



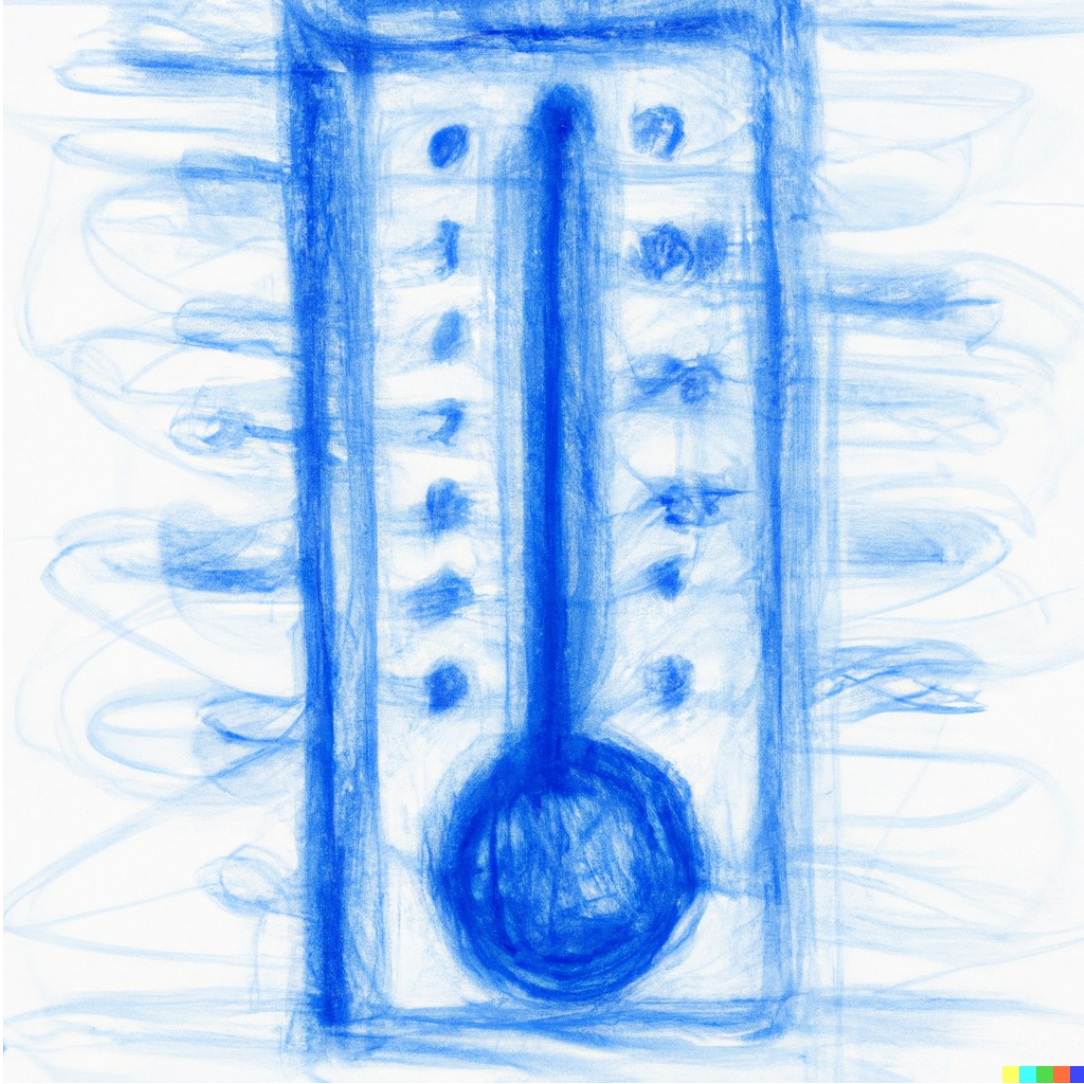
The Coolest* U.S. Airline in 2022 was...

*Based on
Carbon Temperature



Wait a second...
what does
“Coolest airline”
mean -
cool, like this?
No.





Cool, as in
temperature.
As in the airline
doing its best to
keep the planet cool.



Two things
matter most
to airlines
(and any
other business)
wanting to be cool.

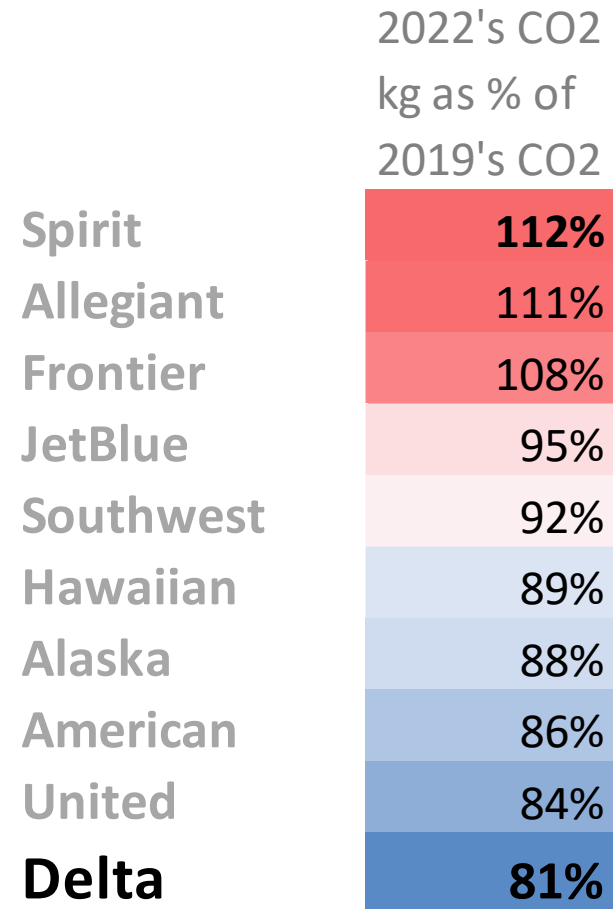
THE FIRST FACTOR

How much more or less is the airline emitting than its 2019 baseline?
Measured as:

Airline's CO2 kg emissions in 2022

Airline's CO2 kg emissions in 2019

Based on DOT/BTS Form 41 and 10-K fuel data and a standard factor to derive CO2 emissions. Does not include the effects of RFI, SAF, or offsets. Source: FlightBi, 10-Ks



Less is cooler*, so Delta was the coolest on this metric.

*The coolest would be 0%, right?

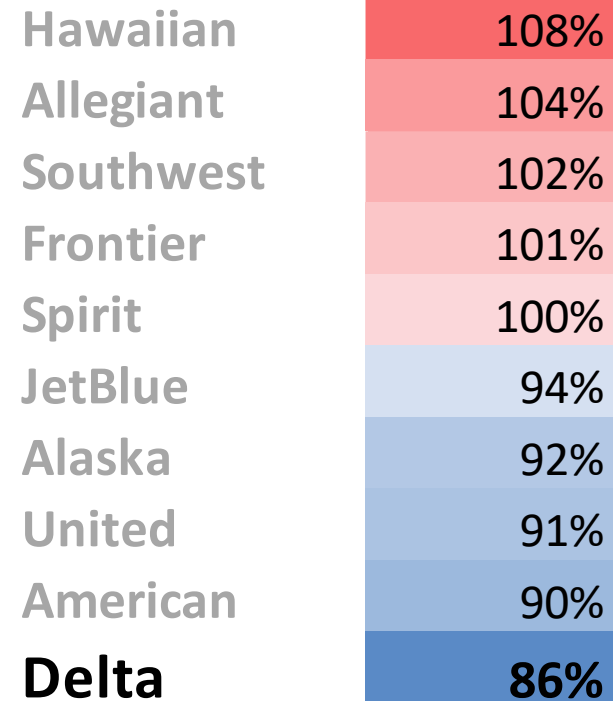
THE SECOND FACTOR

Is the airline's business model becoming more or less dependent on carbon*?
 Measured as:

Airline's CO2 kg per \$ in 2022

Airline's CO2 kg per \$ in 2019

2022's Carbon Intensity as % of 2019's



Less is cooler*, so Delta was also the coolest on this metric.

*The coolest would be 0%, right?

* AKA Carbon Intensity

Based on DOT/BTS Form 41 and 10-K fuel data and a standard factor to derive CO2 emissions. Does not include the effects of RFI, SAF, or offsets. 2022 revenues have been deflated to 2019 dollars. Source: FlightBi, Dept. of Labor, 10-Ks, tClara analysis.

Now **combine** these two metrics into one and call it the airline's **“Carbon Temperature”**.

At 69, Delta was the coolest airline in 2022.

	This value ↓ 2022's CO2 kg as % of 2019's	times this value ↓ 2022's Carbon Intensity as % of 2019's	times 100 gives this value ↓ Carbon Temperature in 2022
Allegiant	111%	104%	116
Spirit	112%	100%	112
Frontier	108%	101%	109
Hawaiian	89%	108%	95
Southwest	92%	102%	95
JetBlue	95%	94%	89
Alaska	88%	92%	81
American	86%	90%	78
United	84%	91%	77
Delta	81%	86%	69

Values in each column have been rounded.



Bad news - these airline carbon temperatures will rise significantly over the next ten years.

Why? There's no way to counter the growth in air travel with enough SAF* or other CO2-saving efficiencies - unless...

*Sustainable Aviation Fuel



...unless the airlines choose, or are given, a healthy prescription of “Charge more and fly less.”



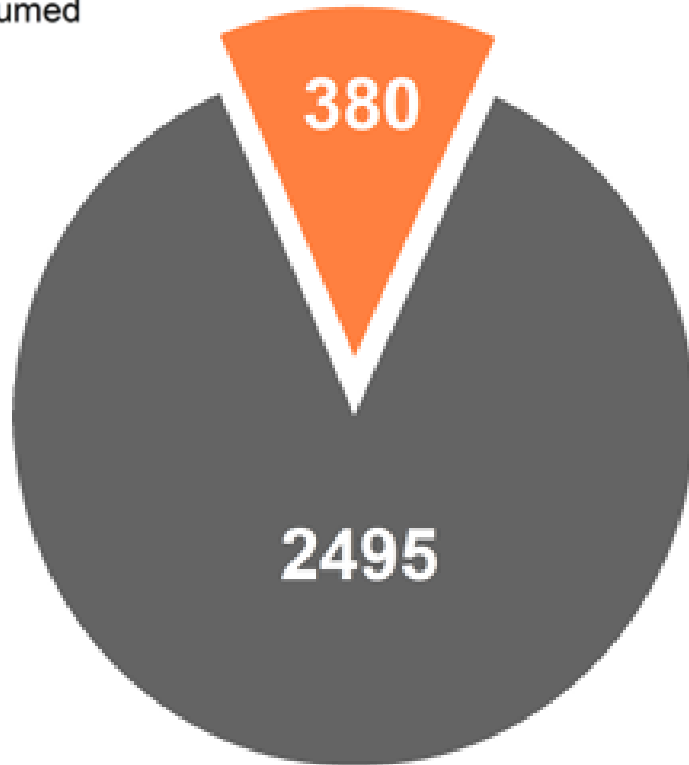
For now, higher fares are the most practical way to reduce airline carbon temperatures, full stop.

But higher fares will make air travel less accessible for many.

THE GLOBAL CARBON BUDGET

1.5°C
(50% likelihood)

Gt CO₂ ■ Remaining
■ Consumed



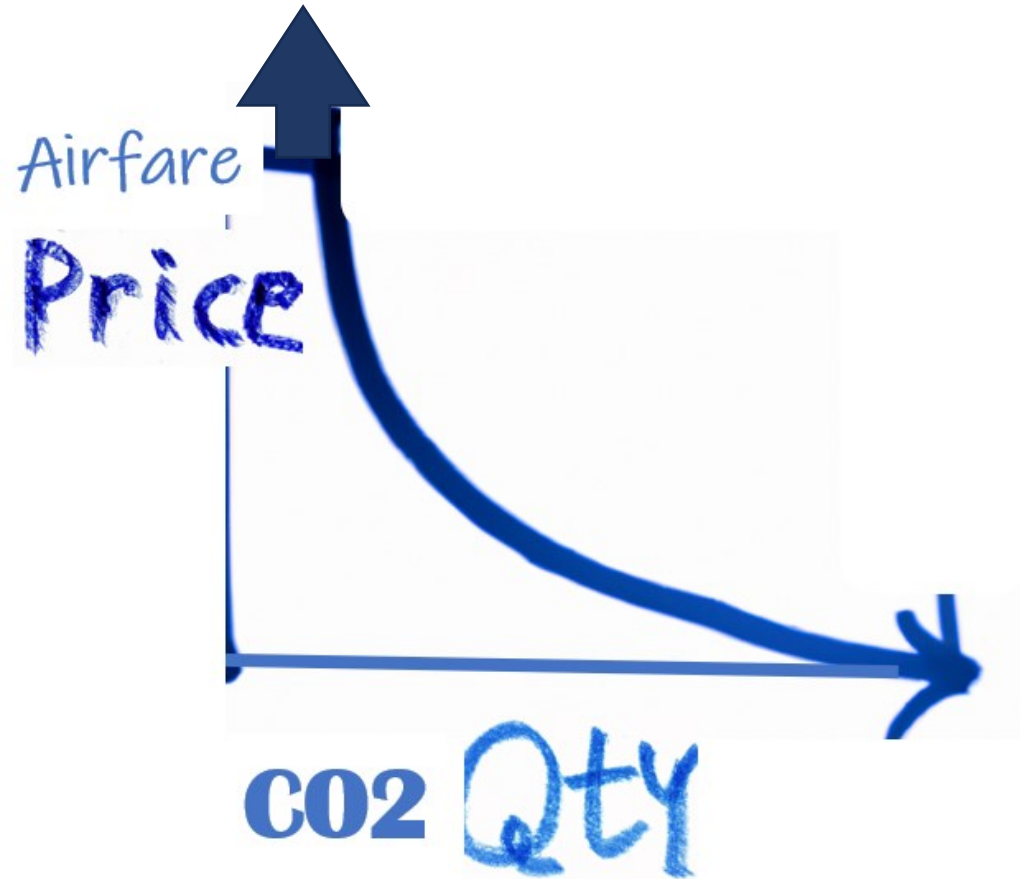
Still, the world's carbon budget through 2050 is running out fast.

We have just nine years based on 2022 emissions levels*.

*Source: IPCC AR6 WG1; Friedlingstein et al 2022; Global Carbon Budget 2022



So we're going to
need a healthy
but smaller
airline industry.

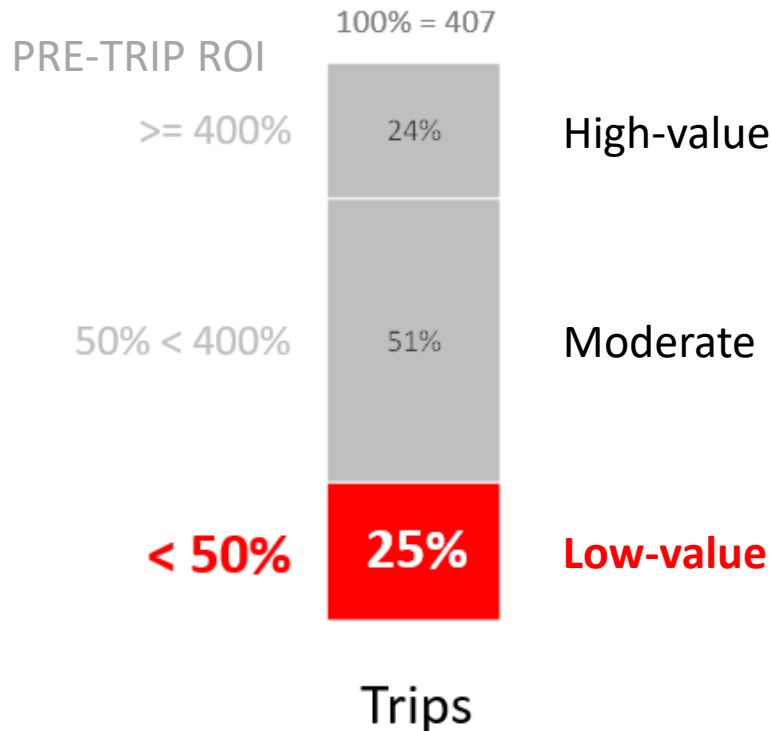


Higher airfares
make for a
healthier
climate.



So travelers,
especially
business travelers,
will have to pay
more to
pollute less.

Trips with **less than a 50%**
Pre-trip ROI are **low-value**

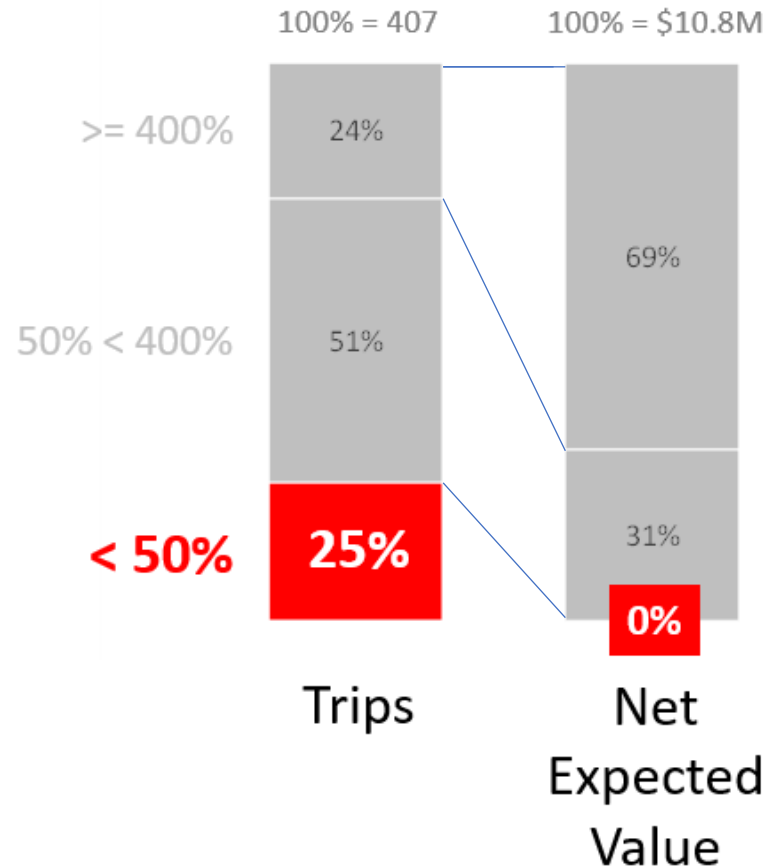


* tClara's "The Justified Business Trip"
published April 2023

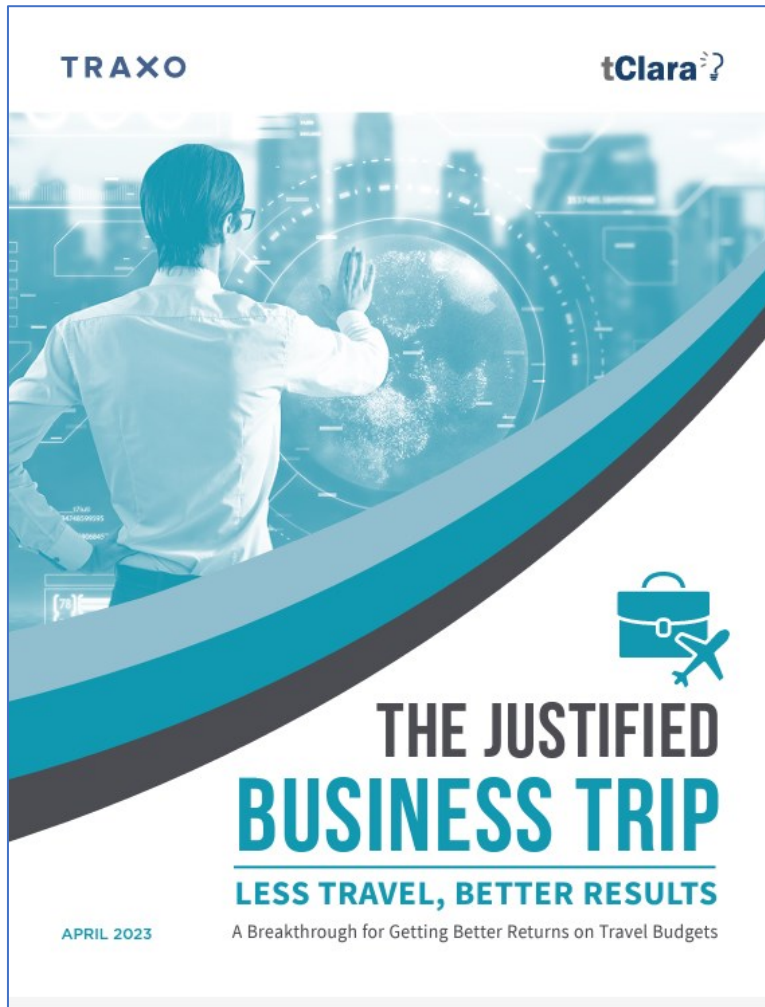
The good news is
that 25% to 30%
of business trips
are low-value*.

Why is this
good news?

Low-value trips and their CO2 can be safely eliminated.



Because higher airfares help eliminate low-value trips and their CO2. Higher-value trips can justify their higher airfares.

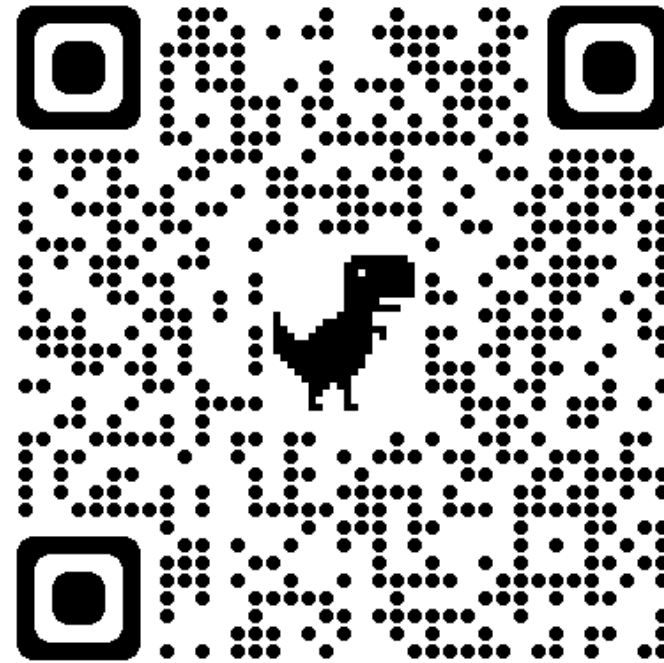


tClara 

Be cool.

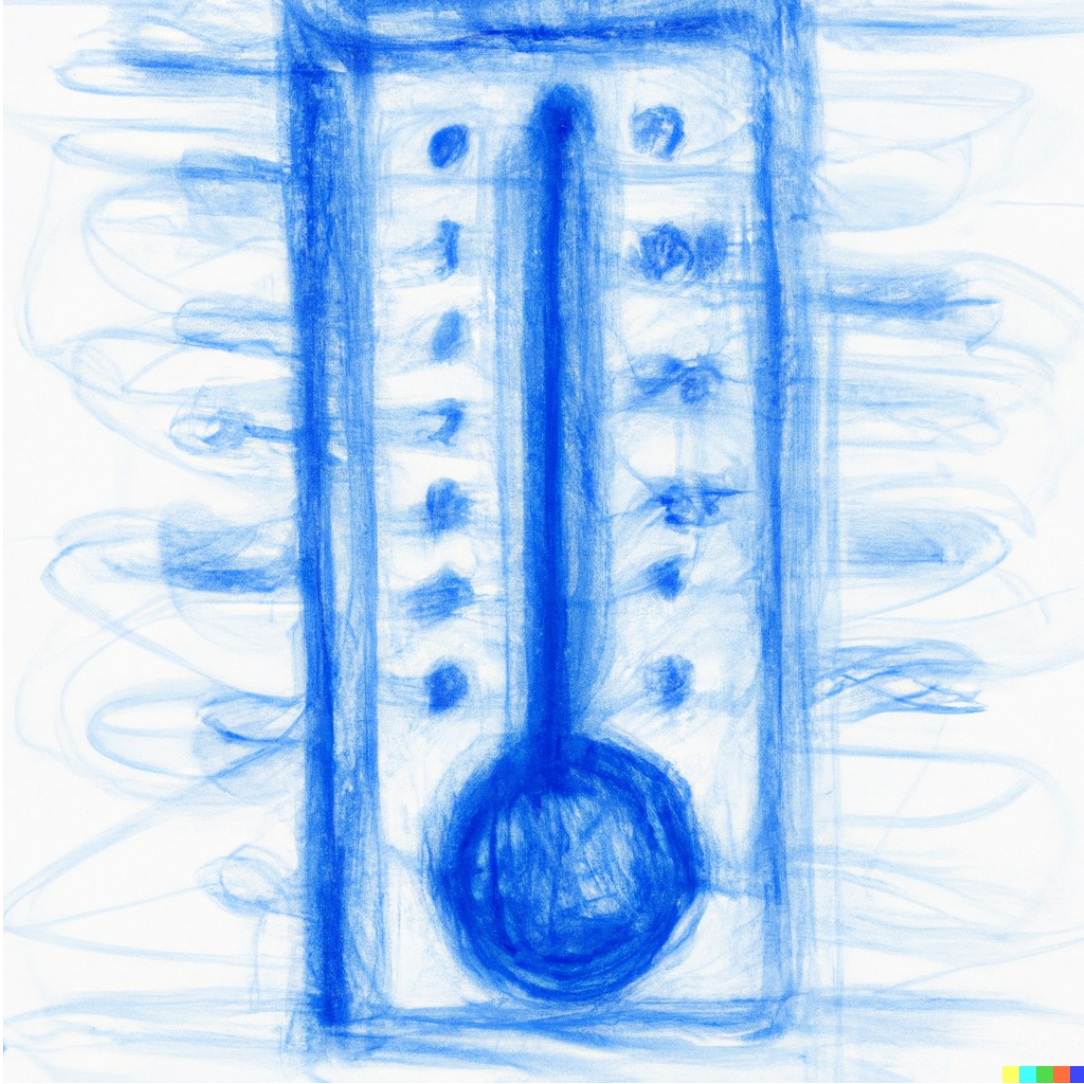


Learn how
to spot
low-value trips
and their CO2
before they
are taken.



Register for your free copy of this
48-page whitepaper.

<https://www.tclara.com/register-for-tjbt>



Two more ways to use the Carbon Temperature metric:

1. Track the decarbonization of suppliers in any procurement category
2. Benchmark any travel program's progress toward more sustainable travel



Got a critical comment,
tough question, or
better idea?

Drop it in the comment
section of this post, or
email it to
scott@tclara.com

Thank you to
Clement Zhang, PhD,
wizard of aviation data
and Founder of Flight BI,
for providing much of the
data in this presentation.

Visitors are welcome
to explore more
airline CO2 data on
Flightbi.com

<https://flightbi.com/annual-co2-emission-by-us-carriers/>



Flight BI

Flight Business Intelligence



Scott Gillespie

Nudging the travel industry forward

Industry Advisor



scott@tclara.com

Thought leadership for:

Travel strategy

Justifiable travel

Invisible carbon budgets

Traveler friction

Travel procurement

Perspectives gained at:

Travel Analytics

Kearney

Airlines Reporting Corporation (ARC)

TRX

University of Chicago, MBA