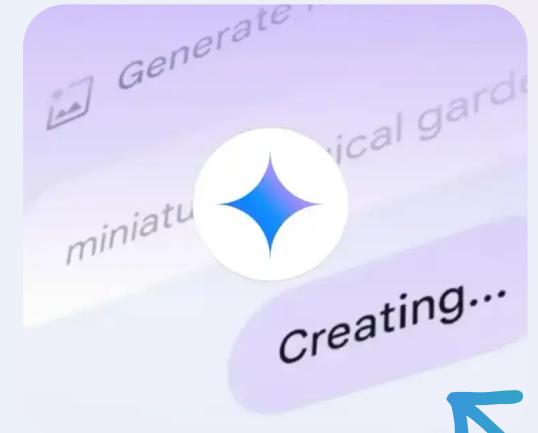
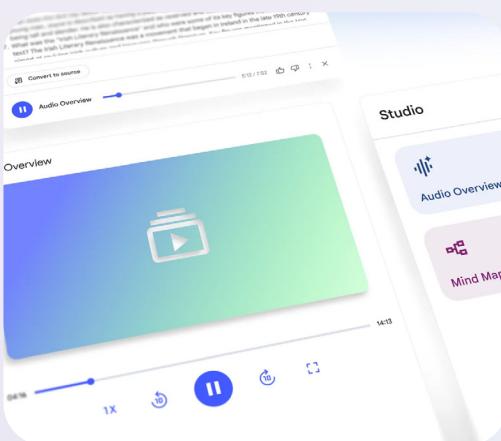


Google

AI playbook for sustainability reporting



December 2025



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Introduction

At Google, we believe AI has the power to accelerate progress across every sector—including sustainability reporting. Currently, reporting teams face a perfect storm of highly manual processes, unstructured data silos, and rapidly evolving standards and frameworks. AI can help you navigate these complexities.

We view sustainability as a collaborative endeavor, not a competitive one. That's why, after a decade of transparent disclosure in our annual environmental reports and nearly two years of testing AI in that process, we're sharing our AI playbook.

This toolkit focuses on the tangible: instead of abstract concepts, we offer concrete examples and prompts to help your team report more efficiently and effectively.

Hello

Where should we start?

Enter a prompt

+



Tools

Thinking



Five-step framework

How to integrate AI into reporting processes

How do you actually get started? We've broken down our approach into five straightforward steps. This model is designed to help you identify high-friction tasks and apply the right AI solutions, ensuring you can iterate quickly and scale what works.

-  **Audit manual, time-consuming workflows**

Look for your biggest time-sinks—specifically repetitive tasks, workflows involving unstructured data, or processes that involve information-heavy, dense documentation. Whether it's summarizing policy updates or parsing supplier questionnaires, these highly manual processes are the prime candidates for efficiency gains with AI.
-  **Decide AI, automation, or both**

Not every problem needs an AI solution; sometimes a spreadsheet formula or simple automation script is faster and more reliable. Save AI for complex, ambiguous tasks that rule-based logic can't handle. Understanding this difference prevents treating AI as a universal hammer for every digital nail, ensuring you use the right tool for the task.
-  **Select the appropriate AI tool**

Once you know the task's nature, match the model type to the problem. Generative AI excels at text-heavy tasks like summarizing frameworks or drafting narratives, while structured machine learning is often better for quantitative needs, like classifying spend-based emissions or gap-filling energy data. Your specific software choice will likely depend on your organization's tech stack, but in the Toolkit section below, we share the specific AI products we use at Google.
-  **Build, test, and iterate the solution**

Start small with a prototype rather than aiming for immediate perfection. Test the outputs against human-verified information or data, and then refine your approach based on any discrepancies. Don't overlook the ability of AI to accelerate this iteration loop. You can prompt AI to analyze its own errors and recommend specific adjustments to improve performance.
-  **Document to scale**

A solution is most valuable if it's reproducible so it can scale. Capture your successful prompts, tool configurations, and revised process flows in a central guide. Making your solutions easy to replicate reduces the learning curve for colleagues and transforms a one-off team win into a scalable organizational asset.

Opportunity landscape

Where AI can add the most value in the reporting process

We consulted with a range of sustainability professionals and technology experts to map the emerging landscape of AI applications for sustainability reporting (Figure 1). The resulting non-exhaustive list highlights where AI can supercharge reporting across three key areas: data analytics, content generation, and content interaction.

While we haven't built solutions for every use case, we continue to actively experiment across these opportunities. We hope this landscape sparks ideas for how you might start applying AI to your reporting workflows today.

Figure 1

Landscape of potential AI applications across data and content.



Data analytics

- Data management
- Data review
- Gap analysis
- Peer benchmarking
- Supplier analysis



Content generation

- Internal assistance
- Narrative drafting
- Content visualization
- Content standardization
- Document summarization
- Accessibility enhancement



Content interaction

- Interactive querying
- Content localization
- Multimedia generation
- User customization

Data analytics

- **Data management:** Automate the collection, cleaning, and normalization of raw data across disparate sources.
- **Data review:** Detect anomalies, outliers, and potential errors in large datasets.
- **Gap analysis:** Identify missing metrics against specific standards, frameworks, or current or emerging regulations.
- **Peer benchmarking:** Conduct peer benchmarking and market trend analysis.
- **Supplier analysis:** Analyze supplier data to suggest targeted mitigation strategies.

Content generation

- **Internal assistance:** Deploy chatbots to support teams with process guidance and document retrieval.
- **Narrative drafting:** Generate initial narrative drafts based on structured data inputs, internal documents, or previously published content.

- **Content visualization:** Propose and generate data visualizations to effectively represent complex metrics, trends, or strategies.

- **Content standardization:** Align draft content with corporate style guides, brand voice, or reporting standards.

- **Document summarization:** Generate executive summaries, change logs, and brief overviews from detailed drafts.

- **Accessibility enhancement:** Automatically generate alt text for images or figures and ensure document compliance with accessibility standards.

- **Mock scoring:** Evaluate drafts against transparent criteria to identify potential outcomes for scored or rated disclosures.

- **Reactive communications:** Develop FAQs and talking points to address anticipated stakeholder questions.

- **Inquiry response:** Draft accurate responses to customer sustainability questionnaires and requests for proposals based on published content and data.

- **Consistency review:** Ensure data accuracy and narrative consistency by comparing across multiple documents or versions.

- **Claims validation:** Cross-reference claims against substantiated data sources or internal disclosure guidelines to mitigate risk.

Content interaction

- **Interactive querying:** Enable internal and external stakeholders to query report content or data via natural language interfaces.

- **Content localization:** Translate and contextualize content for specific regions and languages.

- **Multimedia generation:** Generate audio overviews and video summaries to enhance storytelling and reach.

- **User customization:** Allow users to filter and view information relevant to specific topics or stakeholder interests.

Toolkit

Prompts and examples to spark inspiration



Useful prompts

Mapping the AI opportunity landscape for sustainability reporting is one thing; knowing exactly what to type into a blank prompt box is another. To help you move from theory to execution, we've curated a selection of high-impact prompts to help you begin applying AI to your reporting tasks today. Think of these as a starter pack—copy, paste, and customize them to fit your specific needs.

Stress-testing narratives

- **The skeptic:** “You’re a highly skeptical investigative reporter looking for gaps, weaknesses, and greenwashing. Review the attached section of our sustainability report. What tough questions would you ask?”
- **The investor:** “You’re an ESG-focused investor analyzing our environmental performance. After reading the attached section of our sustainability report, what are your top three outstanding questions regarding our strategy?”
- **The NGO:** “You’re a program manager at a water stewardship NGO. Review the water stewardship section of our sustainability report. What are the main questions you would ask to better understand the long-term impact of our approach?”

Drafting and refinement

- **Header structure:** “Review the headers in the attached document. Rewrite them so they are engaging, consistent in structure, start with a noun, and are no longer than 8 words each.”
- **Tone matching:** “Draft a 3-sentence conclusion for this report section. Ensure that the voice, vocabulary, and sentence structure match the tone of the text provided above.”
- **Synthesis:** “Using the attached interview notes and stakeholder stories, write three cohesive paragraphs about this topic. Seamlessly integrate these real-world examples into the narrative style of our report.”
- **Talking points:** “Create concise talking points for a senior sustainability leader to use when answering questions about the attached report. For each question, provide bulleted responses backed by specific evidence from the report itself. Format the final output as a structured briefing document.”

Data verification

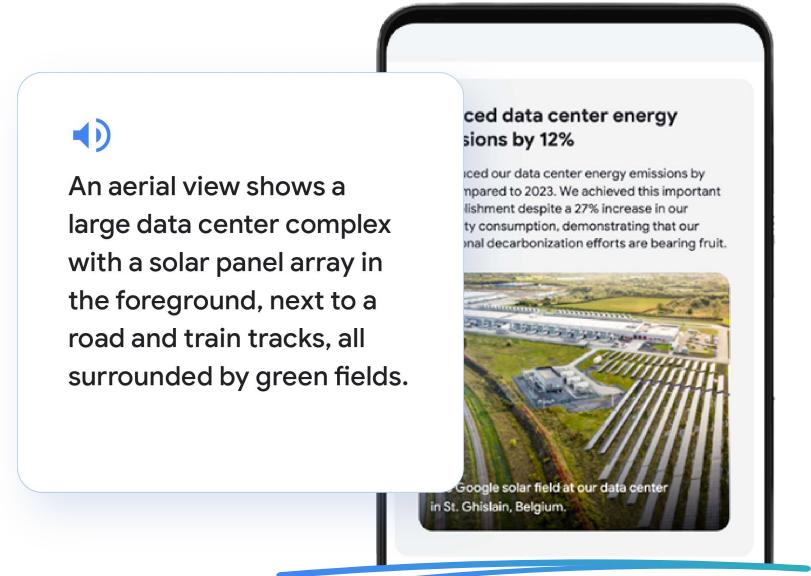
- **Cross-reference:** “I’ve pasted the text from our draft data table below and attached our source spreadsheet. Create a table comparing every data point in the draft table against the source spreadsheet. Column 1: Data table value. Column 2: Source spreadsheet value. Column 3: Flag any inconsistencies.”
- **Arithmetic check:** “Review the data tables in this draft section. Verify that all individual line items sum correctly to the listed totals (e.g., ensure scope 1, 2, and 3 add up to the total emissions figure). Output a list of any calculation errors found.”

Accessibility

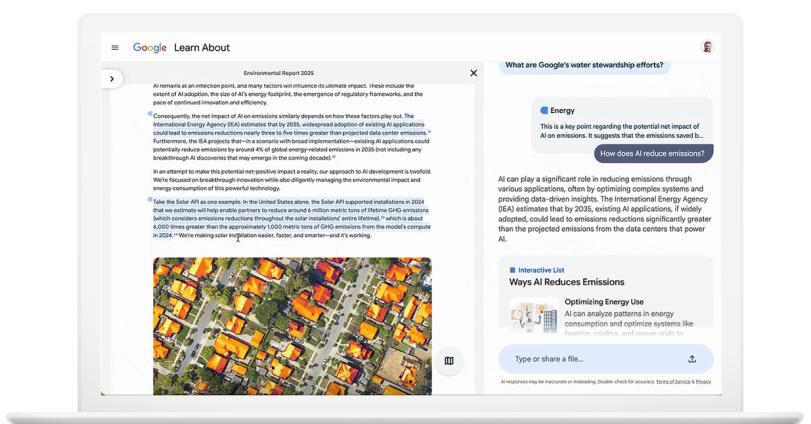
- **Alt text generation:** “Analyze the attached images or figures. Write a single sentence of descriptive alt text for each one, focusing on the key data, trends, or actions depicted.”
- **Inclusive language:** “Review this draft text for language that assumes visual ability, such as ‘See page 7’ or ‘Look at the chart below.’ Identify these instances and propose alternatives that are inclusive of all users regardless of how they access the document.”

Content interaction—with Google’s 2025 Environmental Report

- **NotebookLM:** “Create a table comparing Google’s water replenishment progress against their total water consumption year-over-year. How does the current data position their progress toward their 120% water replenishment ambition?”
- **Learn About:** “How is data center energy efficiency measured, and how does Google’s data center energy efficiency compare to the rest of their industry?”



AI-generated alt text for accessibility from Google’s 2025 Environmental Report



Google’s Learn About model highlighting energy-related content in blue for interactive exploration

Examples in action at Google

Beyond example prompts, what does solving a reporting challenge with AI look like in practice? We've selected examples from our 2025 reporting cycle to show how we moved from abstract concepts to deployed solutions. For each use case, we break down the challenge, the tools used, and practical tips to help you replicate the results in your own organization. These tools are starting points rather than perfect solutions; we encourage you to iterate on them to improve your results.

Claims validation



Opportunity

Validation of green claims is time-consuming and carries high risk given the potential for misstatements or lack of sufficient clarity. Use AI to systematically cross-reference draft claims against internal policies, ensuring the objective application of guidelines and establishing a consistent “first line” of review.

Tool

We used a custom Gem within Gemini.

Action

We programmed a Gem to cross-reference draft claims against our internal guidelines and best practices and propose necessary endnotes.

Output

The model produces a structured assessment that acts as a first line of review before human review.

Tip

This tool is intended to help streamline workflows, helping human reviewers focus on validating the model's assessment rather than starting from scratch.

Figure 2

A custom Gem reviewing a draft claim against specific reporting criteria.

The screenshot shows the Gemini AI interface. At the top, it says "Gemini" and "Sustainability Claim Review: Food Waste". There are "PRO" and "WORK" buttons, along with a user profile picture. A message box contains text about food waste diversion rates. Below this, a "Claims Checker" section introduces itself and provides a draft claim assessment. The assessment includes a "1) Claim Assessment" section with evaluation criteria. At the bottom, there's a prompt input field, a "Tools" button, and a "Thinking" button.

Reactive comms

Opportunity

Internal teams can have blind spots regarding how their narrative will be perceived by critical external audiences. Use AI simulation to stress-test your report through role-playing. This proactively identifies potential risks—like perceptions of greenwashing or data gaps—and ensures your disclosure is robust before publication.

Tool

We used [NotebookLM](#).

Action

We uploaded our final report draft and prompted the model to adopt the persona of a skeptical investigative journalist, explicitly asking it to hunt for perceived greenwashing, vague claims, or data gaps.

Output

The tool generated a list of challenging questions and drafted evidence-based responses using only the source text.

Tip

Expand your analysis by rotating the persona to represent other key stakeholders. For instance, you can prompt the AI to read as an ESG investor focused on financial risk, a customer focused on partnership opportunities, or an NGO focused on community impact.

Figure 3

Using persona-based prompting in NotebookLM.

The screenshot shows a AI chat interface titled "Google's 2025 Environmental Report". The "Chat" tab is selected. A message from the AI says: "You're a highly skeptical investigative reporter looking for gaps, weaknesses, and greenwashing. Review the attached section of our sustainability report. What tough questions would you ask?". Below this, another message says: "Based on a review of Google's 2025 Environmental Report, here are the tough, skeptical questions an investigative reporter would ask." At the bottom, there is a text input field with "Start typing..." and a button with "1 source" and an arrow icon.



Customer requests

Opportunity

Client-facing teams often struggle to navigate scattered disclosure documents to answer specific inquiries. Use AI to unify these disparate sources of truth into a single retrieval engine. This empowers teams to deliver accurate, consistent answers derived strictly from verified data.

Tool

We used [NotebookLM](#).

Action

We consolidated our public reports across environmental and social topics into a Notebook to assist client-facing teams, who can submit inquiries they receive from customers.

Output

The model responds with comprehensive answers with citations derived strictly from these verified documents.

Tip

Grounding the model in specific sources prevents hallucinations by restricting the AI to the provided text. You can apply this same technique to improve accuracy in benchmarking exercises, policy research, and more.



Figure 4

NotebookLM interface showing an aggregated library of uploaded public reports.

Customer sustainability requests Shared + Create notebook

Sources

+ Add sources

Try Deep Research for an in-depth report and new sources!

Search the web for new sources

Select all sources

2024 Google Diver... ✓
2024 U.S. Google ... ✓
Ads Safety Report ... ✓
Alphabet 2024 SA... ✓
Global Environmen... ✓
Google 2025 EU N... ✓
Google AI Principles ✓
Google EcoVadis C... ✓
Google EcoVadis S... ✓

Customer sustainability requests

34 sources

The provided documents offer a comprehensive look at **Alphabet's corporate priorities** across several critical areas, emphasizing both its internal operations and external impact. The sources detail the company's **Responsible AI practices**, focusing on quality checks, user testing, and privacy protection, alongside its extensive **Diversity, Equity, and Inclusion (DEI) initiatives**, which include global disability inclusion efforts and investments in Black women in STEM. Furthermore, the reports extensively cover **Environmental, Social, and Governance (ESG) performance**, outlining goals like achieving 24/7 carbon-free energy, managing water and waste, and disclosing **significant financial and legal risks** related to antitrust issues, data privacy, and intellectual property. Finally, the materials also provide insight into **corporate governance structure**, executive compensation plans, and efforts to combat **modern slavery** within the supply chain through rigorous audits and codes of conduct.

Start typing... 34 sources

Content interaction

Opportunity

Stakeholders consume information differently. Use AI to transform static reporting into interactive, multimodal experiences. Offering audio, visual, and conversational formats deepens engagement and makes technical data accessible to a broader audience.

Tool

We used [NotebookLM](#) and Google's experimental [Learn About](#) model.

Action

We uploaded the full 2025 Environmental Report into these tools to create public-facing, interactive companions alongside the standard report PDF.

Output

The models generate, for example, podcast-style [Audio Overviews](#) for passive listening and deliver [cited, conversational answers](#) that help users decode complex technical disclosures.

Tip

NotebookLM parses plain text better than PDFs. Convert your report to a text file before uploading to improve accuracy.



Figure 5

NotebookLM creates a table to compare year-over-year metrics.

Google's 2025 Environmental Report Public + Create notebook

Chat ⓘ

Create a table comparing Google's water replenishment progress against their total water consumption year-over-year. How does the current data position their progress toward their 120% water replenishment ambition?

Based on the data provided in the 2025 Environmental Report, the following table outlines Google's freshwater replenishment progress relative to its consumption over the last three years.

Google Water Replenishment vs. Consumption (2022–2024)

Metric	Unit	2022	2023	2024
Total Freshwater Consumption	Million gallons	4,770	5,601	7,210
Water Replenished	Million gallons	271	1,036	4,590
Replenishment Progress	%	6%	18%	64%
Contracted Replenishment Capacity*	Million gallons	1,317	2,815	8,268

Data sourced from the "Freshwater replenishment" table in the Environmental metrics data tables 1. *Contracted Capacity represents the estimated annual expected benefits of the project portfolio once fully implemented 2.

Analysis: Positioning Toward the 120% Ambition

Google's ambition is to replenish 120% of the freshwater volume it consumes, on average, by 2030 3. The current data reveals a tension between rapid progress in stewardship projects and equally rapid growth in operational demand.

Start typing... 1 source →

Best practices

Synthesized learnings to help you succeed and scale

We've mapped the landscape, shared actionable prompts, and detailed real-world examples from our 2025 reporting cycle. But meaningful adoption requires more than just access to tools and demonstrative examples. To help you execute, we've synthesized our top learnings into a set of best practices designed to turn these capabilities into a permanent, scalable part of your reporting processes.

Keep a human in the loop



AI is a collaborator, not a replacement. You must remain the “pilot” rather than the “passenger”—crafting the strategy, designing the prompts, and rigorously verifying the output. Technology accelerates the process, but human judgment ensures its accuracy.

Ask AI to help

When in doubt, ask AI to help guide you. Use AI to brainstorm potential use cases, explain complex errors, or even draft better versions of your own prompts. If the output isn't right, ask the AI why—it's often the fastest way to debug your instructions.

Stay curious

Treat AI literacy as an ongoing practice, not a one-time training. Embed learning into your team's routine by setting specific AI objectives, hosting weekly share-outs to discuss new AI product features, and actively asking other departments how they're solving similar challenges using AI.

Document your solutions

Don't let successful experiments die in a chat window. Build a shared "AI Toolbox" for your team that houses successful prompts, verified workflows, and relevant tutorials. Documentation is the bridge between individual success and organizational scale.

Iterate, iterate, iterate

Your first prompt will rarely be your best one. Treat early failures as data points rather than roadblocks. The most powerful solutions often emerge after the third or fourth revision, so refine your instructions and constraints until the output meets your standard.



Avoid the AI solutionism trap

Not every problem requires an AI solution. Before solving a challenge with AI, ask if a spreadsheet formula or a simple script could do the job better. Use AI for complexity and ambiguity, not for tasks better handled by standard automation.

Conclusion

AI is more than just a tool for efficiency—it's a catalyst for impact. By streamlining the manual, complex mechanics of reporting, we can all spend less time managing files and data and more time driving the strategy that moves the world forward.

Our nearly two years of experimentation prove that—with a straightforward process and the right safeguards—reporting teams can achieve significant gains quickly. Whether you're automating a single workflow or overhauling your entire disclosure process, the most important step is simply to start experimenting.

We share this playbook not because we have all the answers, but because we know that transparent knowledge-sharing accelerates progress for everyone. We want to keep learning alongside you as we build the future of reporting together, so please share your feedback and success stories with us at AIforSustainabilityReporting@google.com.

The image displays three examples of how AI is used in environmental reporting:

- Content visualization using a mind map in NotebookLM:** A mind map centered on "Google's 2025 Environmental Report". Major branches include "Introduction & Key Themes", "Age of AI", "Energy for Data Centers", "Energy for Supply Chain", "Resource Efficiency", "New AI Research Solutions", "AI for Extreme Events and Disaster Response", and "Protecting the Planet with AI Products". Sub-branches like "Foreword", "2024 Progress", and "Key Themes" are also visible.
- Audio overview in NotebookLM:** A screenshot of a video player titled "Studio > Audio Overview" for "Google's 2025 Environmental Report". It shows a waveform and the text "2 hosts". Below the player is a blue "Join" button.
- Interactive learning in Learn About:** A screenshot showing a callout box with the text "fuel-efficient routing in Google maps saved users fuel and cumulatively reduced emissions by 2.7 million metric tonnes". The callout includes a question "What is fuel-efficient routing?" with a cursor icon, and links to "How does fuel-efficient routing work?" and "Why is fuel-efficient routing important?".

Content visualization using a mind map in NotebookLM

Audio overview in NotebookLM

Interactive learning in Learn About



AI playbook for sustainability reporting



We'd love to hear about ways you've found this guide helpful or suggestions to improve it. Let us know at AIforSustainabilityReporting@google.com.

Explore Google's [2025 Environmental Report](#)—enhanced by many of the AI processes in this playbook—using [NotebookLM](#) and [Learn About](#).

Google is driving sustainability and AI innovation in many different areas across our products and operations. Check out the latest news and progress at [sustainability.google](#).