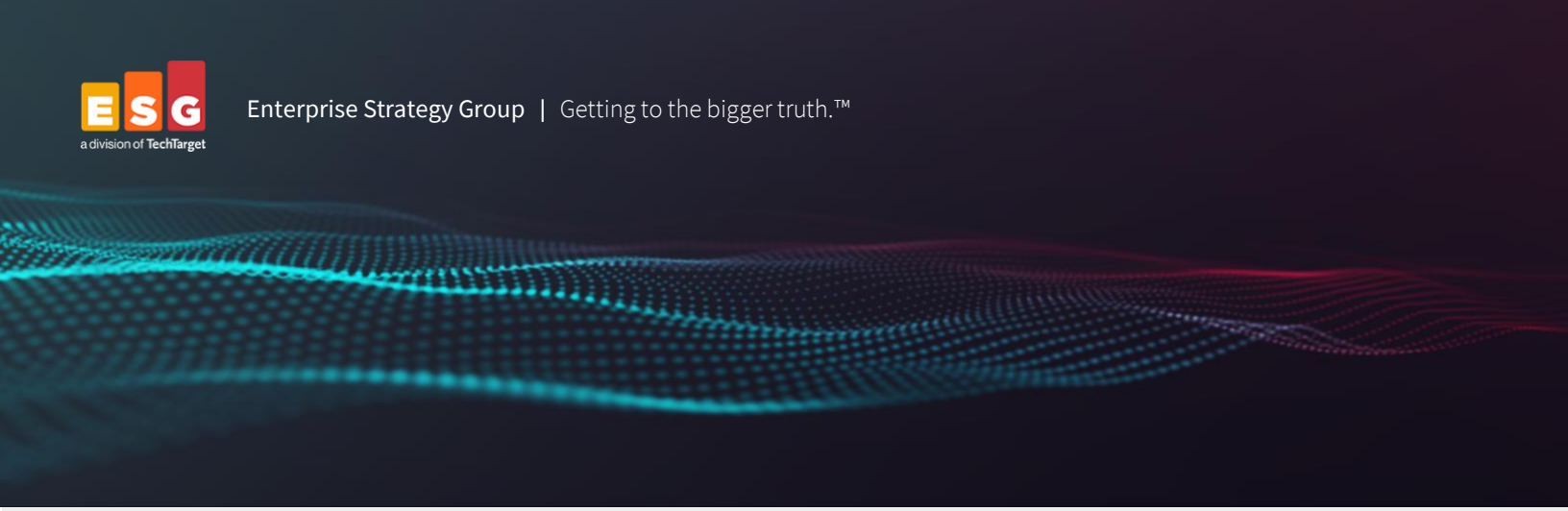

ESG WHITE PAPER

Taking Action to Build a More Sustainable Future

March 2022

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Contents

Executive Summary

Corporations, governments, and individuals are seeking a successful path towards sustainability. In some cases, the journey begins with a public commitment of increased stewardship for the planet and respectful use of natural resources. Others may be prompted by the knowledge that without investment in a sustainability framework, the products and services available today may reach a point of extinction because the elements required to support production are no longer available.

So where to begin? A data-driven understanding of the value chain associated with global goods and services provides the necessary foundation on which both corporate and individual decisions (small and large) can be made for a more sustainable future. This white paper discusses an ecosystem of innovative solutions built on Google Cloud and powered by Google's timeless mission of aggregating the world's data to make it universally accessible and useful to accelerate our collective goal of a rich and resilient planet.

Introduction: The Climate Change Challenge

Despite recent reports from the United Nations finding that the Earth cannot avoid some effects of climate change, global efforts to understand and respond to planetary stress are accelerating. World leaders in every sector are uniting at events such as the recent COP26 summit to discuss and create accountability frameworks for preserving public goods such as food, water, and energy. These frameworks challenge everyone to understand, monitor and manage their carbon footprint in order to identify the most relevant areas for change. Carbon footprint can be documented via the monitoring and reporting of greenhouse gas emissions (GHG). There are three types of emissions the global community must understand in order to implement remediation measures: Scope 1, 2, and 3.

- Scope 1 emissions are all about an organization's direct emissions. Examples would include a fleet of vehicles or offices for employees.
- Scope 2 emissions are about purchased electricity, steam, heating, and cooling for direct use.
- Scope 3 emissions are tied to the value chain of global goods and services, including upstream and downstream activities.

Global sensitivity and awareness of planetary stress due to climate change have energized a deeper interest in Scope 3 reporting. Consumers want to know that brands they are buying are "sustainable." Financial institutions seek to understand the risk in their portfolio companies' long-term profitability tied to climate-related supply chain disruption. Governments seek to understand Scope 3 emissions across the global supply chain to update policies that will ensure natural resources persist in our communities.

Addressing Scope 3 emissions is particularly important; research shows that a company's supply chain emissions can be on average five times larger than its Scope 1 and 2 emissions, representing more than 40% of a company's overall emissions.[1] However, Scope 3 reporting is by far the most difficult to monitor and manage because doing so requires each organization to understand, monitor, and document the emissions of every participant across its supply chains.

The challenge to accurate and timely Scope 1-3 reporting is primary source emission data. For most organizations, direct access to Scope 1 and 2 data is at least achievable. There is a modest level of effort to identify the data, aggregate the data

[1] Source: *Scope 3 Emissions*, United Nations Global Compact Network UK, and *How can companies address their scope 3 greenhouse gas emissions?* CDP.

into one place, and then design business workflows to cull the data for relevant GHG reporting insights. Scope 3 provides a unique set of barriers for data collection because it requires companies to share their Scope 1 and 2 data with upstream and downstream members of their supply chains as a Scope 3 input.

There are various reasons why this process breaks down. First, smaller entities lack the infrastructure to collect the data and provide it to related parties in a usable format. Second, data-driven insights versus self-reporting may expose organizations to negative outcomes, such as reduced demand for raw materials from suppliers not adhering to sustainable practices. Lastly, these new processes and reporting constructs are expensive, and companies may find it challenging to expend the funds and resources to insert sustainability into their supply chains without a clear line of sight into increased demand for sustainable products and services.

Google believes in technology's potential to bridge the sustainability divide and allow individuals, organizations, and governments to do well fiscally—and also do good for the planet. Google has focused on developing services that significantly improve the lives of billions of people while operating its business in an environmentally sustainable way. It was one of the first corporations to release an annual sustainability report educating users and partners about creating sustainability at scale. At its core, Google's mission is to aggregate the world's information and make it universally accessible and useful. Information about the planet is a top priority.

Google recently expanded its climate efforts in a number of ways: the launch of Carbon Footprint for emissions reporting on IT workloads; the launch of Google's Geospatial Cloud to help customers see and understand planetary land use; and an extensive partner program focused on delivering sustainability solutions across supply chains, energy usage, climate resilience, and logistics. Together, these initiatives help businesses and governments use real-world insights, predictive analytics, and climate science to address climate change and other environmental issues.

This white paper explores a variety of innovative ways in which data and insights can be used across all industries, in all parts of the world, to reduce each organization's environmental impact on the planet. Specifically, we look at solutions and ideas from Google and its partner ecosystem to help organizations take a proactive, data-driven approach to climate science and environmental sustainability for now and the future.

The Path to Improving Sustainability

Data-driven insights are a proven path to improving sustainability. When organizations share information, they can create platforms and frameworks to measure and monitor progress over time and keep improving. Where and how the information is collected, insights modeled, and how they are disseminated, are key. For example, a technology such as geospatial data and location intelligence offers enormous possibilities for breakthrough discoveries and risk mitigation. As noted by Deloitte Insights:[2]

[2] Source: *The rise of spatial thinking*, Deloitte Insights, July 2021.

"Spatial thinking increasingly plays a pivotal role in tackling big, complex challenges such as addressing climate change, managing COVID-19 risks and supporting a hybrid workforce. It can help answer questions such as: *Where should we deploy resources to mitigate climate risk? Where is there greater risk of exposure to COVID-19 for staff or customers? Where should we consolidate our office footprint as we shift to a hybrid workforce model?"*

Geospatial, earth observation and remote sensing data assets were once a tool primarily for government agencies and research institutions. There were few satellites or GPS systems collecting data or images and the storage and compute power required to effectively utilize these insights were cost prohibitive for the majority of organizations and their scientists. Further, even for those that had the ability to analyze the data, the refresh rate of new images was sporadic at best for many places on the globe.

In the last decade, this dynamic has shifted. Companies like Planet Labs PBC ("Planet") are launching small, efficient satellite constellations to collect daily images of the entire planet and combining their data with cloud computing to bring geospatial and earth observation analysis to the masses. Questions about land use in a particular region, which would have gone unanswered due to the expense of dispatching ground crews or inaccessible areas, are now overcome by these technological advancements. By improving the quality and quantity of data, and providing more universal access to that data, Google and Google Cloud partners like Planet are changing the game in climate science and sustainability.

Where does the path of actionable data and insights lead? Here are just a few examples, which will be discussed in greater detail later in the paper:

- Using geospatial data and location intelligence to deal with biodiversity loss, slow the pace of deforestation, maximize agricultural yields, and guide organizations on electrification of fleets.
- Using satellite imagery and big data analytics to understand the impacts of droughts, wildfires, oil spills, air pollution, and other environmental issues.
- Using insights from satellites and geospatial data to better allocate resources during a disaster, with a greater potential to save lives and reduce harm on the environment.

Figure 1. Planet's Satellite Imagery Helps Businesses, Governments, Researchers, and Journalists Understand the Physical World and Take Action

Source: Planet

- Using insight-driven forecasting to improve water and waste management and to proactively fight climate change by, for example, using a data-driven approach to decide the optimal locations to build renewable energy systems such as wind and solar power.
- Creating new platforms and frameworks for mapping and monitoring sustainability in global supply chains—and providing organizations with actionable insights to limit the impact on local communities.
- Expanding the use of electric vehicles by building new frameworks to measure their value for commercial fleets and smart cities and using the same frameworks to manage these fleets to limit the impact on the planet.
- Using satellite imagery as a platform to align where carbon emissions are coming from and track emissions, including methane and carbon dioxide, more accurately over time.

Google Sustainability Best Practices

Action, bolstered by access to meaningful data and insights, is essential in the global pursuit of climate resilience. In its unwavering commitment to acting on climate change, Google is a role model for other companies to follow. Virtually since its inception, Google has been and continues to be a pioneer in promoting environmental sustainability.

In 2007, Google was the first major company to commit to achieving carbon neutrality, and since 2017, Google has matched 100% of its energy consumption with renewable energy purchases. This contributes to making Google Cloud the cleanest cloud in the industry. In addition, Google was the first company of its size to commit to going even further, by running on carbon-free energy 24/7 by 2030. In August 2020, Google issued $5.75 billion in sustainability bonds, leading the way with the largest sustainability or green bond issuance by any company in history. The net proceeds are funding new and ongoing projects that are environmentally and/or socially responsible.

Philosophically, Google believes that its impact is far greater when it shares technology, methods, and funding to help organizations everywhere transition to resilient carbon-free systems. The company is constantly exploring new carbon-free energy generation and storage technologies while working with governments, utilities, and policymakers. By supporting public policies that support climate action, Google is committed to creating pathways to a carbon-free economy.

The pledge to the planet extends to Google products, its ongoing collaboration with customers, and its attentiveness to using its own technology—Google Cloud, Earth Engine, and BigQuery, to name three—in collaboration with its extensive partner ecosystem to drive innovation in addressing climate change. One of the more consequential of these efforts is a partnership initiative, announced in October 2021, with five leading sustainability-focused companies. This initiative makes data and insights widely available to help global businesses and governments accelerate sustainability programs, inform decisions on future growth, and better understand the science of climate change.

Participating partners in the program are CARTO, Climate Engine, Geotab, NGIS, and Planet. Each partner brings its core applications to Google Cloud.

Beyond that, they collectively are bringing more than 50 petabytes of satellite imagery, demographics, mobility and telematics data to Google Cloud and the corpus grows every day. The goal is to not only deploy these solutions at a global scale on the industry's cleanest cloud, but to also help organizations accelerate their own sustainability initiatives with partner data using Google's Geospatial Cloud. For example, with integrated data sets on topics such as water availability, agriculture, and weather risks, organizations can leverage a more comprehensive view of the planet to take steps to ensure their businesses are operating in sustainable ways.

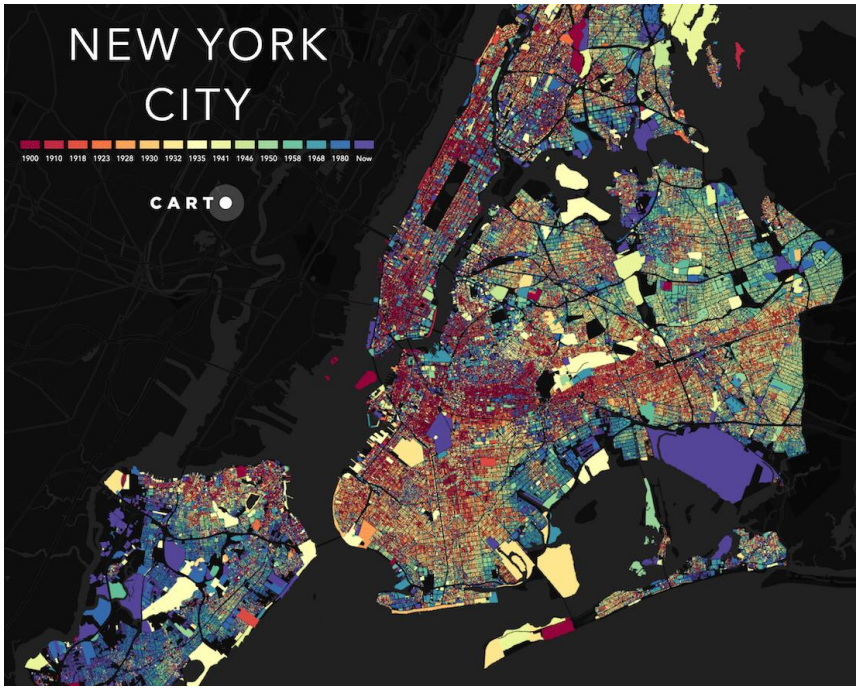
Innovation From the Google Partner Ecosystem

This section explores how Google's sustainability-focused partnership program is creating new sustainable opportunities for scientists and organizations, looking at the specific contributions of each of the key collaborative partners in the program.

CARTO

CARTO is the world's leading cloud-native location intelligence platform, enabling organizations to use spatial data and analysis to optimize business practices, predict future outcomes, and analyze local data at scale to understand environmental issues such as biodiversity loss and climate change. While 80% of data generated has a location component, it is estimated that organizations actually leverage only 10% of spatial data. CARTO and Google are working together to flip those numbers by offering data scientists and organizations access to actionable data and insights to enhance sustainability programs and broader business objectives.

Figure 2. CARTO Visualization Depicting Historical Urban Growth within New York, using Building Construction Date Information



Source: CARTO

CARTO's Spatial Extension for BigQuery enhances BigQuery with spatial data, analysis, and visualization. Customers can leverage data from Google Earth Engine, perform special machine learning with Vertex AI, and overlay all of that in rich 2D or 3D map formats, using the open source data visualization library, deck.gl, and Google Maps Platform's MAPS JavaScript API. CARTO's extensive location data catalog is natively available in BigQuery, so customers can access pre-processed spatial data without needing to extract, transform, load it, or perform complex special transformations for analysis.

The solutions enable organizations across industry and government to use spatial data intelligently and strategically to monitor, predict, and react to climate change and minimize environmental degradation. Successful environmental-related use cases and applications include:

- Analyzing air pollution trouble spots.
- Analyzing and optimizing risk using weather data.
- Tracking the spread of forest fires.

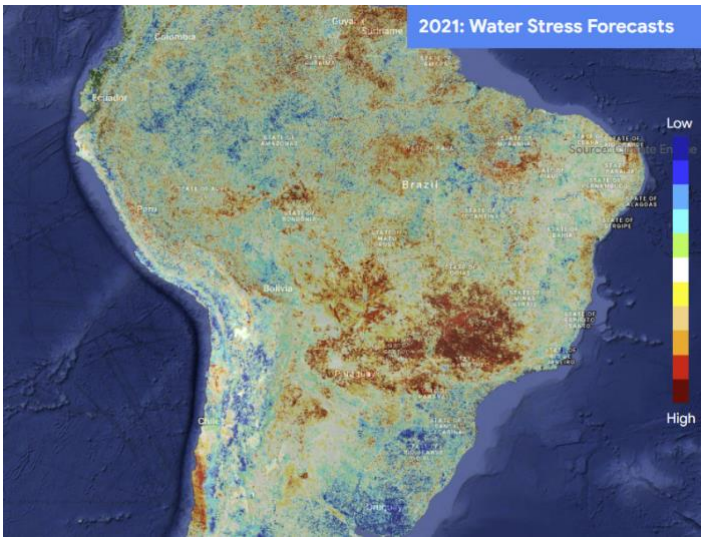
- Responding to oil spills
- Managing wastewater.
- Preserving the world's biodiversity by, for example, predicting where new populations of endangered species may exist.

In addition to climate science, CARTO's Location Intelligence solutions are helping organizations across a wide number of industries reduce their carbon footprint through improved efficiencies enabled by spatial data and analytics. These include use cases in public sector, healthcare, financial services, transportation, retail, CPG, telecommunications, and logistics.

Climate Engine

In partnership with Google Cloud, Climate Engine fuses Earth and economic data to deliver "always-on" and "decision-ready" insights about assets and supply chains. Climate Engine helps organizations understand climate risks across all time horizons: historical, current monitoring, near-term forecasts, and future climate projections.

Climate Engine helps organizations build climate resilience by leveraging the power of earth observation data and the world's best available science. With advanced data products to identify, monitor, and respond to climate risk, Climate Engine helps organizations understand planetary changes and the impacts to operations, assets, and portfolios, to help answer questions such as:



- Where is my current supply chain experiencing drought conditions, and what is the 1-3 month forecast of drought conditions?
- Do my corporate assets have current wildfire risk and what is the outlook in the near-term and long-term trends?
- How will the forecasted conditions affect manufacturing in areas of high water stress?
- Which agricultural areas are more likely to be affected by changes in climatologies in the short, medium, and long term?
- How can I better evaluate climate risks for operational planning?
- Which areas are more likely to experience flooding and to what extent?
- How do I perform additional due diligence on corporate lending to the agricultural sector?
- Can I measure, report, and verify that sustainable activities are being conducted across investments or supply chains?

- How can I enable early warning systems across planetary changes in the areas that will affect my operations or portfolios?

Climate Engine can be used across a wide range of industries and use cases to deliver actionable insights to help governments and companies address some of their biggest climate risks, including:

- Finance, by de-risking portfolios through spatial finance, including analysis across historical, current monitoring, near-term forecasts, and future climate projections.
- Public sector, to improve delivery on key sustainability, health, and environment mandates; identify risks to critical infrastructure and assets; and plan for a climate-resilient future.
- Agriculture, to more efficiently manage water and better predict and model agricultural outputs by combining spaceborne data sources and land sensor measurements.
- Water risk, to better understand flood, drought, and wildfire incidents and to better understand, monitor, and manage water resources.

As part of its partnership initiative with Google Cloud, Climate Engine enables advanced data products to help organizations and governments use Google Cloud to better plan, understand, and respond to climate risks at all-time scales.

Geotab

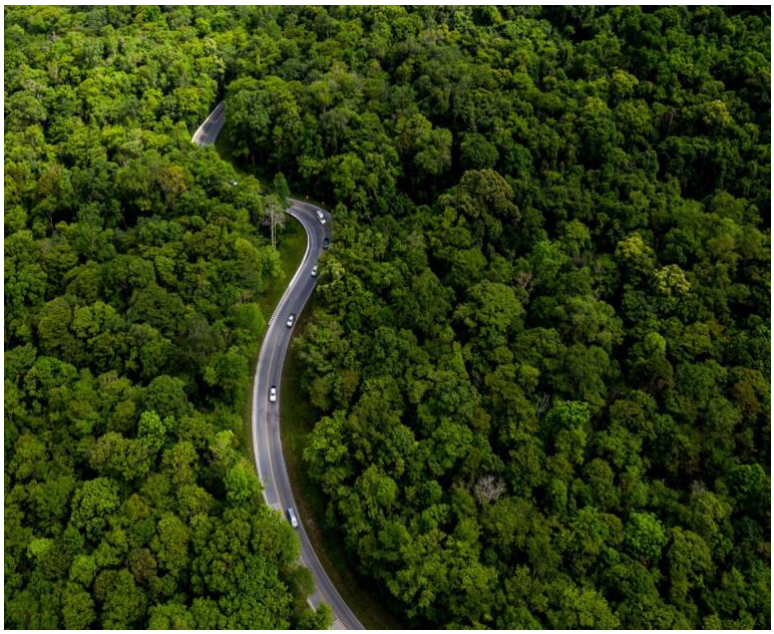
Transportation emits more greenhouse gases than any other sector in the U.S., with cars and trucks the primary sources, per the Environmental Protection Agency (EPA).[3] Europe and Asia are not far behind the U.S. in transportation-related GHG emissions and their numbers have been rising in recent years as opposed to falling. Carbon emissions from the transport sector will increase by 16% by 2050, even if today's commitments to decarbonize transport are fully implemented, according to the International Transport Forum, which notes that these efforts are "insufficient to put passenger and freight transport onto a sustainable path."[4]

Electric vehicles are already far better for the environment than gas-powered vehicles, and their impact will continue to grow in the future, as electric grids become less dependent on fossil fuels and more focused on using renewable energy sources. Companies, municipalities, public agencies, and educational institutions can achieve significant benefits by making educated investments in electric vehicles.

Geotab enables decision-makers to make data-driven investments in fleet vehicles and to maximize the value of electric vehicles for any use case, including commercial fleets and smart mobility initiatives. Originally, the company self-hosted all customer database servers on premises but found that managing infrastructure and aggregating data across multiple

[3] Source: *Fast Facts on Transportation Greenhouse Gas Emissions*, United States Environmental Protection Agency.
[4] Source: *ITF Transport Outlook 2021*, International Transport Forum, May 2021.

services was complex and expensive—particularly as data continued to grow exponentially and fast access to insights became table stakes for customers. Geotab migrated to Google Cloud to reduce complexity and increase scale. Geotab has been able to improve its ability to help customers switch to and manage electric vehicles through the use of actionable insights from Google BigQuery and TensorFlow. Furthermore, Geotab can provide decision-makers with aggregated vehicle insights to help inform investments in sustainability and electrification initiatives. With the support of solutions from Google, Geotab is now able to:



- Capture telematics data from more than 2.5 million vehicles and process more than 40 billion data points every day.
- Analyze raw sensor data in 5 to 10 seconds.
- Store more than 1 PB of data in Google BigQuery.
- Apply machine learning models from TensorFlow to transform raw data into context-specific benchmarks for customers.
- Leverage its own teams to focus on development versus maintenance.
- Build a comprehensive suite of green technology, including the Green Fleet Dashboard, fuel management solutions, and tools to support EV adoption and management.

The value this brings to customers includes:

- Smart mobility planning; Transportation planners can monitor road conditions, such as where potholes occur, road congestion, and hazardous intersections, and measure the impact of infrastructure improvements.
- Sustainable fleet management; Fleet managers can access insights on fuel use, emissions, electric vehicle usage, and driver behavior, showcasing the fleet's cost and environmental performance over time and identifying opportunities for improvement.
- Electrification and infrastructure assessments; Decision makers can plan and prepare for an electric transition with fleet usage data from telematics. Electric suitability assessments inform where EVs are best-fit, and aggregated truck movements help public agencies and utilities prepare for future charging infrastructure needs.

The partnership between Geotab and Google Cloud helps provide rich data insights that allow organizations and businesses to operate in a more sustainable way and take steps to confidently invest in and transition to EV. Transitioning to electric vehicle fleets and managing them with data-driven insights makes it possible to measure the benefits, including total cost of ownership and the impact adopting EVs will have on the fleet's carbon emissions, enabling the fleet to operate more sustainably.

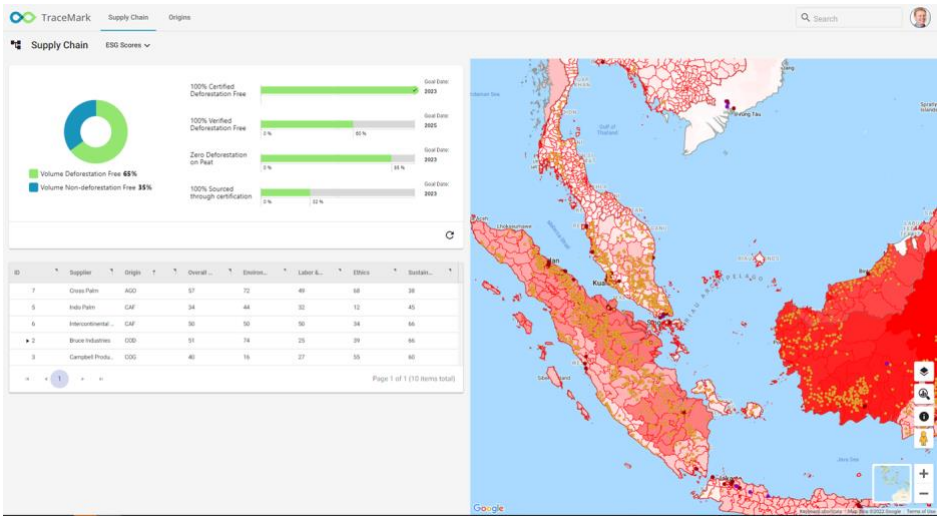
NGIS

As many organizations learned with COVID-19, supply chains are increasingly global, digital, and vulnerable to rapidly changing conditions—which can come on unexpectedly, whether by a global pandemic, catastrophic weather event, or even a change in governmental policy.

NGIS provides organizations with an innovative approach to leveraging geospatial technology to build a framework for mapping and monitoring sustainability across global supply chains. TraceMark, a data-driven Sustainable Sourcing Platform, enables organizations to:

- **Access** geographic sourcing risk for sustainability and exploitation.
- **Map and audit** suppliers to identify sourcing footprints.
- **Quantify and measure** sustainability scores and metrics.
- **Monitor** global supply chains to report sustainability progress.
- **Engage** with supply chain stakeholders to address sustainability.

Figure 3. Data-driven Monitoring of Progress towards Corporate Sustainability Commitments



Source: NGIS

TraceMark uses Google Cloud's planetary-scale geo-spatial platform and ecosystem partners to combine accurate satellite imagery with the ability to store and synthesize vast amounts of complex structured and unstructured data. Organizations can use the platform to obtain insights into the impact of sourcing on the environment and local communities, allowing organizations and suppliers to take data-driven action wherever and whenever it is needed.

The use cases for this type of framework can have a significant impact on sustainability efforts across industries and governments. Large global CPG firms are deploying TraceMark within their business workflows to identify deforestation risk, agricultural yields, and pinch points in the supply chain susceptible to climate risk situations. This has an important environmental impact on reducing GHG emissions, mitigating land degradation, and preserving indigenous heritage.

Successful TraceMark initiatives include:

- Tracing material consumption back to the exact geographic location of production and presenting a clear picture of its impact on the local environment, from the first mile to the last.
- Assessing social and humanitarian circumstances through satellite imagery and infrastructure alignment.

- Visualization of sustainability efforts in an easily digestible manner through customized dashboards.
- Integration with ERP systems (SAP, Dynamics).

With nearly three decades of geospatial and climate science expertise, NGIS is helping communities, companies, and citizens accelerate their sustainability journey by simplifying access to complex planetary data and insights via easy-to-use solutions like TraceMark. With technology at the forefront, NGIS and Google are striving to make transparent and sustainable supply chains a reality to ensure that our planet's future and the future of business can exist in harmony.

Planet Labs PBC

Planet's mission is to image the earth's landmass every day to make global change visible, accessible, and actionable. To achieve this goal, Planet operates the largest fleet of Earth imaging satellites in human history, with over 200 satellites in orbit. Planet seeks to democratize access to satellite imagery, allowing businesses, governments, researchers, and journalists to make a difference.

By partnering with Google Cloud, Planet's growing data sets and daily satellite imagery can be easily integrated into Google Earth Engine and Google BigQuery. This integration gives users a more comprehensive view of the planet so they can make better decisions, take more sustainable actions, and be more proactive in mitigating their carbon impact on the Earth.

Figure 4. PlanetScope Image of Fields in Pergamino, Argentina - January 12, 2021

Source: Planet

Planet's data is full of valuable insights that, when analyzed at scale, deliver crucial market intelligence. A key to Planet's ability to scale has been its partnership with Google Cloud and its broad range of services, including Google Cloud Bigtable, Google Cloud Datastore, and BigQuery. In a six-month period, Planet was able to leverage Google Cloud products to grow its satellite image store by 600%, enabling its tracking system to process more than two billion objects. These capabilities are driving innovations that were never before possible. Just a few examples:

- Agriculture companies can use fast insights into land use changes to maximize yields by making more intelligent decisions about crop health and weather patterns.
- Countries can leverage Planet's satellite imagery to better respond to disasters, monitor deforestation and take data-driven steps to slow the pace, and keep track of activities along their borders.
- Along with its partners in Carbon Mapper, Planet will build and deploy a fleet of hyperspectral satellites—built by Planet and NASA JPL—to pinpoint, quantify, and track point-source methane and CO2 emissions. This data has the potential to greatly improve our understanding of, and accelerate reductions in, global methane (CH4) and carbon dioxide (CO2) emissions.

Enhanced visibility into methane emissions is particularly important, as 103 countries at COP26 signed a Global Methane Pledge, aiming to limit methane emissions by 30% by 2030 (compared to 2020 levels). Methane is one of the most potent GHGs, responsible for a third of current warming from human activities.[5]

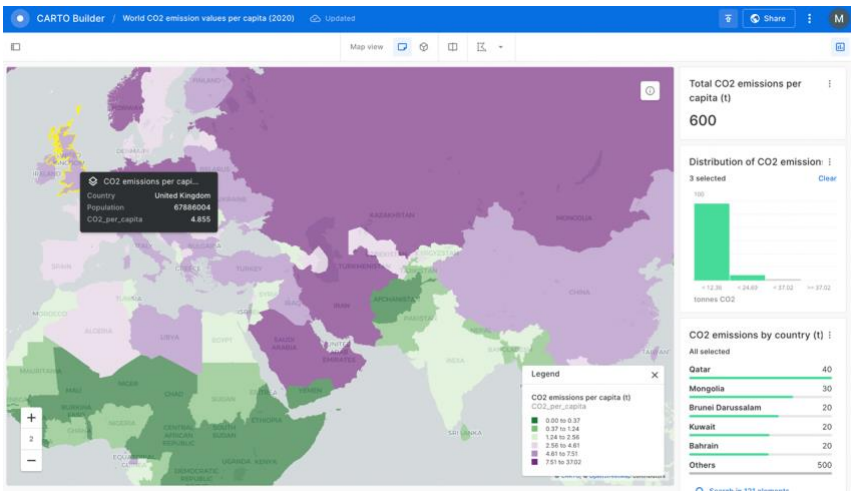
Planet's near-daily imagery can be directly integrated into existing and future Google Cloud solutions. This will support sustainability solutions across multiple industries and use cases where the impacts of climate change may be felt, from supply-chain-reliant organizations, to governments and companies in manufacturing, energy, transformation, healthcare, and more.

Where Do We Go From Here?

The long-term goal of the Paris Agreement in 2015 was to keep the rise in mean global temperature to well below 2 degrees Celsius above pre-industrial levels, and preferably limit the increase to 1.5 degrees Celsius. Countries at the UN Climate Change Conference in Glasgow (COP26) in November 2021 reaffirmed their commitment to the goals of the Paris Agreement. But they went further, expressing alarm at the current pace of climate change and warning that carbon budgets consistent with achieving the Paris Agreement temperature goal "are now small and being rapidly depleted."[6]

As per the United Nations, countries at COP26 expressed the urgency of action "in this critical decade" when carbon dioxide emissions must be reduced by 45% to reach net zero by around mid-century. The Glasgow Climate Pact accelerated the timeframe for action, requiring all countries to present national action plans in 2022, versus the original timeline of 2025.[7] In addition, countries at COP26 made bold collective commitments to curb methane emissions, halt and reverse forest loss, align with finance sector with net-zero carbon impact by 2050, and accelerate the phase-out of coal, among other commitments.[8]

Figure 5. CO2 Emissions Visualization from Carto



Source: Carto

Post-COP26, more governments and companies are turning to climate intelligence to monitor their exposure to climate risk more accurately and to leverage large-scale data sets aggregated from sensors, satellites, and science to accelerate climate intelligence adoption, according to the World Economic Forum.[9] A willingness and commitment to share data and insights is becoming essential in an environment where more regulatory frameworks are being deployed to inspect and measure the validity of climate benefits that are claimed to be delivered.

Google and its ecosystem of sustainability-focused partners are at the forefront of developing innovative tools and technologies to access meaningful data, climate intelligence, and actionable insights to help governments, businesses, NGOs, and others to do their part to help heal and

[5] Source: *COP26: Together for our planet*, United Nations Climate Action.
[6] Ibid.
[7] Ibid.
[8] Source: *COP26: Key Outcomes From the UN Climate Talks in Glasgow*, World Resources Institute, November 2021.
[9] Source: *What is climate intelligence and how can it help address climate change?* World Economic Forum, December 2021.

save the planet. The Google ecosystem is also being proactive in disseminating this critical information globally to empower important advances in climate science to help mitigate the impact of climate change.

As can be seen in the examples cited throughout this paper, the impact of these efforts cuts across all industries and enables all types of organizations to monitor, measure, and mitigate their impact on Scope 1, 2, and 3 emissions, supporting their own sustainability efforts and those of their partner ecosystems and supply chains.

In addressing the more daunting challenge of monitoring and mitigating Scope 3 emissions, each of the partnership initiatives gives organizations access to data and insights that can help upstream and downstream members of their supply chains. With this data and insights, organizations are better equipped to meet some of the UN's topmost priorities for measuring Scope 3 emissions, including accessing where emission hotspots are located in their value chains, identifying resources and energy risks in their supply chains' identifying energy efficiencies and cost-reduction opportunities in their supply chains, and engaging with suppliers to assist them in implementing sustainability initiatives.[10]

This is a critical time for the future of the planet. While the UN's Intergovernmental Panel on Climate Change (IPCC) warns that some of the changes to the Earth's climate system are irreversible, it offers hope that there is still time to limit climate change. As IPCC notes: "Strong and sustained reductions in emissions of carbon dioxide and other greenhouse gases could make air quality better, and in 20 to 30 years global temperatures could stabilize."[11]

When it comes to mitigating the impact of climate change and focusing on sustainability, actions speak louder than words. And data-driven actions based on real-world insights, predictive analytics and applied climate science speak loudest of all. Google and its ecosystem of sustainability-focused partners are providing data, insights, and intelligence that were never before available to help monitor and reduce carbon emissions. With new levels of real-world, real-time insights, we all have an opportunity to step up and do our parts to help save the planet. Now is the time to act to build a more sustainable future.

[10] Source: *Scope 3 Emissions*, United Nations Global Compact Network UK.
[11] Source: *IPCC report: 'Code red' for human driven global heating, warns UN chief*, United Nations, UN News, August 2021.

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