cloud expenditure

What Can I Do?

- ✓ Reduce usage of autoplay for videos and audio content and find creative ways to display this kind of content
- ✓ Avoid decorative and background videos
- ✓ Avoid animations and 3D
- ✓ Use shorter videos
- ✓ Display file size and related carbon impact before offering the option to download and offer different versions (light, medium, original size)
- ✓ Encourage users to download when they have a Wi-Fi connection (23 times less energy intensive than 4G)
- ✓ **OPTIMIZE MULTIMEDIA FILES**

Things To Consider

To improve the user experience and achieve better business results, it is important to prioritize content that provides value to users and supports the narrative of your page or user journey. Challenge any multimedia that is not critical or does not directly impact your KPIs. Don't hesitate to be more creative and make bolder (yet accessible) design choices by relying more heavily on typography.

It is also important to educate teams about the environmental impact of multimedia, so this effort is not solely yours but shared by the entire organization. To create this shared understanding, objectives and commitment from your squad, we recommend you **INCLUDE THE PLANET IN YOUR BRIEF.**

18 USE MULTIMEDIA WISELY

Reducing YouTube’s digital waste in the form of unused image (i.e audio-only stream of music) could save 500,000 tons of CO2.

That’s more saving than YouTube using renewable energies to power servers.

YouTube’s carbon footprint is huge, but smarter web design could fix it
Seen in Hey Low’s Workshop

19 OPTIMIZE MULTIMEDIA FILES

Why Does It Matter?

Large multimedia files take up more storage space and require more energy during data transfer. This is because the bigger the file, the more data needs to be transferred, which consumes more energy. Additionally, data centers which store and manage these files require more electricity to operate and cool the servers.

Therefore, it is important to consider multimedia file size when accounting for energy consumption and environmental impact.

What Does Success Look Like?

- Efficient utilization of data centers and servers for greener operations
- Streamlined product performance, exemplified by faster load times
- Optimization leading to reduced cloud expenditure

What Can I Do?

- ✓ Compress files to reduce size
- ✓ Use vector images (SVG) or illustrations
- ✓ Use CSS, pictos, and icons (provided by web fonts or standard fonts) rather than GIF, PNG, JPEG, etc. If you can't, consider WebP or Avif as better image options.
- ✓ Resize images using a CMS or manually (not in the browser) to reduce their size and deliver them to the appropriate size for each device
- ✓ Collaborate with the development team to implement an automatic optimization workflow upon upload that includes resizing, compressing, and converting images
- ✓ Combine CSS files together to reduce the number of HTTP requests

Things To Consider

We recommend running tests on multiple devices to strike the right balance between quality and size reduction. This ensures that the initiative does not adversely affect the user experience, as it is possible to experience compatibility issues when testing on older browsers, devices, and operating systems.

Consider network speed and quality when optimizing the multimedia experience for users. Also consider how and when they use your product.

20 MINIMIZE DATA TRANSFER

Why Does It Matter?

You have probably heard the mantra Data is The New Oil: collecting or keeping more data than necessary is bad for the environment as it is energy-intensive and results in carbon emissions during the data transmission and storage in data centers.

A piece of data travels on average 15,000 km (or 9320 miles). Estimates vary, but some suggest that as much as 80-90% of the data generated by businesses is considered dark data (single-use digital data). Those can make your business operations and products bigger and slower.

What Does Success Look Like?

- Efficient utilization of data centers and servers for greener operations
- Streamlined product performance, exemplified by faster load times
- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Optimization leading to reduced cloud expenditure
- Rigorous data security measures ensuring compliance and protecting user trust

What Can I Do?

- ✓ Use a "minimum by default" approach when specifications are absent
- ✓ Avoid polling API routinely and consider using REST hooks
- ✓ Use lightweight data formats like JSON and use data compression techniques to reduce file sizes
- ✓ **IMPLEMENT CACHING, BATCHING, AND OFFLINE FEATURES**
- ✓ Reduce the package size of your mobile apps and updates
- ✓ Minimize redundant data and how often you update data. Aim for more user-triggered data refresh.
- ✓ Avoid an excessive DOM size and multiple-page redirects
- ✓ Maximize data processing and computing operations in the back end and minimize front-end processing
- ✓ **DELETE OLD USER ACCOUNTS AND OLD DATA**

Things To Consider

We recommend you monitor server resource utilization, such as CPU and memory usage, to ensure you effectively conserve resources. If your product relies on third-party hosting services, assess the hosting provider's sustainability metrics, such as their energy sources and carbon neutrality commitments. See more in **CHOOSE A SUSTAINABLE HOSTING PROVIDER.**

20 MINIMIZE DATA TRANSFER

“98.5% of API polls don’t return any new information”

Kristopher Sandoval in Stop Polling And Consider Using REST Hooks

21 KILL UNUSED FEATURES

Why Does It Matter?

While it is always better to avoid building features you're not confident will be used (see **REMOVE NON-ESSENTIAL FEATURES FROM THE SCOPE**), you still have a chance to remove them afterward. Trimming product bloat and eliminating unused features or features with low business value is crucial for efficiency, cost-effectiveness, and environmental sustainability. It enhances the user experience, reduces waste, and aligns with user needs.

What Can I Do?

- ✓ Measure the adoption rate and frequency of feature usage
- ✓ Place the results in a matrix with four quadrants: low/high adoption and low/high frequency
- ✓ Be diligent and pragmatic when assessing whether to keep or delete features with low adoption and usage frequency
- ✓ Decommission selected features
- ✓ Maintain clear documentation and dashboards of feature usage metrics
- ✓ Define feature life expectancy and conditions/triggers for retirement in the Product Requirement Documents (PRD)
- ✓ Implement a regular and structured process for retiring features/products

What Does Success Look Like?

- Accelerated development cycles emphasizing efficient resource use
- Minimization of technical debt for longer product life and efficiency
- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Reduction in maintenance costs, reflecting efficient design and execution
- Optimization leading to reduced cloud expenditure
- Rigorous data security measures ensuring compliance and protecting user trust

Things To Consider

We can apply the same logic for features to applications, services, and products. Users can vary depending on whether the feature is designed for internal purposes (developers, customer support, etc.) or end-users. Foster a culture of minimalism and assess with your designers and developers what would be required to decommission selected features. Will this affect other parts of the experience, code, or business? Be thorough in anticipating these changes.

Although rarely used, some features may have a high perceived value by users and may be required to match the competition. In some cases, it will be justified to keep them, but it should not be the default.

22 DELETE OLD USER ACCOUNTS AND OLD DATA

Why Does It Matter?

Let's be honest; we tend to store a lot of data just in case, only to use a fraction of it to inform business or product decisions. Given the environmental toll of data centers and networks (34% of greenhouse gas emissions of the digital world), we must be mindful of what we want to store and how we will use it before creating any digital product.

This will help reduce server load, electricity consumption (power and cooling), and water consumption and increase hardware lifespan. Keep in mind that it might also have legal implications like creating a security risk when keeping personal data for too long.

What Does Success Look Like?

- Efficient utilization of data centers and servers for greener operations
- Rigorous data security measures ensuring compliance and protecting user trust
- Optimization leading to reduced cloud expenditure

What Can I Do?

- ✓ Collect what is necessary: If you don’t intend to use the data to power your product, build dashboards and extract insights with it, don’t collect it as a rule of thumb
- ✓ Audit data currently stored and regularly assess relevance
- ✓ Identify for each project, feature, and product which dataset you would need to track
- ✓ Set data retention and lifecycle policies to delete outdated or unnecessary data according to regulations and business needs
- ✓ Define policy to delete user accounts (inactive, obsolete or churned)
- ✓ Implement automated processes to implement data policies
- ✓ Give more control to users on how their data is being used and managed

Things To Consider

We encourage you to educate your colleagues on the environmental benefits of data deletion and management. Ensure you develop simple and effective internal tools and frameworks to frame data collection, management, and deletion discussions.

Have you ever had a company reach out to inform you they are deleting your account and data for security purposes? It’s a great practice and opportunity to educate users about the environmental benefits of data and account management and deletion.

23 IMPLEMENT CACHING, BATCHING, AND OFFLINE FEATURES

Why Does It Matter?

Implementing caching strategies, batching server calls, and supporting offline features significantly reduces the continuous demand on servers and networks, decreasing energy consumption. Minimizing real-time data transfers and processing enhances efficiency and aligns with the principles of green computing, making a dent in your carbon footprint.

What Can I Do?

- ✓ Implement smart caching mechanisms (prioritize the storage of frequently accessed data, reducing the need for repetitive data transfers and conserving server resources) to reduce server response time (TTFB)
- ✓ Group similar tasks to be executed at once, reducing the frequency of server calls
- ✓ Implement asynchronous mechanisms for long and complex back-end jobs without blocking the user experience. Notify users when the task is complete.
- ✓ Allow users to access and modify data offline, syncing changes only when necessary via batches
- ✓ Set predetermined times for data uploads/downloads to optimize server load
- ✓ Use algorithms optimized for batch processing to minimize computational demands
- ✓ Inform users about optimal times to perform specific actions based on energy-efficient periods (eg. delay actions or delay results/outcomes). See **OPTIMIZE FOR CLEAN ENERGY.**
- ✓ Select a green Content Delivery Network provider

What Does Success Look Like?

- Efficient utilization of data centers and servers for greener operations
- Enhanced user experience leading to improved conversion rates and overall satisfaction
- Optimization leading to reduced cloud expenditure
- Streamlined product performance, exemplified by faster load times
- Rigorous data security measures ensuring compliance and protecting user trust

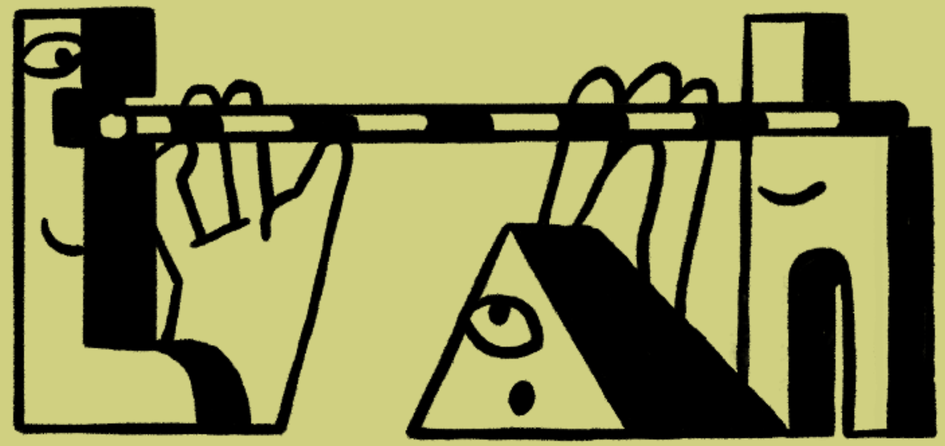
Things To Consider

A deep understanding of user behaviour and needs is essential to implement batching and offline features successfully. Regularly gathering feedback ensures that these features align with user expectations.

Additionally, thorough testing is crucial to identify potential sync issues or data conflicts that might arise. Investing in infrastructure that supports efficient caching and batch processes and providing training for development teams on best practices will further enhance these features' effectiveness and environmental benefits.

Become Carbon Aware

Here, the spotlight is on the criticality of understanding and acting on the carbon footprint of digital products. This segment equips you with the knowledge to measure, reduce, and manage your carbon impact, emphasizing a move towards greener technology and sustainable innovation. It's a guide to going further than existing standards in the tech industry, and setting the bar higher.



”You cannot get through a single day without having an impact on the world around you. What you do makes a difference, and you have to decide what kind of difference you want to make.”

Jane Goodall, Primatologist And Environmentalist

24 CHOOSE A SUSTAINABLE HOSTING PROVIDER

Why Does It Matter?

Data centers represent 15% of all digital emissions, from the building construction, to the hardware manufacturing, transportation, usage, and end of life. They consume mainly water for cooling purposes and electricity for powering servers and cooling systems.

Selecting a green hosting solution is essential for environmental sustainability in digital product development. It minimizes carbon emissions, supports renewable energy, and reduces the product's ecological impact.

What Can I Do?

- ✓ Make sure they use green energy as primary or exclusive sources. Either because they are located in renewable energy-rich regions and grids (wind, solar, hydro), or because they have their renewable sources on-site without needing to access the grid.
- ✓ Check the carbon intensity of Data Centers by providers and by regions (graphic at the bottom)
- ✓ Prioritize data centers that directly use green energy on-premises or through their electric utility over those purchasing renewable energy contracts to become sustainable.
- ✓ Use Green Web Check to determine if your product runs on green energy. Please note that this tool cannot tell you if data centers are powered by renewable energy or if they have purchased renewable energy contracts.
- ✓ Size your real infrastructure needs. Oversizing can increase the manufacturing of new servers and means you are overpaying and increasing your carbon footprint. Undersizing can reduce servers' lifetime by putting them under too much load (such as overheating or overuse).
- ✓ Assess the energy efficiency of their servers and data centers: Power Usage Effectiveness (PUE), Carbon Usage Effectiveness (CUE), and Water Usage Effectiveness (WUE)
- ✓ Assess how providers manage their electronic and electrical equipment waste
- ✓ Ask about their responsible procurement strategy
- ✓ Ask about their projects and roadmap to improve their performance and mitigate their impact

What Does Success Look Like?

- Efficient utilization of data centers and servers for greener operations
- Active steps to minimize Electrical and Electronic Equipment Waste
- Optimization leading to reduced cloud expenditure
- Energy efficiency measures leading to decreased consumption
- Adoption of cleaner electricity sources for operations
- Reduced water usage in operations
- Established targets for reduced carbon and greenhouse gas emissions

Things To Consider

Switching to a green hosting solution is among the first actions you can take to reduce your digital footprint. If you work for a startup or small organization, it should not be too difficult to sell this idea given its environmental impact and potential for cost reduction. However, if you work for a larger group or organization, you may need to convince stakeholders, as such decisions may be made beyond the product team.

If your service is running on-premises and you want to optimize your virtual machines and servers, EasyVirt and fruggr.io can provide such services. Scaphandre is also a great open-source solution to measure your power consumption.

25 PROMOTE GREEN USER BEHAVIOURS

Why Does It Matter?

The role of individuals is critical in our response to the climate and biodiversity crises. They elect our governments and put pressure on society at large. Some consumers are already engaged and expect businesses to take action regarding the environment. However, we cannot expect everyone to become environmentalists overnight.

Education is key to making the ecological case, empowering people to be more mindful, and guiding us towards a more sustainable path. We should aim to be more ambitious simultaneously, take responsibility, and embed sustainable choices directly into our products as the default option. This will remove user friction and increase the adoption of green features and behaviours.

What Can I Do?

- ✓ Make the sustainable option the default one for your product as much as possible (e.g. choosing the lowest carbon emitting option for users: itinerary, delivery method, product, enabling carbon-aware charging features, etc.)
- ✓ Show emissions reduction benefits to users in simple terms (e.g. cost reduction, % of CO2 saved vs another product or usage, and other relevant environmental and societal benefits)
- ✓ Encourage users to choose the more sustainable option (e.g. electric car vs. regular car for a car manufacturer, train vs. plane trip for a transportation company)
- ✓ Send tips and nudges to encourage users to delay or reduce the use of products or services when resources are scarce (e.g. water in summer, electricity during peak hours)
- ✓ Enable users to see the impact of their action: emissions reduction and positive impact of initiatives supported. However, it is important to note that you should not shift environmental responsibility onto end users. This responsibility falls on you and your company.
- ✓ Recognize and reward eco-conscious user action

What Does Success Look Like?

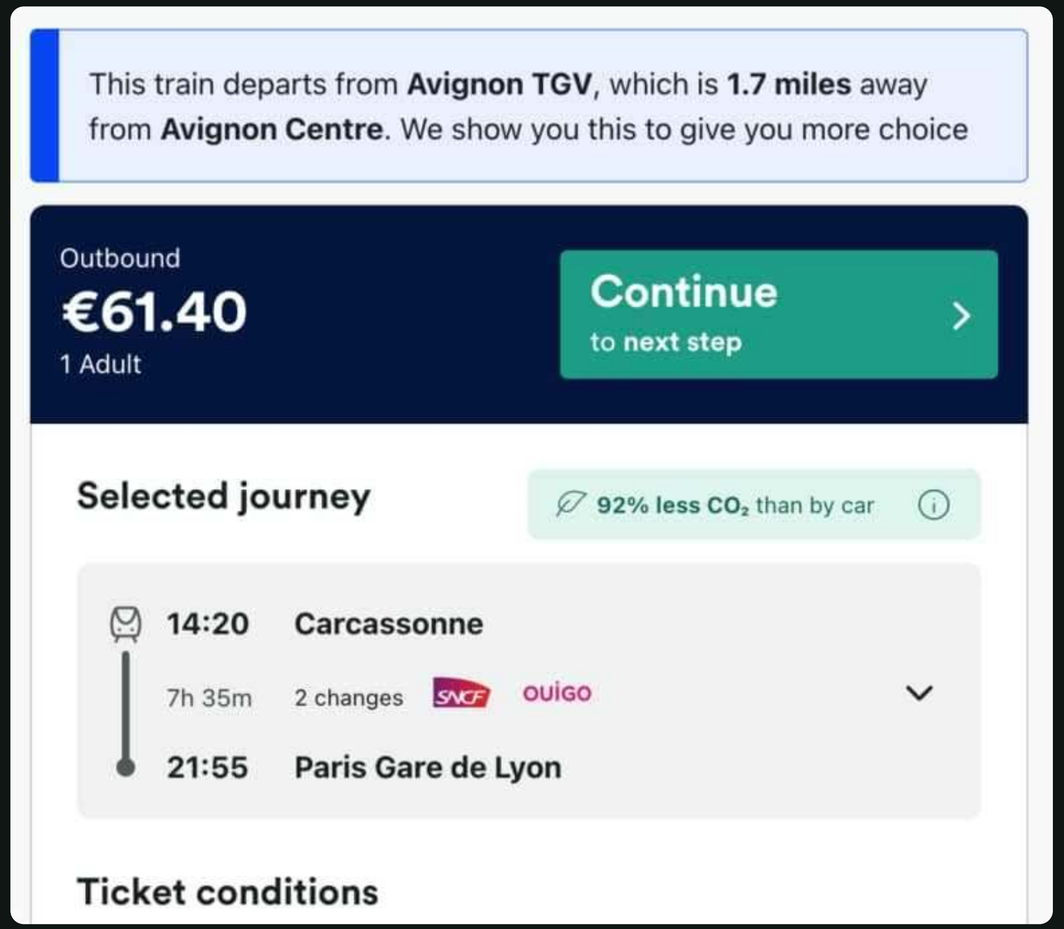
- Increased adoption of product features that promote sustainability
- Positive reception and user engagement with eco-friendly features
- Energy efficiency measures leading to decreased consumption
- Adoption of cleaner electricity sources for operations
- Established targets for reduced carbon and greenhouse gas emissions

Things To Consider

We recommend building a strong partnership with your Marketing and Product Marketing teams when communicating with your users, especially when trying to change user behaviour. Finding the right tone and content is critical. Avoid moralizing and instead strive to be positive and uplifting. Empathy is also crucial.

Provide real-life examples that speak to most people and explain the benefits in tangible and meaningful ways. For instance, talking about the amount of CO2e saved or the equivalent in cars in circulation for a year may not resonate with everyone. It's important to do your research, know your audience and make your argument and numbers relevant and relatable to them.

25 PROMOTE GREEN USER BEHAVIOURS



Trainline, an online platform for booking train and bus tickets in Europe, showcases the reduction in CO2 emissions when choosing to travel by train instead of a car. This not only strengthens the perceived value of their platform but also educates their users about the environmental benefits of train travel.

26 SET UP ULTRA ECO-MODE

Why Does It Matter?

When the grid has a high carbon intensity, also known as 'dirty grid', your product emits more carbon emissions and greenhouse gases compared to when it's powered by renewable energy, which has a low carbon intensity. High carbon intensity is often associated with fossil fuel-powered grids, where the production of a kilowatt hour (kWh) of electricity results in significant emissions.

It's important to note that using energy during peak hours is directly linked to higher electricity costs, higher-emitting energy sources, and higher air pollution. To mitigate this impact, there are ways to adapt your product experience and activate an ultra eco-mode. By making your experience responsive to these fluctuations, you can greatly impact your business, your users, and the environment.

What Can I Do?

- ✓ Identify users' location and use existing tools to know users' carbon intensity (Carbon Aware SDK, Wattttime or Electricity Maps)
- ✓ Avoid loading media content when the grid is dirty and show alt text instead (let users click to open media), check out Branch Magazine, it is a great example
- ✓ Use darker colors and themes (less energy-intensive, especially on OLED screens)
- ✓ Follow the Web Content Accessibility Guidelines (WCAG)
- ✓ Encourage users to delay high-energy activities for low-carbon-intensity times and offer incentives, discounts, or rewards
- ✓ Enable users to revert to the full experience if they want or need to
- ✓ **PAUSE OR DEACTIVATE SERVICES TACTICALLY**
- ✓ **IMPLEMENT CACHING, BATCHING, AND OFFLINE FEATURES**
- ✓ **PROMOTE GREEN USER BEHAVIOURS**

What Does Success Look Like?

- Increased adoption of product features that promote sustainability
- Optimization leading to reduced cloud expenditure
- Adoption of cleaner electricity sources for operations

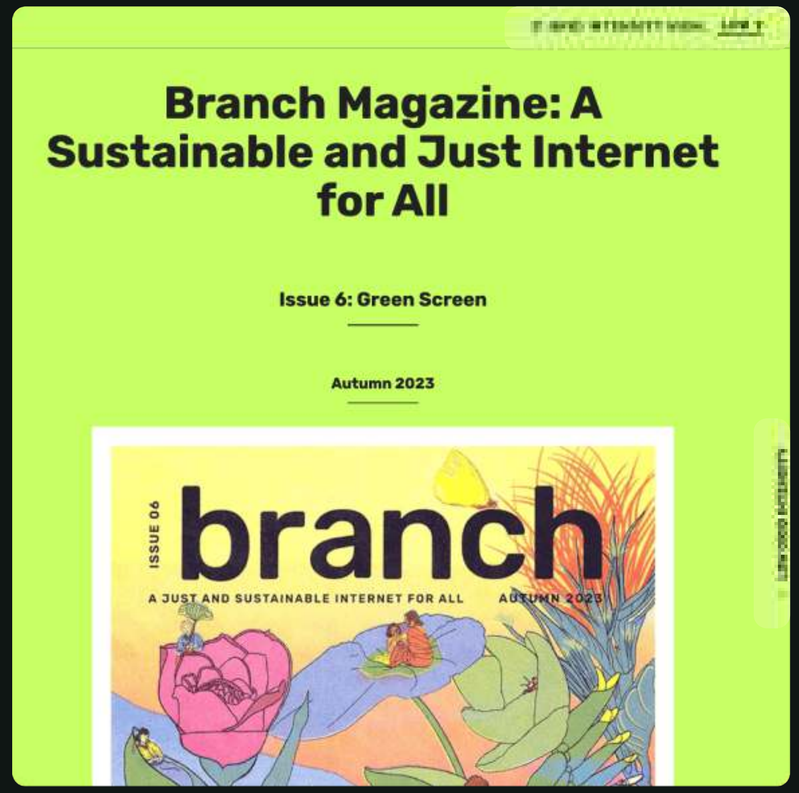
Things To Consider

Before deciding what to keep, downgrade, or pause for your ultra eco-mode, it is important to properly balance the impact of your measures on both their sustainable goal and the user experience. This requires a delicate balancing act, which can be achieved by gathering feedback before and after implementation.

As users may resist change, it is important to anticipate and mitigate these concerns by explaining why these measures are necessary, letting them know when they happen, and sharing how these changes and adaptations make a difference. This will mitigate the negative impact on your brand.

Additionally, it is important to have a plan for when carbon intensity data is unavailable, including a fallback mode.

26 SET UP ULTRA ECO-MODE



Branch is an online magazine published by the Green Web Foundation.
Their site changes its design based on the quantity of fossil fuels on the grid to stay inside a carbon budget at all times.
This example illustrates how to both adapt your experience and educate your users when the grid intensity is high.

27 OPTIMIZE FOR CLEAN ENERGY

Why Does It Matter?

In the era of green computing, optimizing code to leverage low electricity demand and a ‘clean grid’ (eg. mostly powered by renewable energy) is essential. Efficient code reduces server load, thus conserving energy. When timed with clean grid availability, the environmental impact is minimized, furthering sustainable software development and mitigating climate change contributions.

What Does Success Look Like?

- Optimization leading to reduced cloud expenditure
- Energy efficiency measures leading to decreased consumption

What Can I Do?

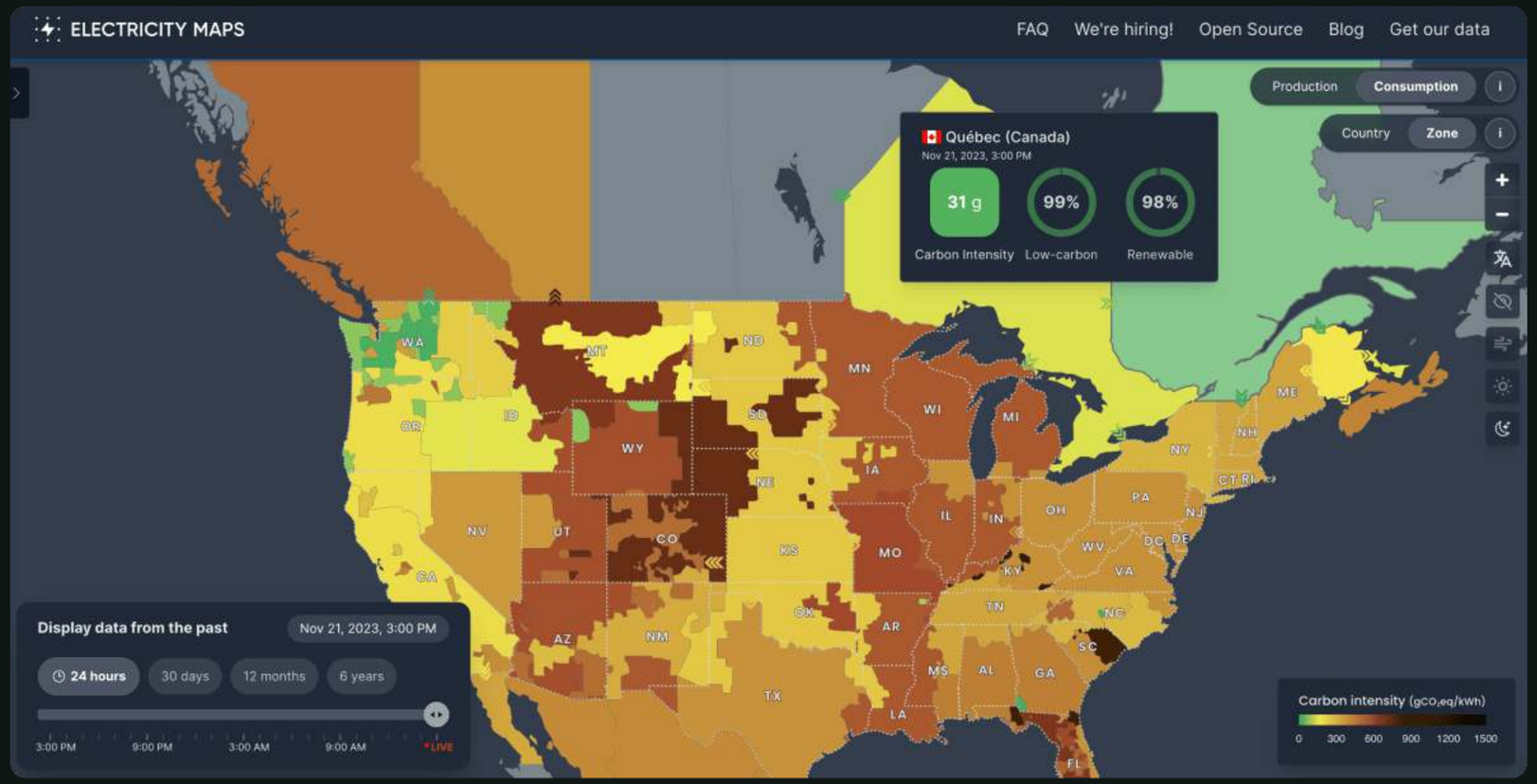
- ✓ Integrate systems to notify when clean energy is abundant
- ✓ Schedule high-intensive tasks during periods of low electricity demand or allow your users to do so
- ✓ Use auto-scaling systems that increase server availability as the grid becomes greener in order to process more tasks and jobs
- ✓ Opt for cloud services emphasizing renewable energy sources (see **CHOOSE A SUSTAINABLE HOSTING PROVIDER**)
- ✓ Training AI models during low electricity demand periods (eg. during the night) and during peaks in renewable energy production.

Things To Consider

When aiming to align software operations with energy efficiency, it's imperative to remain up to date on grid trends and innovations. Collaboration with hosting providers can offer insights into best practices and access to renewable energy sources. Regularly monitoring and adjusting strategies based on operational needs and grid conditions ensures optimal results.

Lastly, **CONVINCE AND COLLABORATE WITH INTERNAL STAKEHOLDERS** ensures developers and stakeholders prioritize these initiatives.

27 OPTIMIZE FOR CLEAN ENERGY



Electricity Maps is a useful platform that provides a simple way to understand carbon intensity based on location and timing. It helps you realize that the same digital experience can lead to significantly different carbon emissions depending on where your users are accessing it.

28 PAUSE OR DEACTIVATE SERVICES TACTICALLY

Why Does It Matter?

Temporarily disabling certain features or libraries based on energy consumption or server load is a strategic approach to software management. We prioritize operational efficiency and environmental responsibility by reducing demand during peak load times or when energy is sourced from fossil fuels.

This method ensures software adapts to real-time infrastructural constraints, minimizing ecological impact. This approach can be applied to advertising services, analytics or any third-party integration not vital to the user experience.

What Does Success Look Like?

- Energy efficiency measures leading to decreased consumption
- Optimization leading to reduced cloud expenditure

What Can I Do?

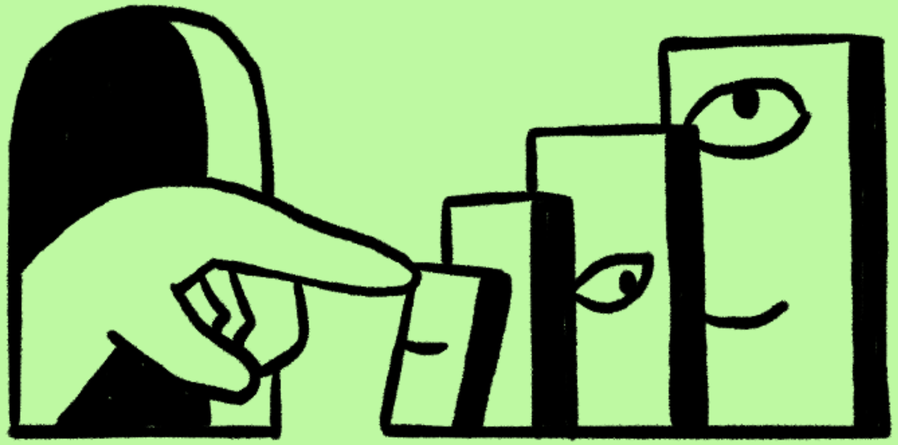
- ✓ Determine which features are essential and which can be temporarily disabled without severely impacting user experience (eg. during the night or holidays)
- ✓ Turn off development & test environments overnights and weekends
- ✓ Implement real-time tracking of server load and energy sources
- ✓ Design algorithms that can auto-disable features based on set thresholds
- ✓ Inform users when certain features are temporarily disabled and the rationale behind it (see **PROMOTE GREEN USER BEHAVIOURS**)
- ✓ Create a mechanism for users to provide feedback on the impact of these decisions on their experience

Things To Consider

Determining which feature should be paused or disabled requires a strong understanding of your users' journey.
If you don't feel that it is right for you, you should consider **SET UP ULTRA ECO-MODE** as an alternative.

Use Your Influence

The final section speaks for the power of leadership in driving environmental change. It's a call to action for product managers to leverage their position, promoting sustainable practices within and beyond their sphere of influence. This chapter is about leading the charge in ecological responsibility, inspiring a movement towards a more sustainable tech world.



29 SHARE YOUR COMMITMENT, ACTIONS, AND JOURNEY PUBLICLY

Why Does It Matter?

Publicly sharing your organization's commitment to environmental sustainability fosters transparency, builds stakeholder trust, and amplifies impact by inspiring others. It demonstrates corporate responsibility, responding to increasing consumer and investor demand for companies prioritizing the planet and profit.

As a product leader, you should publicly promote actions your organization takes from this document.

What Can I Do?

- ✓ Collaborate with your marketing department and highlight the benefits of being open about your commitment to sustainability (in the product, in social media, to your investors and your community at large)
- ✓ Clearly outline the organization's environmental goals and values with near term goals (ideally yearly goals)
- ✓ Align with the Paris Agreement: 50% emissions reduction by 2030 (on all three scopes) then net-zero by 2050; Focus on cutting emissions by 90% first, then remove or offset the remaining 10%
- ✓ Don’t overstate your commitment or claim that you already are carbon-neutral or net-zero (even if it is your objective)
- ✓ Try to be transparent and open about unknowns, blockers, and challenges
- ✓ Publish periodic progress reports on environmental initiatives (not only ESG reports)
- ✓ Use blogs, podcasts, meetups or webinars to discuss sustainability efforts
- ✓ Create spaces for open dialogue with stakeholders about environmental challenges and solutions
- ✓ Highlight quantifiable changes and milestones achieved
- ✓ Obtain sustainable digital or IT labels such as the Sustainable IT label

What Does Success Look Like?

- Engaging partners and suppliers committed to sustainability
- Employee retention reflecting a positive and sustainable work environment

Things To Consider

Transparency is a double-edged sword; it builds trust and mandates authenticity. Every claim must be backed by tangible action to avoid accusations of "greenwashing." Engaging in two-way conversations, actively seeking feedback, and being receptive to critiques can further enhance credibility.

Collaborating with recognized environmental organizations or obtaining third-party verifications can bolster claims. A genuine commitment to the cause, consistent communication, and action are the foundations of a successful public sustainability narrative.

29 SHARE YOUR COMMITMENT, ACTIONS, AND JOURNEY PUBLICLY

”The greatest threat to our planet is the belief that someone else will save it.”

Robert Swan, Polar Explorer And Environmentalist

30 INFLUENCE YOUR VALUE CHAIN AND PARTNERS

Why Does It Matter?

Influencing suppliers and partners towards sustainability extends an organization's positive impact beyond its immediate operations. As organizations become interconnected in the global supply chain, collective eco-friendly actions can create ripple effects. Organizations can holistically reduce their environmental footprint by ensuring that partners align with green initiatives, amplifying their contribution to global sustainability.

You'll find these emissions included in the Scope 3 (as per the Greenhouse Gas Protocol).

What Does Success Look Like?

- Engaging partners and suppliers committed to sustainability
- Adoption of cleaner electricity sources for operations
- Established targets for reduced carbon and greenhouse gas emissions

What Can I Do?

- ✓ Define environmental standards for supplier selection and include related contractual clauses
- ✓ Include climate and environmental requirements in your contracts, RFPs and RFIs: hosting, website development (carbon budget per page delivered), payments, communication, customer service, distribution, etc.
- ✓ Understand the impact from existing third parties with BuiltWith or Are my third parties green
- ✓ Engage in discussions about sustainability with existing partners
- ✓ Offer rewards or recognition for green compliance
- ✓ Consider creating tools for partners and suppliers to help them reducing and monitoring their emissions
- ✓ Launch joint eco-initiatives or workshops with partners
- ✓ Monitor suppliers' environmental practices to ensure continued alignment

Things To Consider

Building genuine relationships with suppliers and partners is key; it ensures that the drive towards sustainability feels collaborative rather than imposed. It's crucial to clarify expectations and offer assistance where possible through resources, training, or shared expertise. If you are a large organization working with a broad network of suppliers, we encourage you to create a sustainability exhibit (see Salesforce's example).

Celebrating shared milestones and successes can foster a sense of collective accomplishment. Lastly, maintaining flexibility and understanding that each supplier might be at a different stage in their sustainability journey ensures a balanced approach, fostering long-term commitment, and promotes the collaborative culture the planet needs to tackle climate change.

31 ORGANIZE TALKS, RAISE AWARENESS, AND PROMOTE TRAINING

Why Does It Matter?

Making climate a central consideration for your company will require business-wide support and shared ambition.

Bringing everybody to the same level of enthusiasm might require some help. Trust that there are plenty of experts and organizations that specialize in just what you need to mobilise your team and are ready to help you inspire motivation. This could be through climate action talks, awareness about sustainable digital, or promoting green IT.

What Can I Do?

- ✓ Understand the general climate literacy and digital climate literacy of your organization (e.g. low carbon design, green engineering)
- ✓ Invite guest speakers and host regular events, webinars and meetups on best sustainable and environmental practices (as an organization and for specific job functions such as product managers, designers, etc...)
- ✓ Hire experts to deliver training and interactive workshops to develop new skills and empower your team and internal stakeholders to take climate action
- ✓ Offer ongoing or on-demand training courses or regular training so all new and existing employees develop the required skills
- ✓ Develop training modules internally if you have a strong, sustainable digital culture
- ✓ Create a repository of sustainable and climate resources, articles, and best practices (feel free to include us!)
- ✓ Encourage employees to share climate and sustainable initiatives and ideas (from your company or seen elsewhere)
- ✓ Organize a climate hackathon
- ✓ Launch internal campaigns highlighting the importance of sustainability
- ✓ Create a sustainable skills development program based on the level of expertise and job function of employees
- ✓ Track awareness progress: % of employees trained (or % of the product team trained), adoption and consultation of online resources available, attendance of webinars, talks, and meetups, etc.

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Cross-departmental participation in green initiatives

Things To Consider

We invite you to explore the training programs offered by the Green Software Foundation (recommended for engineers) and Product for Net Zero (recommended for designers, product managers, and strategists). If you're unsure where to find experts or companies that can provide talks or training, there are several online groups and communities that can guide you in the right direction. Consider joining MCJ, ClimateAction.tech, Terra.do, Work On Climate, among others.

Don’t forget to engage with the Human Resources and Culture department. They will be instrumental in effectively raising awareness within your organization and creating momentum. We recommend covering various topics for all job functions and asking for feedback to tailor the content and approach. This will help you stay in tune with what people need to improve and have a greater climate impact. Shifting the culture doesn’t happen overnight, but it can be a satisfying journey.

31 ORGANIZE TALKS, RAISE AWARENESS, AND PROMOTE TRAINING

”The best way to predict the future is to create it.”

Peter Drucker, Management Consultant And Author

32 SET UP A CLIMATE WORKING GROUP

Why Does It Matter?

Forming a voluntary climate working group or committee within an organization reflects a grassroots commitment to sustainability. Fueled by passionate individuals, such an initiative acts as a catalyst, advocating for environmental measures, and aligning efforts with broader climate objectives.

Taking a proactive stance on climate change at the voluntary level showcases genuine concern, can inspire wider organizational change, and convince management that this is what their employees want.

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Cross-departmental participation in green initiatives

What Can I Do?

- ✓ Make a public call and use internal communication tools to identify other peers interested
- ✓ Include representatives from various departments to ensure diverse insights based on expertise and backgrounds
- ✓ Define the working group's short-term and long-term environmental goals with a realistic action plan
- ✓ Find allies and find ways sponsored by the top management
- ✓ Demonstrate economic value in the short term to create a momentum
- ✓ Schedule periodic reviews with top management to monitor progress and recalibrate objectives
- ✓ Collaborate with environmental consultants or NGOs for specialized insights
- ✓ Join online communities and groups: ClimateAction.Tech,
- ✓ Terra.do, My Climate Journey, Tech Zero, Green Software Foundation, etc.
- ✓ Dedicate funds, tools, and training for the committee's operations

Things To Consider

To ensure the efficacy of a climate working group, its objectives must align with the company's broader mission and values. The company's actions are then influenced by the working group. Regular training keeps members updated on global climate trends and best practices. Transparent communication channels within the working group and with the broader organization are paramount.

By celebrating milestones, even small ones, the group can maintain momentum and inspire broader organizational commitment. Lastly, being receptive to feedback and adaptable to changing climate needs ensures the working group remains relevant and impactful.

33 CONVINCE AND COLLABORATE WITH INTERNAL STAKEHOLDERS

Why Does It Matter?

Bringing other departments onto your wavelength will have a big impact on the climate journey of your company. It will be important to educate, collaborate, and convince internal stakeholders of why climate action is important, why it's urgent, and what you can do about it. Communicate on a few high-impact items first then as your organization progresses, continue to push sustainability actions further.

Shine a light on what can be achieved, communicate realistic expectations, and place emphasis on the opportunities that would be created by being more climate-conscious.

What Can I Do?

- ✓ Do your research on individuals' or departments' goals and the potential environmental benefits they can expect before engaging with them.
- ✓ Consider the objectives of each stakeholder's respective manager, not just the stakeholders themselves. We're all part of a bigger context.
- ✓ Find leaders, decision-makers, and supporters in all key departments, such as Engineering, Design, Marketing, Data, Sales, Executives, etc.
- ✓ Engage with them, listen to their objectives and concerns, and avoid moralizing
- ✓ Articulate and tailor each stakeholder's benefits and opportunities based on what's important for them so they can reuse these insights and data points when supporting your initiative (especially useful when you're not in the room)
- ✓ Provide examples and new trends from the industry and competitors to activate Fear Of Missing Out (FOMO) and trigger a response
- ✓ Celebrate and recognize individuals and teams contributing to sustainability

What Does Success Look Like?

- Collective efforts to gauge and reduce ecological footprints
- Cross-departmental participation in green initiatives
- Established targets for reduced carbon and greenhouse gas emissions

Things To Consider

We recommend using simple and powerful examples that are easy to remember and envision. Encourage open dialogue and adapt strategies based on stakeholder input. As a product leader, remember that your actions speak louder than your words.

Demonstrate your impact on your users, business, and climate metrics. It's easier to follow a path that has already been established than to be the first mover. Blaze the trail for others and support them to join you on your journey. They may then be inspired to make changes in their own circle of influence.

Conclusion

As product managers navigating the complexities of the digital world, we are at a pivotal juncture where our choices can lead to lasting change.

This playbook has highlighted our profound responsibility and the potential for our profession to meaningfully contribute to a sustainable future. We must shift our focus from perpetual expansion to mindful development, ensuring our digital products align with ecological and social well-being.

This approach involves:

Prioritizing Longevity Over Obsolescence

We must design products that stand the test of time, both in terms of functionality and relevance. This involves moving away from the cycle of continuous upgrades and fostering a culture of durability and repairability.

Rethinking Resource Utilization

Our design and development processes should emphasize minimal resource use and maximum efficiency. This includes selecting materials and processes that have a lower environmental impact and encouraging practices that reduce waste.

Advocating For Sustainable Consumption

As leaders in the digital product space, we have a unique opportunity to influence consumer behaviour towards more sustainable choices. This means not only creating environmentally friendly products but also educating and engaging our users on the importance of sustainable consumption.

Conclusion

Collaborative Innovation For Sustainable Solutions

The path to sustainability is not one we can walk alone. Collaboration across industries, disciplines, and borders is essential to develop innovative solutions that address ecological challenges while meeting our digital needs.

Incorporating those principles into our product management strategies can lead to a more harmonious relationship between our digital advancements and the natural world. It's about creating a balance where technology serves humanity and the planet, not at the expense of either.

As we look to the future, let's redefine success in product management. Let's measure our achievements not just by market share or revenue growth, but by our contribution to a sustainable and equitable world. The choices we make today as product managers will shape the legacy we leave for future generations.

Our role is pivotal: let's lead the way in crafting a sustainable, equitable digital future.

> “The most common way people give up their power is by thinking they don’t have any.”
>
> **Alice Walker**

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