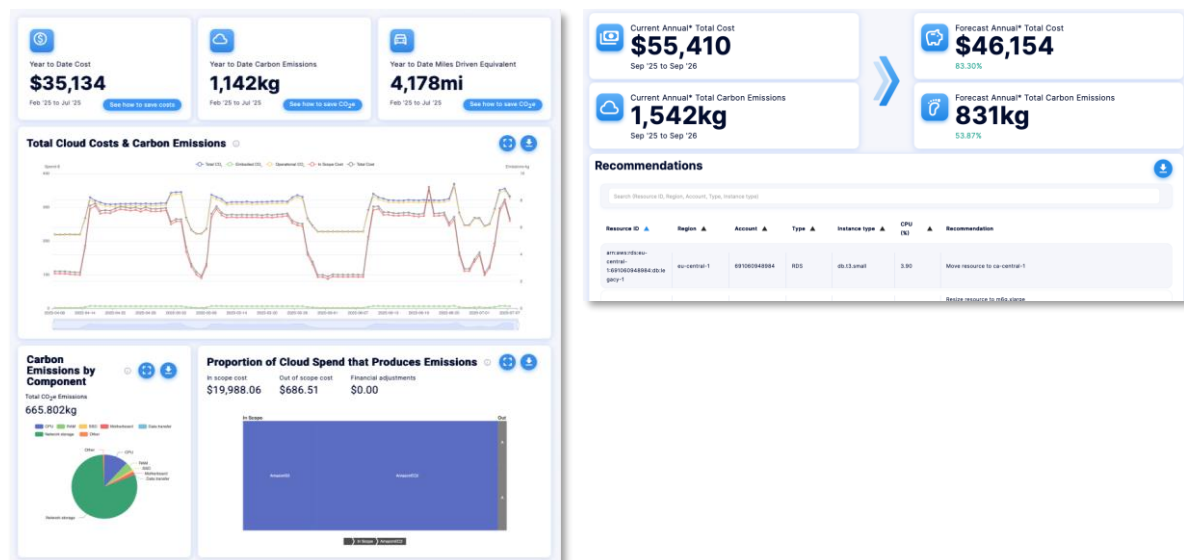


Tailpipe Overview

Tailpipe is a software-as-a-service platform that accurately measures an organisation's carbon emissions from cloud computing, suggesting cost-effective reduction methods without impacting performance.



Service Description

Tailpipe enables organisations to measure, monitor, and reduce the carbon footprint of their cloud infrastructure. The platform ingests cloud billing and utilisation data and calculates operational and embodied carbon emissions using location-aware carbon intensity factors.

Key Capabilities

- **Multi-Cloud Visibility:** Single dashboard for AWS, Azure, GCP, and OCI
- **Carbon Emissions Tracking:** Operational and embodied carbon calculations (gCO₂e)
- **Energy Consumption Monitoring:** Power usage tracking (Wh) with PUE adjustments
- **Cost Management:** Unlimited cloud spend tracking and bill processing
- **Live Dashboards:** Hourly emissions updates with regional carbon intensity data
- **Recommendations Engine:** Actionable guidance for reducing emissions and costs
- **GreenOps Report:** automated action-oriented report for reducing emissions and costs

Technical Features

- Fully-open standards based methodology (ISO21031:2024)
- Data where you need it - dashboard, export, API, cloud
- RESTful API with full documentation
- Real-time data ingestion from cloud provider billing exports and operational services for computing utilisation data
- Integration with NESO, Ember and other grid APIs for regional carbon intensity data
- Quick time to data - even for the largest accounts
- Data where you need it - dashboard, export, API, cloud
- Carbon emissions by service, location, project, component and lifecycle stage

Service Benefits

- Drive 70%+ reduction in emissions from cloud computing
- Save up to 30% on cloud costs
- Supports sustainability reporting requirements (CSRD, ESRS, GHG Protocol)
- Accurate benchmarking and measurement of Scope 3 emissions
- Data available as it is needed, with short lead time
- Open Source calculation methodology
- Unlimited users per subscription
- No per-seat licensing

Service Constraints

- Requires read-only access to cloud provider billing and utilisation data (e.g. Cost and Usage Reports and CloudWatch for AWS, Cost Management Data Export and Metrics for Azure)
- Data retention aligned with customer requirements
- UK and EU data residency options available

On-boarding and Off-boarding

All Tailpipe on-boarding and off-boarding can be automated and integrated into cloud automation scripts with enterprise automation scripts found here:

<https://tailpipe.ai/get-started/>.

On-boarding:

1. Configure cloud provider billing export (AWS CUR, Azure Cost Management, GCP Billing Export)
2. Grant Tailpipe read-only access via IAM role or service principal
3. Access dashboard within 24 hours of initial data sync

Off-boarding:

1. Revoke access credentials
2. Request data deletion
3. Data removed within 30 days

Training

- Self-service documentation and API reference
- Onboarding walkthrough included
- Optional training sessions available on request

Service Management

Support Hours

Standard support – UK Business Days: Monday-Friday, 08:30-17:30 GMT

Support Channels

Email: support@tailpipe.ai

Authenticated support portal

Service Levels

Platform availability: 99.5% uptime target

Support response: Within 1 business day

Security

Access Control

All API access requires OAuth 2.0/JWT authentication via Microsoft Entra ID. Role-based access control restricts administrative functions to users with appropriate scopes. Operations are tenant-isolated using verified tenant IDs from authentication tokens.

Support Channels

Support is provided through authenticated channels linked to verified customer accounts. Staff access customer data only via role-restricted interfaces with audit logging.

Cloud Credentials

- AWS: External ID patterns with least-privilege IAM (read-only)
- Azure: Managed Identity preferred
- GCP: Workload Identity Federation with short-lived tokens

Data Protection

- TLS 1.3 encryption in transit
- AES-256 encryption at rest
- No wildcard permissions; least-privilege only

Data Processing

- Customer billing data processed for carbon calculations
- No personal data required beyond user authentication
- Data processed within UK/EU regions as configured
- GDPR compliant

Standards and Certifications

- Fully open carbon methodology based on ISO21031:2024 and
- GHG Protocol aligned calculations
- Tivarri (owner and service provider of Tailpipe) holds ISO 27001:2022 certification

Dependencies

- Cloud provider billing and performance metrics APIs (AWS, Azure, GCP, OCI)
- Carbon intensity APIs from Ember, NESO and other grid sources
- Microsoft Entra ID for authentication if this is used as an authentication method

Backup and Disaster Recovery

- Automated daily backups
- Multi-region redundancy
- Recovery Point Objective (RPO): 24 hours
- Recovery Time Objective (RTO): 4 hours