Environmental statement

platform.sh

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We're committed to helping minimize the effects of human activity on the environment.

At Platform.sh we deeply care about the environment. Climate change is real. And we're committed to helping minimize the effects of human activity on the environment by promoting *green hosting*.

Green hosting is a set of initiatives to reduce web hosting environmental impact:

+ Build low-consumption datacenters
+ Use green energy
+ Improve material lifecycles
+ Optimize idle usage through higher density (virtualization)
+ Co-locate workloads to reduce energy consumption over networks
+ Reduce datacenter workloads or increase their efficiency

As the ICT sector produces up to two percent of global CO_2 emissions,[1] green hosting can't be ignored. Many hosting companies have already committed to a zero carbon/neutral carbon footprint in the next few years. There are many governments and industry aids and regulations to support companies' initiatives in this domain.

Core product environmental impact

Platform.sh is a highly dynamic, container-based solution. Our coordination layer moves containers around to achieve an optimal resource allocation.

The carbon footprint of any workload is going to be the result of the energy efficiency of the datacenter, the carbon mix of its primary energy sources, the actual workloads, and their orchestration on the underlying infrastructure.

Service density

We're not a transparent layer: the same workloads a user would run on an Infrastructure-as-a-Service (IaaS) directly, or through Platform.sh, would have dramatically different impacts.

Platform.sh is a highly dynamic, container-based solution. In every region, every minute, our coordination layer inspects the current state of occupancy of servers and moves containers around to achieve an optimal resource allocation.

Almost half our workloads are dedicated to development and testing environments. Because of the very specific usage patterns of those environments (these are often single-user environments), we can achieve unparalleled levels of density.

The actual density of workloads depends very much on their specific characteristics, but our empirical measurements show 8x higher aggregate density for production workloads (as compared to running the same on dedicated virtual machines) and 16x higher density for development environments.

High density means we can guarantee that every application will have the resources allocated to it, whenever it needs them. When those resources are unused, they can be allocated to some other application or service.

High density also means there are very few idle machines consuming electricity without rendering actual services. Optimal resource allocation means machines aren't overloaded beyond their nominal capacity, where they're also less energy efficient.

Underlying providers

Platform.sh runs on top of infrastructure providers that have all taken commitments to improve their environmental footprints and are engaged in programs to share data about their progress and initiatives.

+ Amazon AWS
+ Google Cloud
+ Microsoft Azure
+ OVH Cloud

Most market leaders are aiming for carbon neutrality before 2030 and carbon zero by 2040 in their main regions. Their plans include improving their datacenters and offsetting their emissions by investing in green energy, such as solar or wind farms.[2]

The energy mix of a datacenter's country and region are a prime factor in its overall carbon footprint. As a multicloud provider, we enable our users to choose the providers, and the regions of those providers, on which their workloads run. Our Dedicated Generation 3 is a dedicated offering that promotes a lower level of density by enabling our customers to pick and choose from 200 different datacenters.

It's noteworthy that carbon footprint data is still quite sparse, which is why we endeavor to be as transparent as possible. While Google Cloud has published some numbers from 2019, most providers, as well as many utilities (specifically in the US), do not provide actual live data.

In Europe, carbon density estimates vary widely based on the locally available energy mix: Sweden carbon density is estimated at 41gCO_2Eq/kWh, while for Poland it is 590g, France 51g, and Germany 277g.[3] We advise our clients on their choice of target region based both on environmental impacts as well as data locality considerations and performance considerations.

Our research and development (R&D) projects are geared toward enabling our customers to dynamically move their workloads between providers and regions, based on such personalized constraints as energy efficiency.

Fully distributed company

Fully distributed remote work results in significant reductions in our carbon footprint.

Platform.sh is a fully distributed company, with more than 250 people of 40-plus nationalities working remotely across 33 countries and 14 timezones.

Fully distributed remote work, with its lack of commuting and reliance on online collaboration tools, results in significant reductions in our carbon footprint. There are, however, many additional and interesting elements in our company culture that make our fully distributed setup even more efficient.

Yearly average per capita carbon emissions are grossly estimated at 4.9 tons worldwide,[4] but vary greatly between the locations where platformers live, with nearly 15 tons in the USA, but only 5.5 tons in France.

At 1.6 ton per 10km of petrol car daily commute a year in the USA[5] as compared to 0.5 ton in the UK,[6] the global impact of transportation can represent up to 90% of an employee's work-related emissions.

Online collaborative tools are enablers of remote work. We've made sure to:

+ **Select the best-in-class tools and rely on their infrastructure.** Rather than hosting and managing our own tools, we benefit from the density and QoS mentioned above.[7]
+ **Use them efficiently.** For example, as an important part of our work culture, video meetings are limited in number and duration. We prefer written communication, as it is better for both asynchronous collaboration and energy impact.

As Platform.sh team members work primarily from home, we've vastly reduced the need for physical offices and workflows. More than 95% of our workforce doesn't rely on office AC, duplicate equipment, paper, and other wasteful consumables. As the construction industry accounts for 38% of energy-related CO_2 emissions,[8] limiting the demand for office space is an important contribution to reducing global warming.

As a whole, running a distributed remote company allows us to cut down on some infrastructure and logistic costs while using industry-standard collaborative tools to their potential. Aware of the possible rebound effects of efficient systems,[9] we've worked to build a robust company culture, encourage positive initiatives, and commit to positive communities.

Initiatives and commitments

We've setup a Corporate Social Responsibility program to bring our procedures—from procurement policies to office management—in line with environmental best practices:

+ We choose our suppliers (and most importantly, our cloud providers) based on their achievements in energy efficiency.
+ We try to minimize waste by evaluating operations and ensuring they're as efficient as possible.
+ We actively promote recycling both internally and among our suppliers.
+ We reward our team members' initiatives through a collaborative gamified system.
+ We participate in projects such as One Tree Planted.

Our R&D programs are geared towards energy efficiency, with a particular interest in developing our carbon emissions estimation capabilities through partnerships with startups like Greenly or Marmelab. We intend to participate in the European Important Project of Common European Interest to support green and sovereign cloud initiatives.

Along with 230 other French companies, Platform.sh has also signed the Climate Act, a commitment to measure, analyze, and reduce our carbon footprint, starting with a full-scale audit by the end of 2021.

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Research and development roadmap

Our cloud application orchestrator R&D project minimizes the environmental impact of an application by limiting necessary computing resources in real time. The application orchestrator places workloads on the most frugal infrastructures and as close as possible to clients. It allows customers to dynamically migrate their workloads between providers and regions, based on personalized constraints like energy efficiency.

While the carbon footprint of cloud computing is highly dependent on energy sources and datacenter efficiency, which is improved by cloud infrastructure providers, important levers are only accessible at the software abstraction level, such as:

+ Reducing the computing resources (CPU, RAM) needed to execute a given workload (i.e., density)
+ Executing the workload on the machines and datacenters with the most favorable energy mix (i.e., the most decarbonized)
+ Running the code as close to the client (edge) as possible to reduce network usage
+ Providing transparent reporting on the actual carbon footprint a specific workload is generating

Our belief is that carbon footprint gains cannot be based on application re-architecture. Modern application topologies may well have greater gains, but most software is legacy software. Without support for legacy applications, the environmental impact will not be seen for decades. The urgency of climate change requires us to develop solutions that work with a large majority of current applications.

Our ambition is to significantly reduce the energy required to run web applications in the cloud by up to 10x, leveraging and expanding existing technology.

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[1] Malmodin, Jens and Lundén, Dag. *The Energy and Carbon Footprint of the Global ICT and E&M Sectors 2010–2015*. 25 August 2018.

[2] Johnston. Paul and Currie, Anne. *The State of Data Center Energy Use in 2018*. 28 September 2018.

[3] *Live CO2 emissions*. electricityMap.org. 9 July 2021. https://www.electricitymap.org/zone/FR.

[4] *List of countries by carbon dioxide emissions*. Wikipedia. 9 July 2021. https://en.wikipedia.org/wiki/List_of_countries_by_carbon_dioxide_emissions.

[5] *Greenhouse Gas Emissions from a Typical Passenger Vehicle*. United States Environmental Protection Agency. 9 July 2021. https://www.epa.gov/greenvehicles/greenhouse-gas-emissions-typical-passenger-vehicle.

[6] *Greenhouse gas reporting: conversion factors 2019*. Department for Business, Energy & Industrial Strategy. 9 July 2021. https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2019.

[7] Natural Resources Defense Council. *Is Cloud Computing Always Greener?* October 2012.

[8] United Nations Environment Program, Global Alliance for Buildings and Construction. *The 2020 Global Status Report for Buildings and Construction*. 16 December 2020.

[9] Almosni, Jérémie, Carballes, Sandrine. *Etude Sur La Caracterisation Des Effets Rebond Induits Par Le Teletravail*. 2020

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