Green Cloud:
Measure emissions

codecentric

Digitalisierung

Klimakiller Cloud

17. Februar 2022, 7:45 Uhr

1. **AWS**
2. **Azure**
3. **Google Cloud**


aws

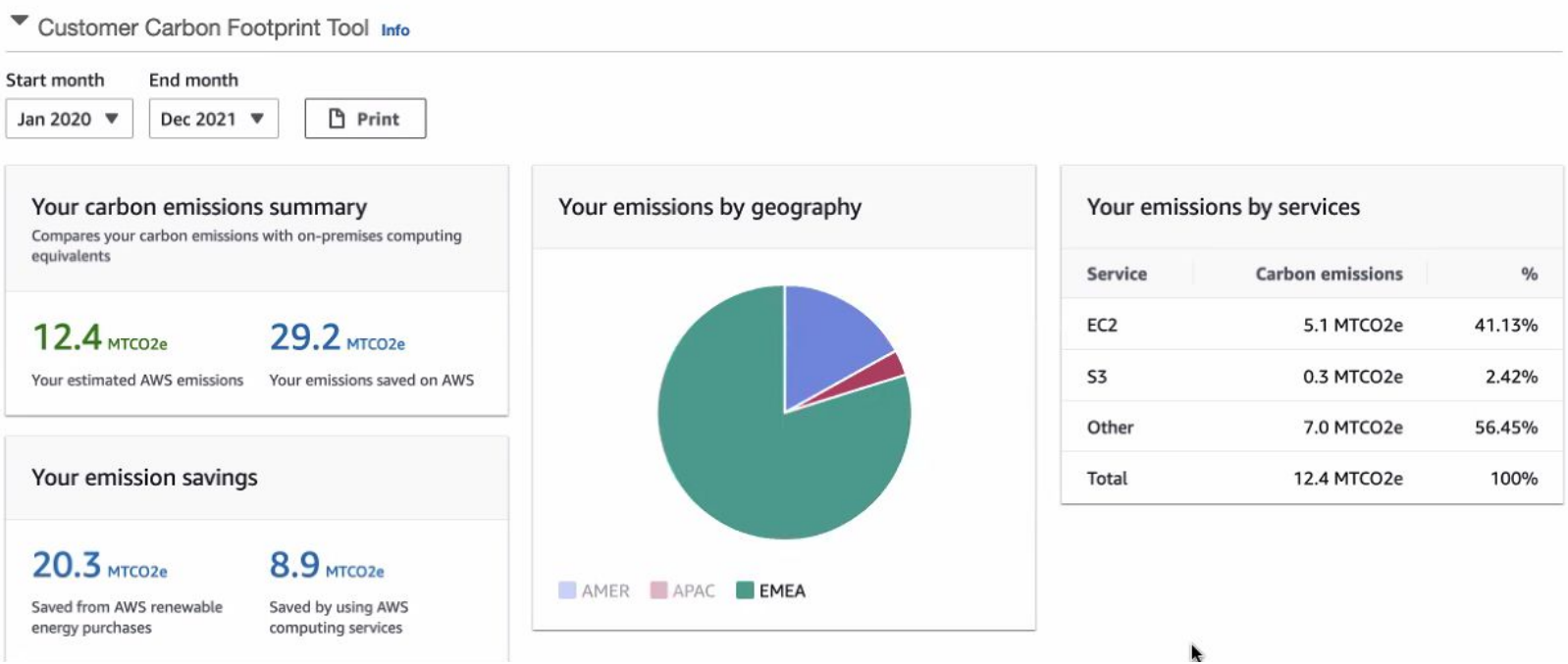
AWS

100% Renewables until 2025

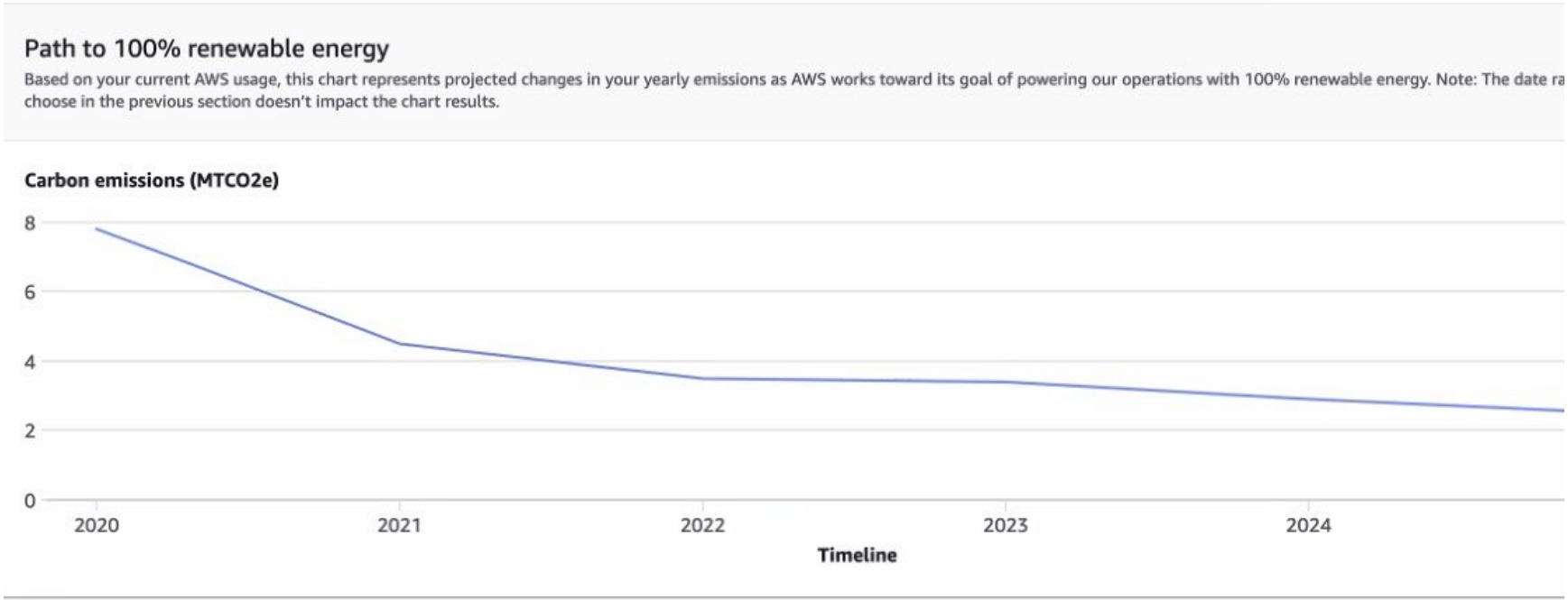
Sustainability Pillar

Customer Carbon Footprint Tool

AWS


Customer Carbon Footprint Tool Info
Start month
End month
Jan 2020
Dec 2021
Print
Your carbon emissions summary
Compares your carbon emissions with on-premises computing equivalents
12.4 MTCO2e
Your estimated AWS emissions
29.2 MTCO2e
Your emissions saved on AWS
Your emission savings
20.3 MTCO2e
Saved from AWS renewable energy purchases
8.9 MTCO2e
Saved by using AWS computing services
Your emissions by geography
AMER
APAC
EMEA
Your emissions by services
Service
Carbon emissions
%
EC2
5.1 MTCO2e
41.13%
S3
0.3 MTCO2e
2.42%
Other
7.0 MTCO2e
56.45%
Total
12.4 MTCO2e
100%

AWS


Path to 100% renewable energy
Based on your current AWS usage, this chart represents projected changes in your yearly emissions as AWS works toward its goal of powering our operations with 100% renewable energy. Note: The date ra
choose in the previous section doesn't impact the chart results.
Carbon emissions (MTCO2e)
8
6
4
2
0
2020
2021
2022
2023
2024
Timeline


Azure

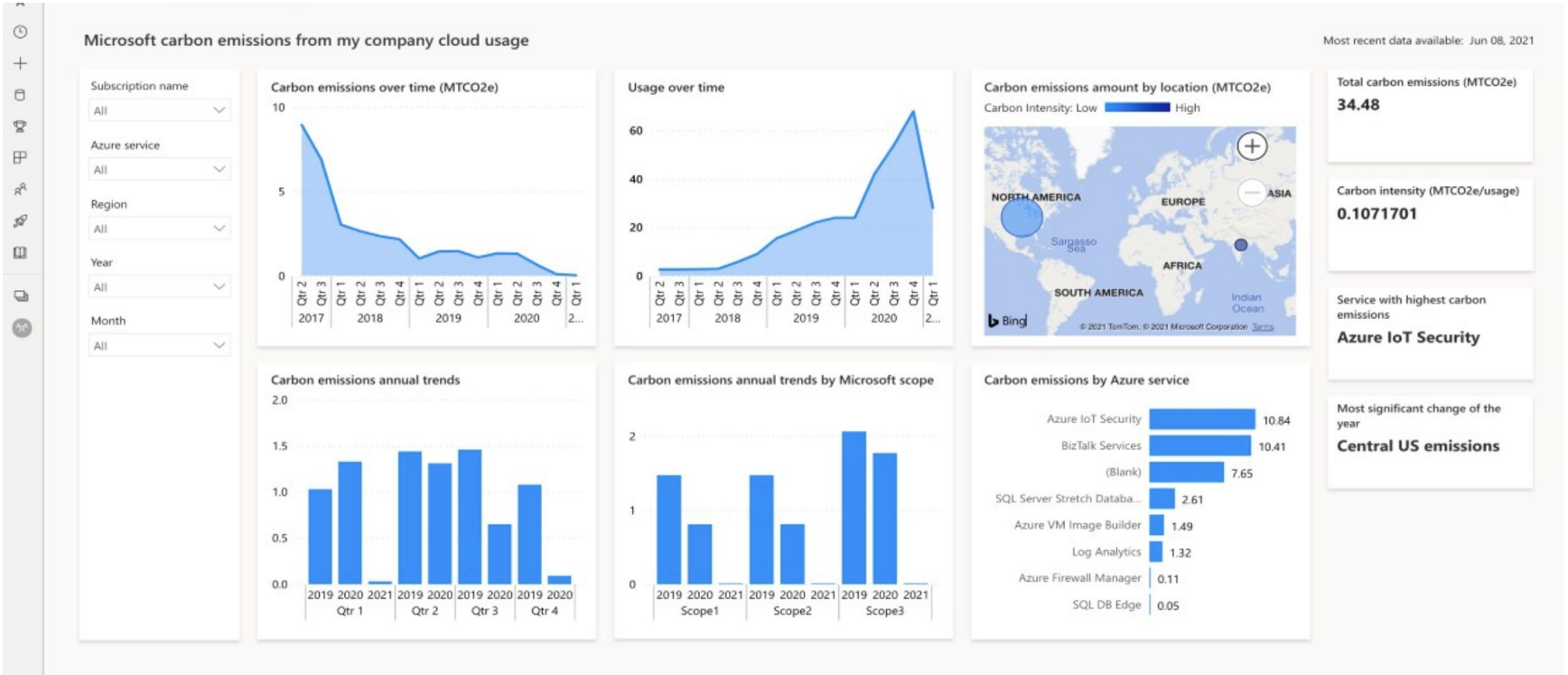
Azure

100% Renewables until 2025

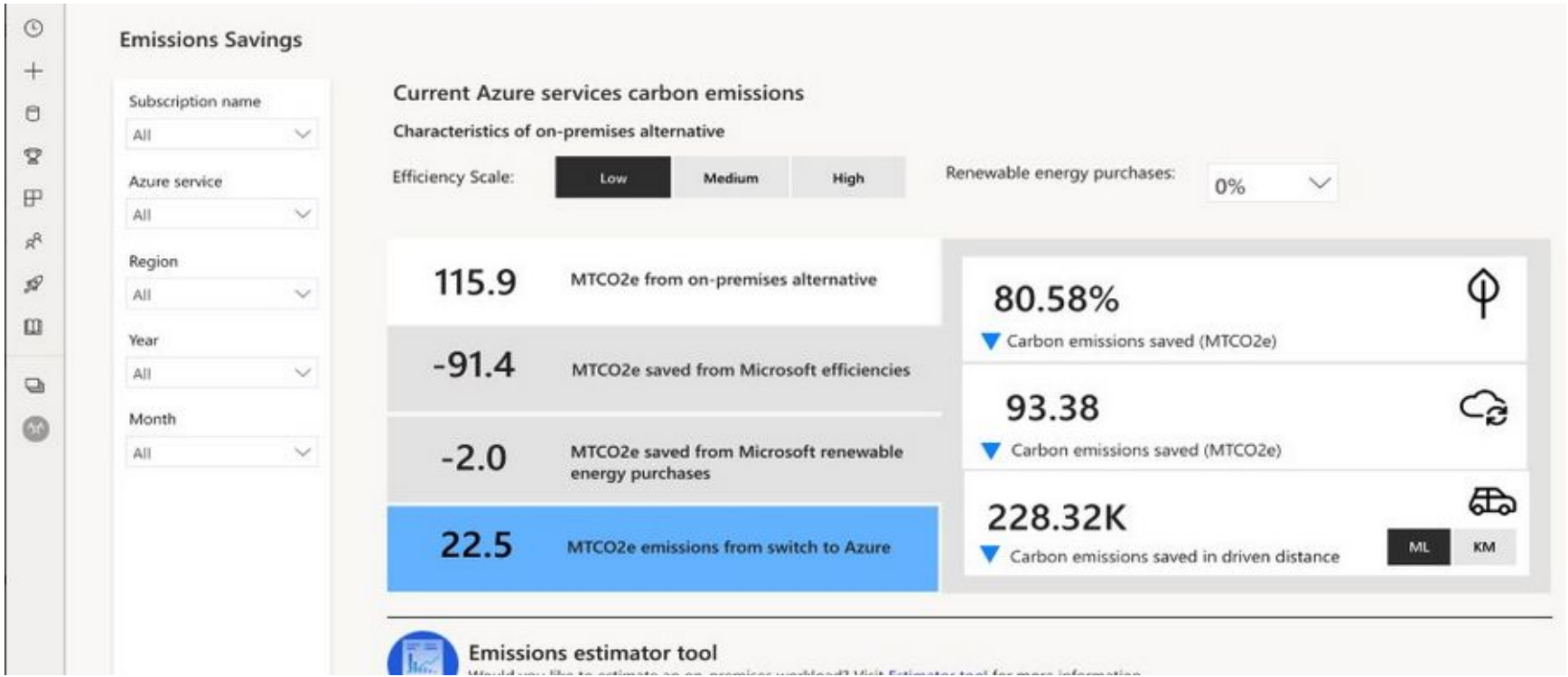
Cloud for Sustainability

Emissions Impact Dashboard

Azure


Microsoft carbon emissions from my company cloud usage
Most recent data available: Jun 08, 2021
Subscription name
All
Azure service
All
Region
All
Year
All
Month
All
Carbon emissions over time (MTCO2e)
Usage over time
Carbon emissions amount by location (MTCO2e)
Carbon Intensity: Low
High
NORTH AMERICA
EUROPE
ASIA
AFRICA
SOUTH AMERICA
Sargasso Sea
Indian Ocean
Bing
© 2021 TomTom, © 2021 Microsoft Corporation Terms
Total carbon emissions (MTCO2e)
34.48
Carbon intensity (MTCO2e/usage)
0.1071701
Service with highest carbon emissions
Azure IoT Security
Most significant change of the year
Central US emissions
Carbon emissions annual trends
Qtr 1
Qtr 2
Qtr 3
Qtr 4
Carbon emissions annual trends by Microsoft scope
Scope1
Scope2
Scope3
Carbon emissions by Azure service
Azure IoT Security 10.84
BizTalk Services 10.41
(Blank) 7.65
SQL Server Stretch Databa... 2.61
Azure VM Image Builder 1.49
Log Analytics 1.32
Azure Firewall Manager 0.11
SQL DB Edge 0.05

Azure


Emissions Savings
Subscription name
All
Azure service
All
Region
All
Year
All
Month
All
Current Azure services carbon emissions
Characteristics of on-premises alternative
Efficiency Scale:
Low
Medium
High
Renewable energy purchases:
0%
115.9
MTCO2e from on-premises alternative
-91.4
MTCO2e saved from Microsoft efficiencies
-2.0
MTCO2e saved from Microsoft renewable energy purchases
22.5
MTCO2e emissions from switch to Azure
80.58%
Carbon emissions saved (MTCO2e)
93.38
Carbon emissions saved (MTCO2e)
228.32K
Carbon emissions saved in driven distance
ML
KM
Emissions estimator tool

Google Cloud

GCP

100% Renewables until 2030

Region picker

Carbon Sense Suite

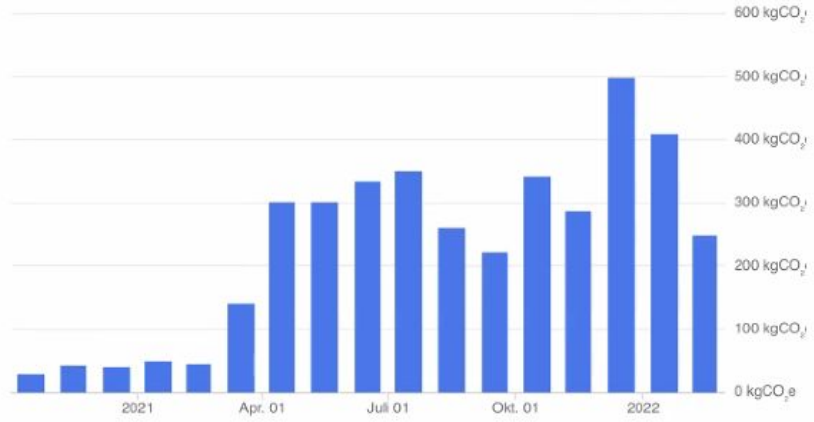
GCP

Yearly gross carbon footprint
3.692 $kgCO_2e$
From März 2021 to Februar 2022

Februar 2022 gross carbon footprint
248 $kgCO_2e$
↓ 39,41 % comparing to Januar 2022

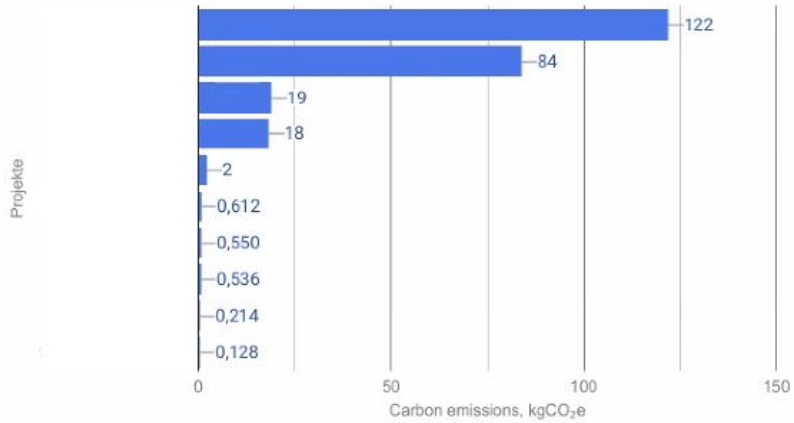
Google Cloud's net operational greenhouse gas emissions
0 $kgCO_2e$

Gross monthly carbon emissions

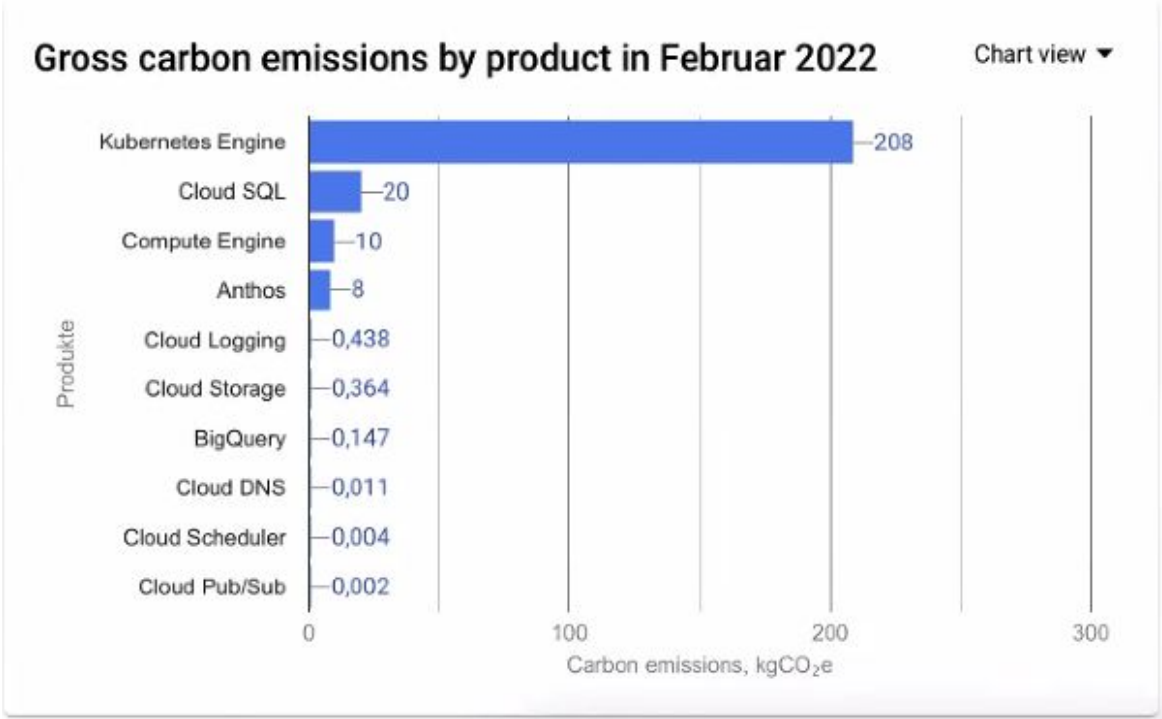


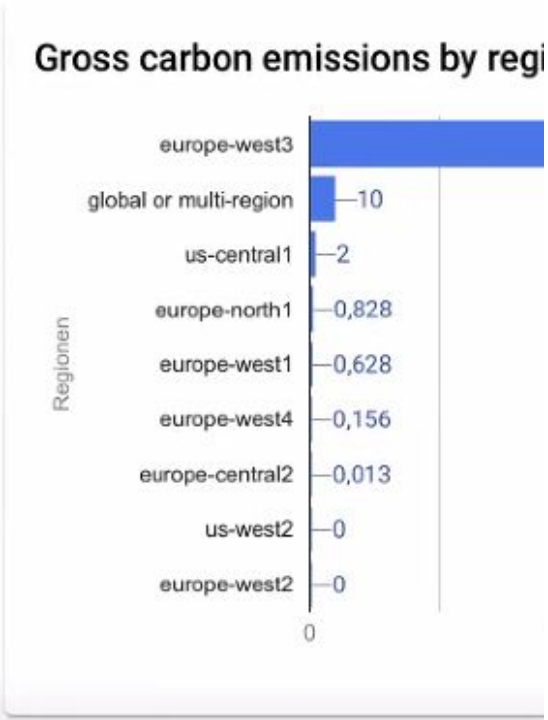
Gross carbon emissions by project in Februar 2022

Chart view

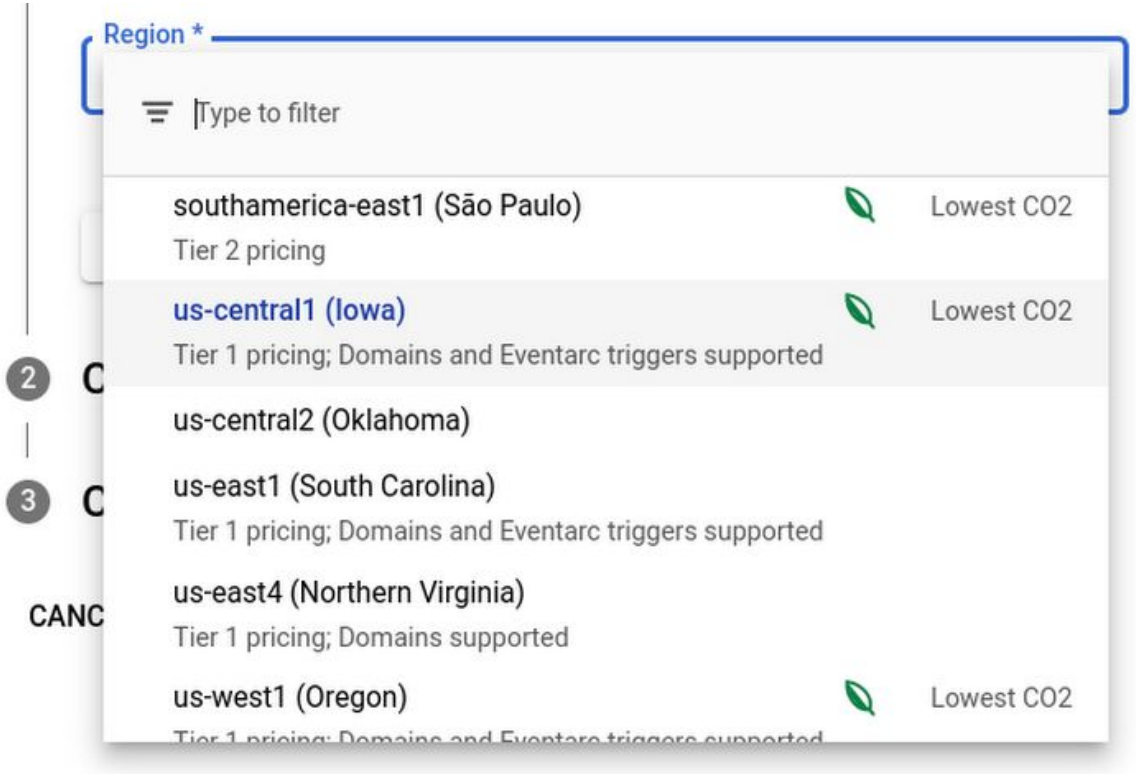


GCP


Gross carbon emissions by product in Februar 2022
Chart view
Kubernetes Engine
208
Cloud SQL
20
Compute Engine
10
Anthos
8
Cloud Logging
0,438
Cloud Storage
0,364
BigQuery
0,147
Cloud DNS
0,011
Cloud Scheduler
0,004
Cloud Pub/Sub
0,002
Produkte
0
100
200
300
Carbon emissions, kgCO2e


Gross carbon emissions by regi
europe-west3
global or multi-region
10
us-central1
2
europe-north1
0,828
europe-west1
0,628
europe-west4
0,156
europe-central2
0,013
us-west2
0
europe-west2
0
Regionen
0

GCP


Region *
Type to filter
southamerica-east1 (São Paulo)
Lowest CO2
Tier 2 pricing
us-central1 (Iowa)
Lowest CO2
Tier 1 pricing; Domains and Eventarc triggers supported
us-central2 (Oklahoma)
us-east1 (South Carolina)
Tier 1 pricing; Domains and Eventarc triggers supported
us-east4 (Northern Virginia)
Tier 1 pricing; Domains supported
us-west1 (Oregon)
Lowest CO2
2
3
CANC

AWS is responsible for sustainability

of the cloud

Customer is responsible for sustainability

in the cloud

AWS - Shared responsibility model