

Free.
Employee Built



Salesforce Developer Carbon Dashboard

Simple User Guide



Getting Started



Setting up Event Monitoring Analytics App

Core Platform Emissions data is derived from our App-Server logs, which capture CPU run-time in milliseconds. These logs are provided by the [Event Monitoring](#) product, and visualised with an [Analytics Template](#).

Setting up the Developer Carbon Dashboard

The [Developer Carbon Dashboard](#) is another analytics templated app that aggregates the event logs CPU run-time and factors in a per-millisecond CPU Carbon Coefficient specific for your Salesforce instance. It provides an initial overview of various parts of the core platform technology stack that are generating the highest amounts of carbon.

Turning Insights to Action

Additional carbon is generated by the Salesforce platform when processes take longer to run. Reducing the org's Carbon Footprint will go hand-in-hand with [optimising the implementation](#). It may also suggest hotspots by business area or unit that could point to broader, real-world patterns and behaviours.



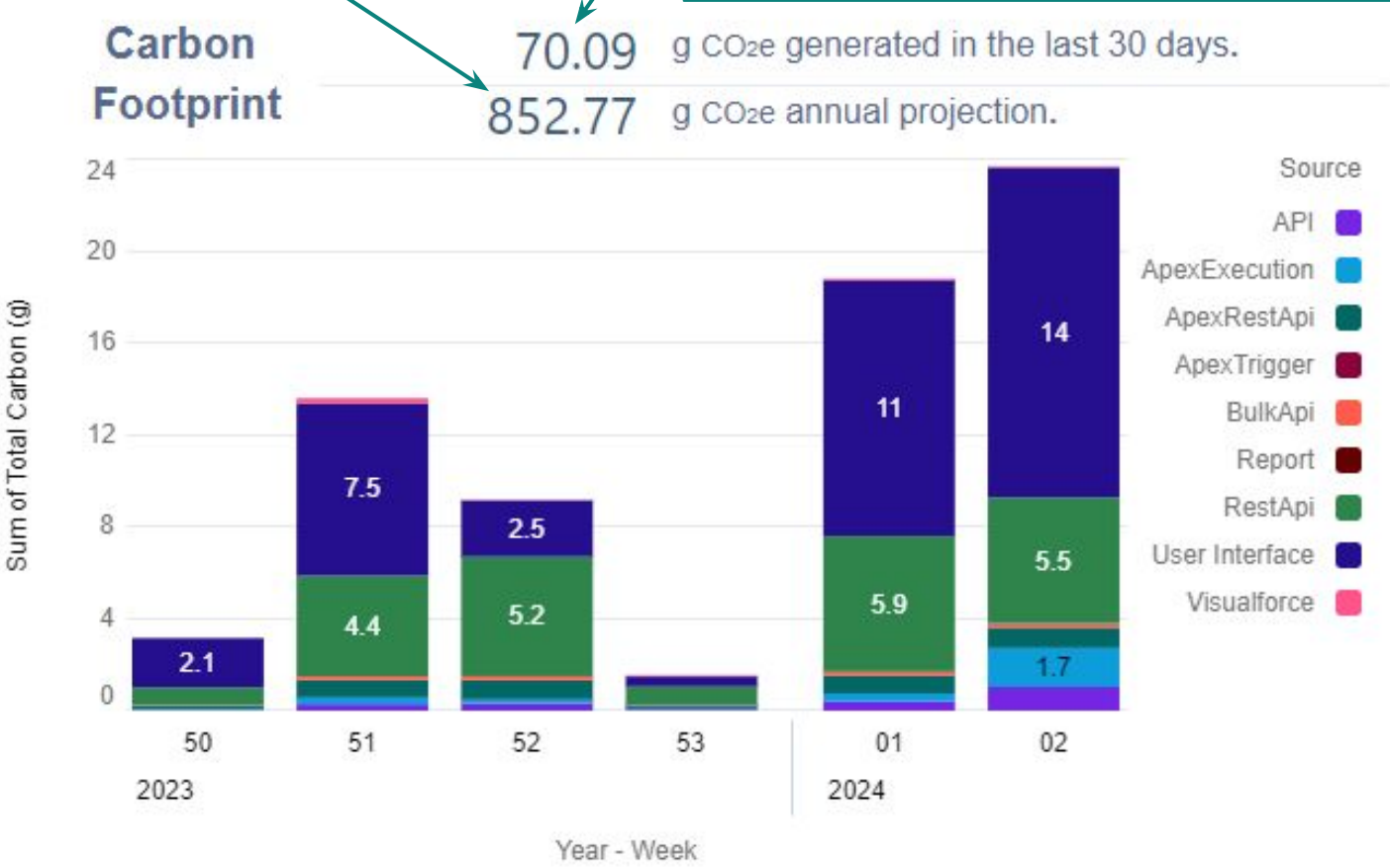
Dashboard Guide

Overview



Quantity of g CO2e generated annually.**

Quantity of g CO2e generated annually based on 30-days of event log data.*



Breakdown of g CO2e per the various parts of the core application and service.

* The app assumes you have ingested 30-days of Event Logs. **Modify the formula to divide by the number of days of event logs ingested.



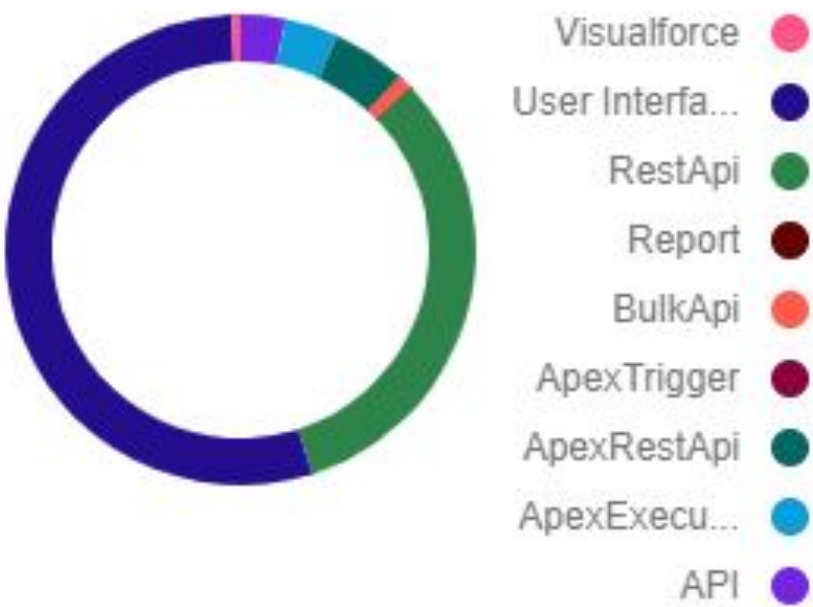
Dashboard Guide

Overview



Emissions Percentage
by Type

Usage Type	Emissions % ↓
User Interface	54.95%
API	36.3%
Apex	8.75%



High-Level summary of production of g CO2e grouped by three layers:

- User Interface (UI)
- Business Logic (Apex)
- Integrations (API)



Dashboard Guide

Overview



The dashboard provides the ability to investigate some areas of the application.

It does not provide the ability to investigate all parts of the service / event log types.

Use the standard Event Monitoring Analytics app to do this.

Click 'Explore Actions' to gain additional insights for each area.

Take Actions To Reduce Carbon Emissions in the Following Areas of Your Salesforce Org



Dashboard Guide



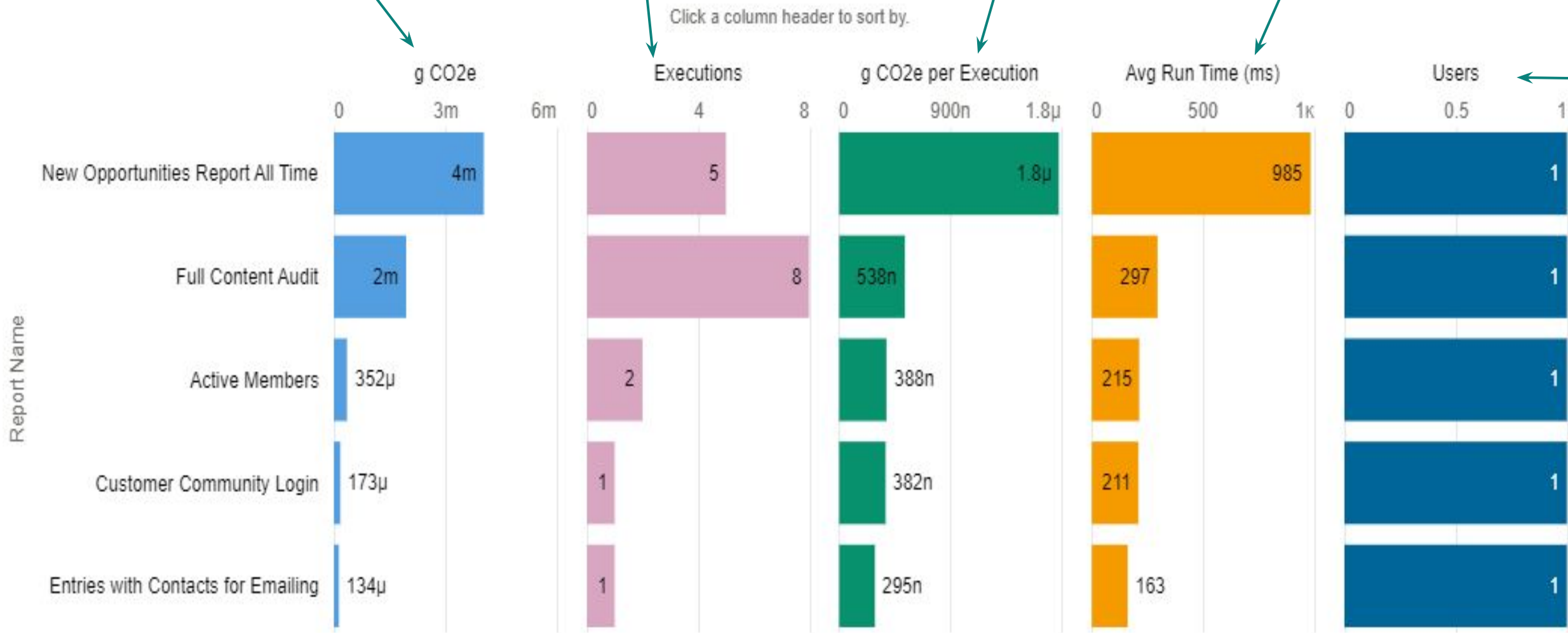
Reports

Quantity of g CO2e generated by each report.

Number of times the report was run

Average g CO2e per report execution

Average Run Time per report. The longer the run time, the more carbon that is generated.



The number of users that have run the report.

Reports that have high execution count and high number of users should be targeted for optimisation.



Dashboard Guide

Reports



Set a target run time for reports.

This will change the scope of the table on the right, to highlight which reports are generating the most g CO2e and are targets for optimisation.

Long Running Reports



The number of report executions that took longer than the run time set by the slider.

Time users spent waiting for reports to run beyond the target time select above.

Amount of carbon generated by reports that took longer to run beyond the target time.

Report.Name	RUN_TIME ↓	ROW_COUNT	User.Name	TIMESTAMP_DERIVED
-	4,821	1,082	Yohan Kim	2024-01-24T06:51:51.127Z



Dashboard Guide

Reports



Reducing the target run time...

... increases the number of reports that are in scope for optimisation.

Long Running Reports

3
Executions

0
Hours Waiting



Report.Name	RUN_TIME ↓	ROW_COUNT	User.Name	TIMESTAMP_DERIVED
-	4,821	1,082	Yohan Kim	2024-01-24T06:51:51.127Z
New Opportunities Report All Time	2,762	353	Yohan Kim	2024-01-24T06:51:37.602Z
New Opportunities Report All Time	1,441	353	Yohan Kim	2024-01-11T19:07:09.916Z



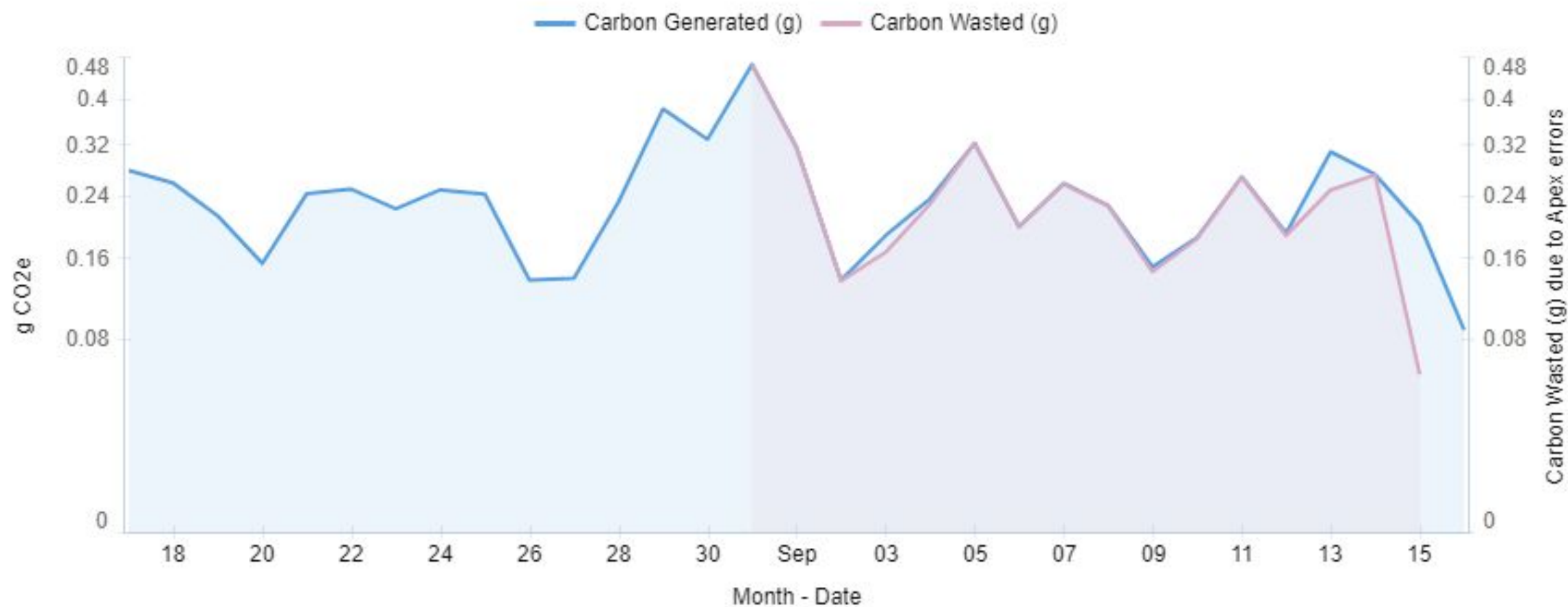
Dashboard Guide

Apex

salesforce

g CO2e Generated and Wasted

Blue plot shows the total amount of carbon generated by Apex code. Red plot shows the amount of carbon wasted due to Apex errors.



Carbon Generated (g)

Amount of CO2e generated by all Apex methods, over time.

Carbon Wasted (g)

Amount of CO2e generated by any Apex that failed due to an error.



Dashboard Guide

Apex

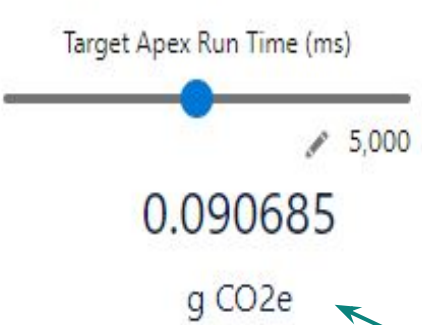


Set a target run time for Apex.

Synchronous Apex is any code for which the user must wait for the operation to complete.

This will change the scope of the table on the right, to highlight which Apex Methods are generating the most g CO2e and are targets for optimisation.

Long-Running Synchronous Apex



ENTRY_POINT	Total Carbon (g)	Execution Count	Carbon (g) per Execution	%Over5s	Avg RunTime (ms)
AppOmniRestFieldSchemaV1.get	0.090685	13	0.006976	100%	8,496.46

13
Executions

1
Methods

0.090685
g CO2e

The number of method executions that took longer than the run time set by the slider.

The number of methods that take longer to run than the target time.

Amount of carbon generated by methods that took longer to run beyond the target time.

Salesforce Best Practice strongly recommends that synchronous Apex should not take longer than 5 seconds to complete.



Dashboard Guide

Apex



Reducing the target run time...

... increases the number of methods that are in scope for optimisation.



ENTRY_POINT	Total Carbon (g)	Execution Count	Carbon (g) per Execution	%Over5s	Avg RunTime (ms)
AppOmniRestFieldSchemaV1.get	0.348225	111	0.003137	100%	3,821.07
AppOmniRestObjectSchemaV1.get	0.001964	1	0.001964	100%	2,392
SamJitHandlerUserUpdate	0.023118	12	0.001927	100%	2,346.5
contentAPI.retrieveAllContent	0.009417	4	0.002354	100%	2,867.5
demoMedia.screenshotId	0.004163	2	0.002082	100%	2,535.5



Dashboard Guide

Apex



This summary table simply highlights which classes and methods are failing, how frequently, and the volume of g CO2e generated as a result.

Apex Exceptions

41,336

Exceptions

22

Classes

3.92

g CO2e

Fixing broken Apex code is the most direct way to reduce emissions. Repeat executions are more likely as users try to circumvent any errors.

Addressing the items on the right will improve user experience and system stability as well as reducing emissions.

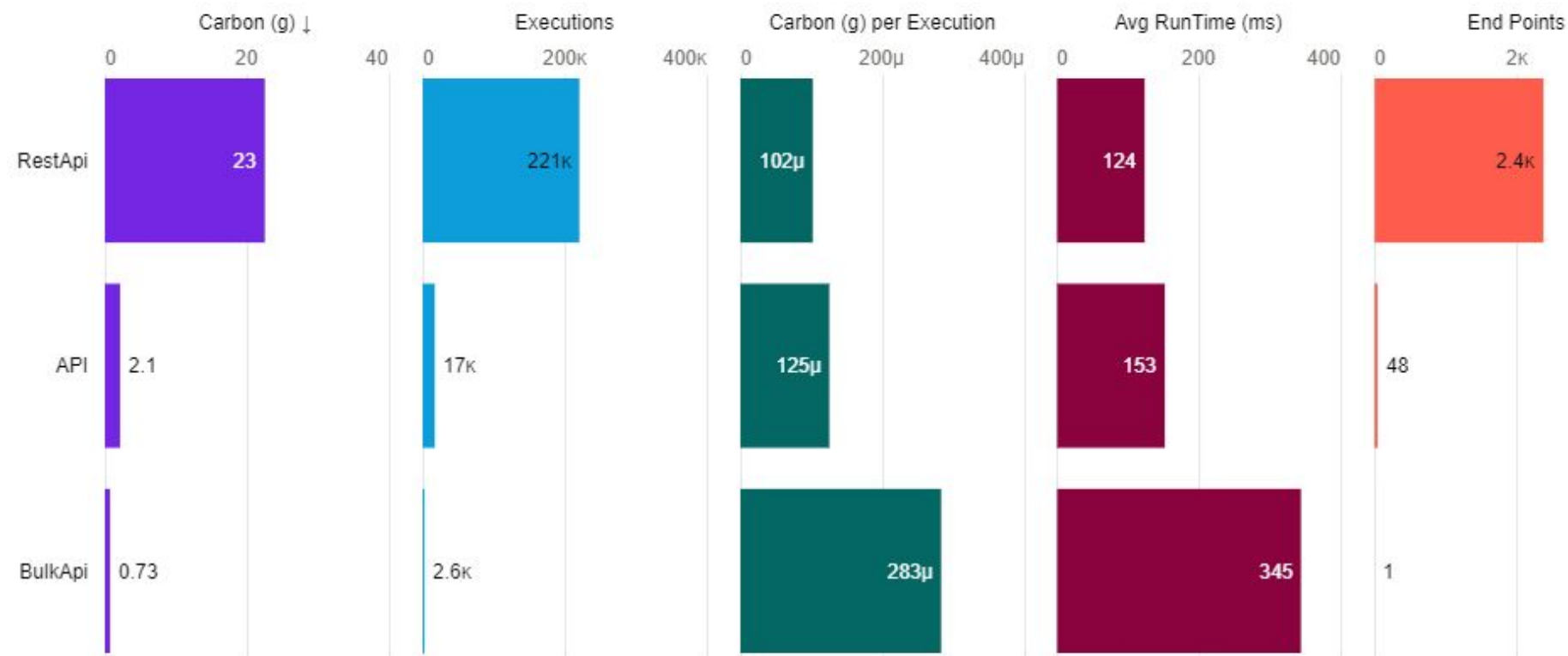
Resources: [\[Help & Training: How to Debug Apex Code \]](#)
[\[Help & Training: Scale Center \]](#)

Class or Trigger or Page	Exception Message Detail	Exception Count ↓	Carbon (g)
demoMedia	Unknown	7,405	0.18802
	Attempt to de-reference null object	5,375	0.134913
	Invalid field	3,988	0.103603
poolsRestApi	Unknown	2,175	0.248175
demoMedia	DmlExecutionException: FIELD_CUSTOM_VALIDATION_EXCEPTION	2,038	0.057016
	DmlExecutionException: ENTITY_IS_DELETED	1,823	0.046832
AppOmniRestFieldSchemaV1	Unknown	1,682	0.756756
demoMedia	OracleRowLockedException: Record Currently Unavailable	1,673	0.040079



Dashboard Guide

API



The API charts are similar to Report and Apex insights, simply showing the number of executions, total g CO2e generated, and the number of API end-points contributing.



Dashboard Guide

API



The summary figures are broken down into the different API types and End-Points.

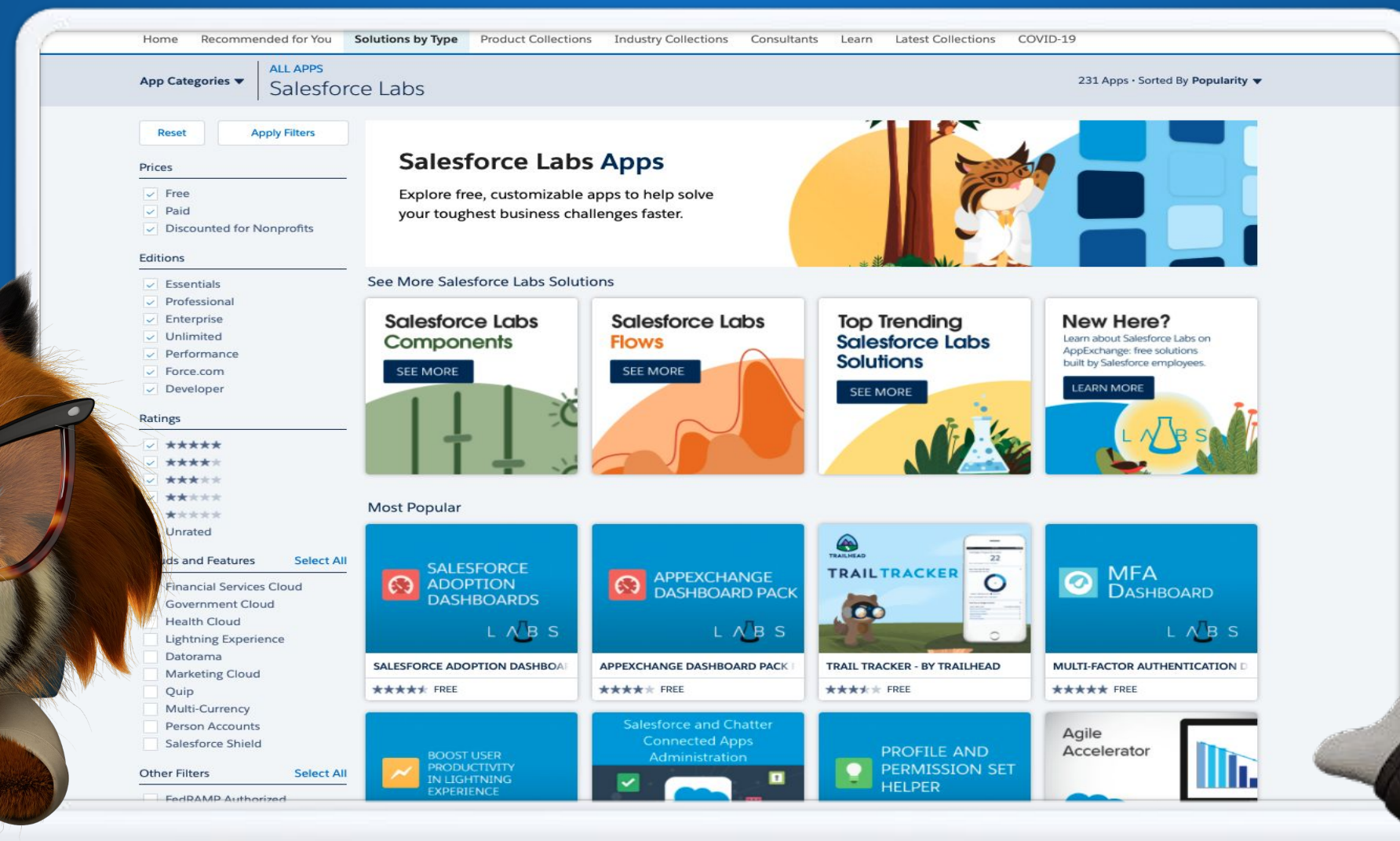
Carbon (g) ↓	Executions	Carbon (g) per Execution	Avg RunTime (ms)	Endpoints	Wasted Carbon (over 5s)
25.44	240,792	0.000105662	128.7	2,436	0.02

Source	Summary	Carbon (g) ↓	Executions	Carbon (g) per Execution	Avg RunTime (ms)
RestApi	GET-/services/data/v55.0/query/-FieldPermissions	10.61	63,074	0.000168151	204.81
	GET-/services/data/v55.0/query/-ObjectPermissions	7.91	63,074	0.000125361	152.69
	GET-/services/data/v55.0/tooling/query/-FieldDefinition	1.25	65,783	0.000019006	23.15
BulkApi	OPERATION_TYPE-ENTITY_TYPE	0.73	2,577	0.000283052	344.76
API	SOAP Metadata-meta_synchronous_read-	0.72	3,260	0.000221936	270.32





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