Forestmatic

SUSTAINABILITY REPORT 2021

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ABOUT US

Forestmatic is a B2B data-driven digital application that empowers stakeholders to transparently understand the true impact of corporate investments in tree planting for ecosystem restoration and nature-based solutions through the assessment, monitoring, reporting and verification (MRV) of each project.

Trees planted through Forestmatic are photographed, geotagged, and assigned a unique ID enabling anyone to use the Forestmatic application to track and view each tree, while understanding the overall impact generated.

Forestmatic can analyze the environmental metrics associated with a given project to determine the investment needed to offset a client's carbon footprint. Clients may also choose to plant and distribute their trees to stakeholders using the unique URL of each tree to enhance user journey, engagement and understanding of the impact generated.

The company's technology focuses on transparency, verification, monitoring, and distribution of data related to forest ecosystems, with plans to incorporate high-resolution Earth Observation indicators and build the digital infrastructure necessary to obtain near-real-time data from any climate action project.

Forestmatic currently works with +45 global brands including Volvo, Movistar Team, and The Blood Centers of America. They are an officially recognized actor of the U.N Decade on Ecosystem Restoration, and a member of Google for Startups: SDG Advisory program, the GreenTech Alliance and the Crytpo Climate Accord.

Through Forestmatic, clients can contribute to seven U.N Sustainable Development Goals, including Gender Equality, Decent Work and Economic Growth, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life on Land, and Partnerships for the Goals.

A PURPOSE-DRIVEN COMPANY

As a purpose-driven company, Forestmatic believes that innovation and technology are drivers to shape a sustainable Earth and is on a mission to serve Nature through technology.

The climate crisis is the greatest challenge of our time. The drive behind economic growth has sacrificed the well-being of entire communities, torn apart immeasurable resources from the planet, and endangered the environmental balance that allows every species to prosper.

Communities around the world are suffering due to the effects of climate change, where millions of people are coping with food and water scarcity, thousands of hectares of forest cover are wiped away by wildfires, glaciers are melting at unprecedented rates, floods are damaging coastal and mountain ecosystems, and heat waves are turning cities into sizzling cement.

Since day 1, Forestmatic has dedicated time, resources, and efforts to become an active player in this change, to incentivize action on a global scale, and impact the lives of millions of people.

Every business in the world, no matter how big or small, should be held accountable for the greenhouse gas emissions deriving from its operations. Even a small team of remote workers, like Forestmatic, has its share of accountability in terms of CO_2e emissions.

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CALCULATION BOUNDARIES

As with almost all GHG calculations, an estimation of the real emissions is provided. For several reasons, it is complex and often not directly possible to calculate a business's exact emissions. However, it is important to establish boundaries and limitations to the methodologies and calculations provided in such accounting.

① **Data availability** - Not all data needed to perform accurate CO2e inventories is readily and consistently available. As a team of remote workers, it is close to impossible to obtain data on the exact CO2e emissions of home appliances used strictly for business activities. Smaller companies using only part of a floor or working in a co-working space can also find complexities in retrieving such data. As a rule of thumb: the more accurate the data (direct measurements vs average estimations), the more accurate the result.

② **Time availability** - Even when the data can be obtained, it is difficult to report each individual activity conducted by each employee, related strictly to business emissions. Increasingly, software companies aim to solve this problem by connecting multiple data sources to obtain automated estimations. Some pioneering companies allocate a "carbon budget" to create a space to solve some of these problems. But this is still far from an easy task.

③ **Methodologies & Frameworks** - Calculations on the climate impact of most businesses need to be based on some assumptions - each assumption with different drawbacks. This document uses the "Greenhouse Gas Protocol" (2020) framework to account for Scope 1, 2 and 3 emissions. However, due to the limited sources available for remote-working carbon accounting, which is at the core of Forestmatic's DNA, a second framework "Estimating Energy Consumption & GHG Emissions for Remote Workers" (2021), developed by Anthesis Group and specific to remote workers, is integrated.

This document aims to understand and visualize how Forestmatic's emissions from 2021 are distributed among different emission sources. This will provide actionable insights for enabling emission reduction with the largest possible positive effect on the climate.

Forestmatic is committed to offsetting more CO_2e than emitted in the atmosphere through ecosystem restoration programs.

GHG INVENTORY - SCOPE 1 & 2

As GHG Protocol defines, Scope 1: *"Includes fuel consumption at a facility to produce electricity, steam, heat, or power. The combustion of fossil fuels by natural gas boilers, diesel generators and other equipment emits carbon dioxide, methane, and nitrous oxide into the atmosphere."*

Scope 1 can typically become a heavy emission source for most intensive extraction and transformation industries. Not the case for Forestmatic, whose operations are digital only, with no direct fuel consumption or energy production.

As GHG Protocol defines, Scope 2 includes: *"Electricity and other sources of energy purchased from your local utility (that is not combusted on-site). Examples include electricity, steam, and chilled or hot water. To generate this energy, utilities combust coal, natural gas, and other fossil fuels, emitting carbon dioxide, methane, and nitrous oxide in the process".*

This is essentially any business facility heating, gas & water bills. As remote workers, identifying the exact portion of energy employees use for work becomes challenging. For this reason, and to determine this value as accurately as possible, the newest Anthesis Group framework "Estimating Energy Consumption & GHG Emissions for Remote Workers" is used as a baseline.

Anthesis recommends three different approaches that may be used by a business to estimate energy consumption and associated GHG emissions from its employees working at home.

	No Survey	Basic Survey	Enhanced Survey
Data/Data Requests	High-level regional data; numerous assumptions	High-level regional data + limited data requested; refined assumptions	Detailed data requested; fewer and refined assumptions
Intensity Factors	Apply recommended energy intensity factors to estimate energy consumed	Apply recommended energy intensity factors for specific energy types to estimate energy consumed	Assimilate data to calculate energy intensity factors, filling gaps with estimates as required
Emission Factors	Apply appropriate emission factors by geography to calculate GHG emissions	Apply appropriate emission factors by geography and/or type to calculate GHG emissions	Apply appropriate emission factors by geography and/or type to calculate GHG emissions

Figure 1: Anthesis' proposed approaches to estimating energy consumption & associated GHG emissions from remote employees.

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GHG INVENTORY - SCOPE 1 & 2

After gathering basic information on the use of energy from the team, country-level, location-based emission factors from the IEA and DEFRA were used, following the "GHG Protocol" accounting framework. The two energy sources and emission factors considered -by excess- for this calculation are the Heat and Electricity of the operational team.

The results indicate that Scope 2 emissions, which includes the energy and heat purchased by a remote working team, account for 0,0022 tCO2e, with the activity breakdown as follows:
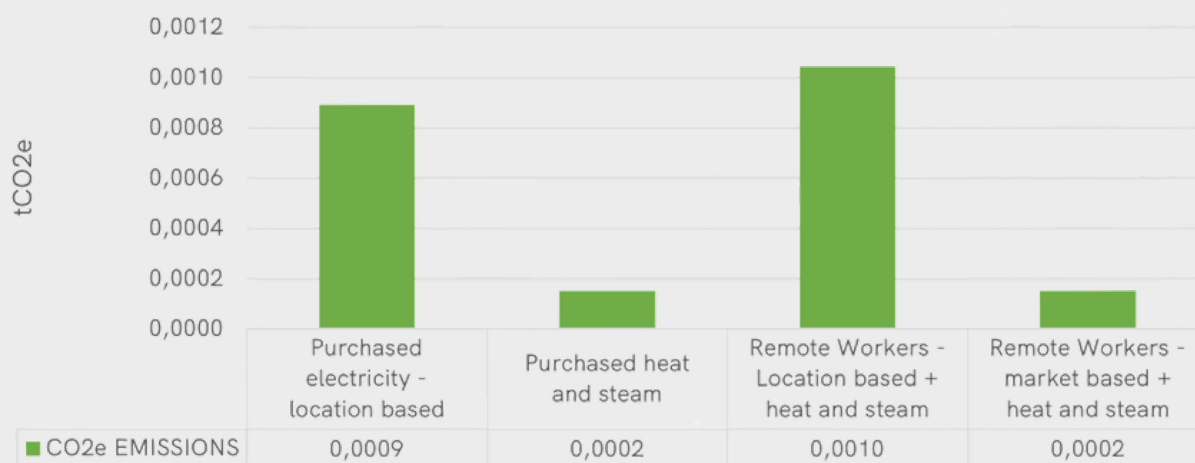

	Purchased electricity - location based	Purchased heat and steam	Remote Workers - Location based + heat and steam	Remote Workers - market based + heat and steam
■ CO2e EMISSIONS	0,0009	0,0002	0,0010	0,0002

Figure 2: Forestmatic Scope 2 emissions, 2021

The main takeaway is that by purchasing electricity sourced through renewable energy it would be possible to decrease Scope 2 emissions to 0 in a matter of months. By understanding the per capita CO2e emissions associated with each Forestmatic worker, it is possible to track how this metric evolves and impacts inventory and business operations.

GHG INVENTORY - SCOPE 3

As GHG Protocol defines, Scope 3 includes: *"All other indirect emissions that occur in a company's value chain. The 15 categories in scope 3 are intended to provide companies with a systematic framework to measure, manage, and reduce emissions across a corporate value chain. The categories are designed to be mutually exclusive to avoid a company double counting emissions among categories."*

Categories include: Purchased goods and services, Capital goods, Fuel-and energy-related activities (not included in scope 1 or 2), Upstream transportation and distribution, Waste generated in operations, Business travel, Employee commuting, Upstream leased assets, Downstream transportation and distribution, Processing of sold products, Use of sold products, End-of-life treatment of sold products, Downstream leased assets, Franchises, and Investments.

As a service-based, fully remote company, a larger portion of total emissions lies in Scope 3. In 2021, only I.T Services (iPurchased Goods and Services), Business travel and Employee commuting must be considered.

1. I.T SERVICES
(PURCHASED GOODS & SERVICES)

Most Forestmatic Scope 3 activities occur at the cloud level, which makes it vital to determine how much CO2e is emitted through these operations. When choosing a cloud provider, carbon reporting capabilities, green energy provisioning strategies and data center management were strongly considered. This, combined with tremendous computational and architectural capabilities, led to the selection of Google Cloud Platform.

Thanks to a range of tools which help to accurately report the carbon emissions associated with Google Cloud usage, immediate action can be taken to understand where to reduce the operational carbon footprint. Moreover, Google data centers are twice as energy efficient as a typical enterprise data center, with goals to run on carbon-free energy, 24/7, at all their data centers by 2030. In the meantime, all operations from Google Cloud Platform are carbon neutral, offsetting all emissions they can't cut until 2030.

GHG INVENTORY - SCOPE 3

2. TRANSPORTATION (BUSINESS TRAVEL & EMPLOYEE COMMUTING)

Although highly affected by global travel restrictions starting in 2020, the remaining Scope 3 emissions derive from transportation for business travel - the business activity most heavily impacting overall emissions. However, being a remote team located all over the world, meeting in person as a team, with clients, and with partners is vital to maintaining and strengthening the connection with key stakeholders. Looking at this breakdown, Scope 3 GHG inventory is 3,982 tCO2e, mostly deriving from air travel related to team reunions.
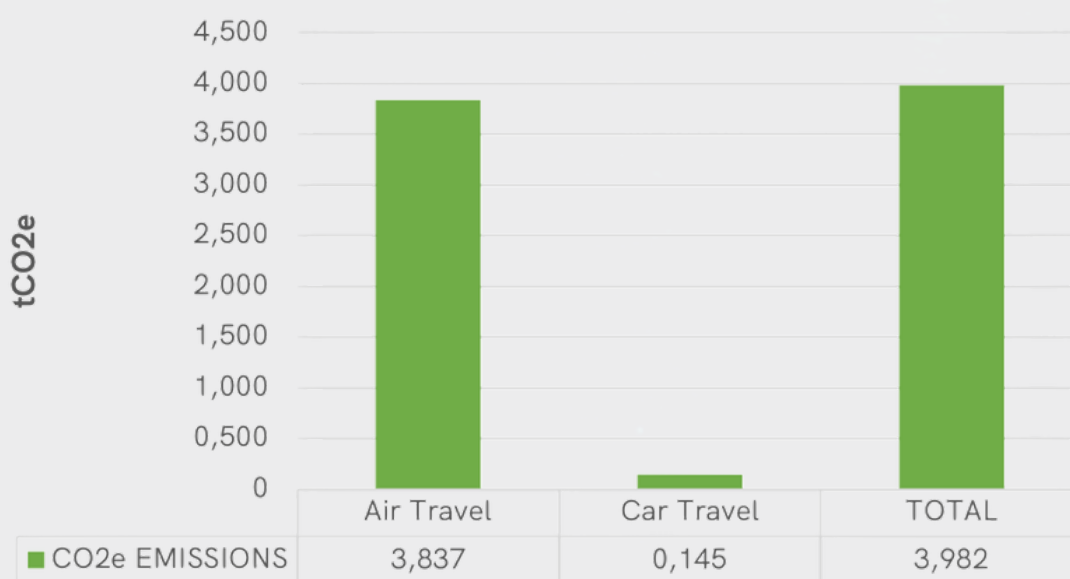

	Air Travel	Car Travel	TOTAL
■ CO2e EMISSIONS	3,837	0,145	3,982

Figure 3: Forestmatic Scope 3 emissions from Business travel & Employee Commuting, 2021

Given that the figures above represent two international flights and one car commute of 500 kilometers, it's easy to understand that the fully remote nature of Forestmatic is contributing to maintaining low GHG emissions.

TOTAL GHG INVENTORY

GHG Inventory =
Scope 1 (0 tCO2e) + Scope 2 (0,002 tCO2e) + Scope 3 (3,982 tCO2e)
= 3,984 tCO2e

Per Capita =
GHG Inventory (3,984 tCO2e) / Workforce (5 people)
= 0,797 tCO2e / Worker

After adding the determined total values of Scope 1, 2 and 3 emissions, Forestmatic's aggregated emissions in 2021 comes to a total of 3,982 tCO2e. Considering a team of 5 people in 2021, the per capita associated emissions are about 0.8 tCO2e per worker.

OFFSETTING EMISSIONS

From the start, Forestmatic has been dedicated to restoring degraded ecosystems with the contribution of hundreds of stewards around the globe. This mission has translated to generating a significant positive impact both socially and financially, while contributing to over 5 Sustainable Development Goals, with specific targets and indicators directed towards Climate Action & Life on Land.

Forestmatic has been committed to funding and growing its own forest by planting one tree every day since the beginning of its operations. In 2021, 365 trees were planted in Gulu, Uganda, which translated into a carbon offset of more than 5 tCO2e, to date. This means that Forestmatic's 2021 operations are completely carbon neutral. As a purpose-driven company, having carbon neutral operations has been fundamental since day 0.

All offsetting efforts are reported on Forestmatic's own public Impact Dashboard, where data related to ecosystem restoration projects is showcased.

Check it out!

CONCLUSIONS

This report is intended to provide a framework to calculate the carbon footprint generated by Forestmatic during 2021, following methodologies from Anthesis Group's "Estimating Energy Consumption & GHG Emissions for Remote Workers" (2021); understand the extent of Forestmatic's carbon footprint, following methodologies from GHG Protocol; and provide actionable insights on the activities that have the most impact on Forestmatic's emissions inventory.

Following the Anthesis Group framework for remote workers' energy emissions estimation, Forestmatic can expect to maintain a low level of emissions associated with remote workers in different geographical areas. Moreover, the GHG Protocol framework to calculate Scope 1, 2 and 3 emissions, has proven to be an efficient way to collect, compute and analyze data related to energy consumption.

As expected, transportation accounts for the highest emissions, which provides insight to show that the decision to operate as a fully remote team can contribute to maintaining consistently low emissions per capita, even during growth phases.

Having been able to collect this information during the first year of operations, can provide a solid framework to build subsequent Sustainability Reports that will provide the necessary information to drive all emissions to 0 while enabling global nature restoration at scale.

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