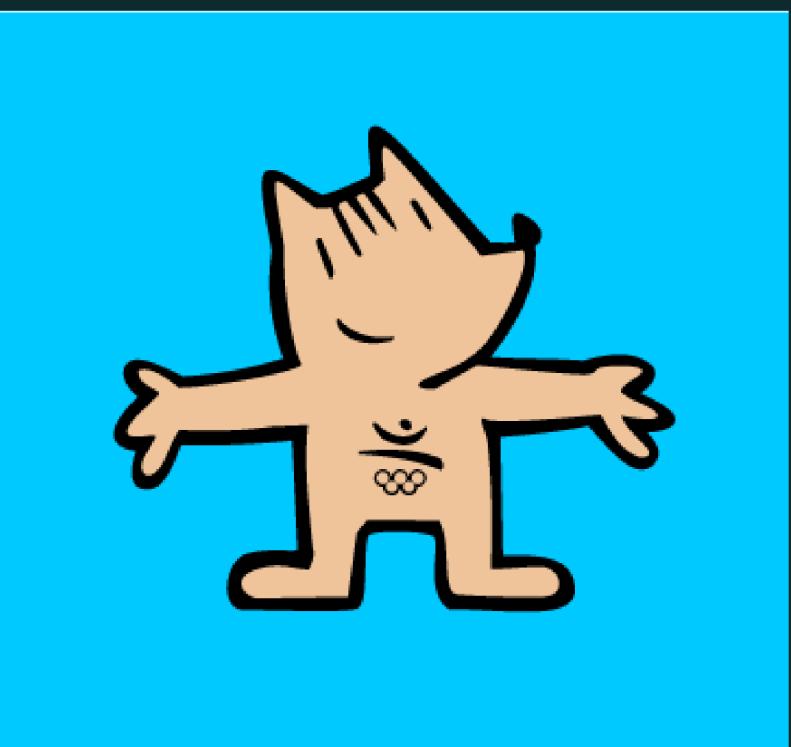


HOW TO LOOK AT FUEL EFFICIENCY

Cobify In the modern world

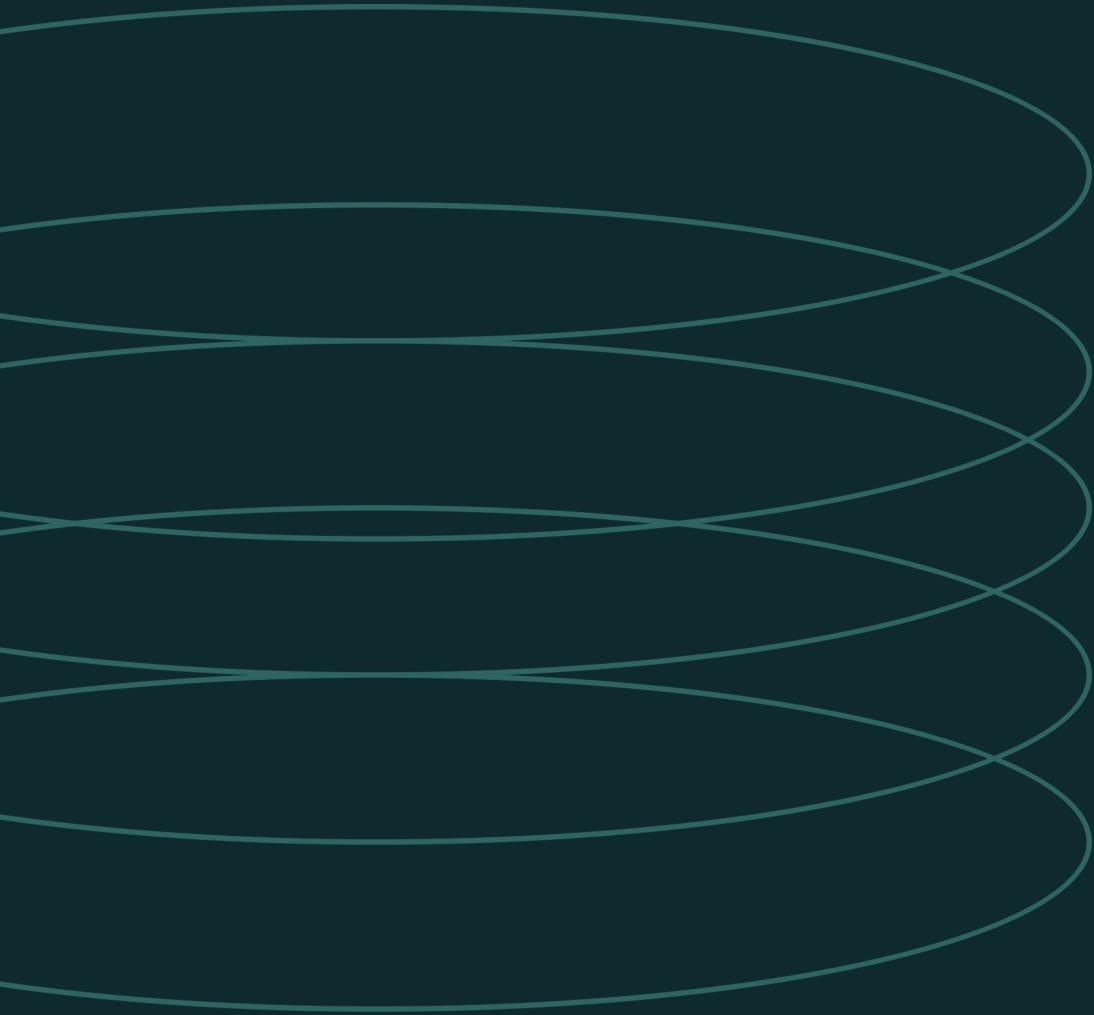


The real cost of Gas

Understanding gas efficiency is beyond a simple price tag,

- Is one type of gas better than the other?
- Will one type of gas take me further?
- What should I consider other than distance and gas consumption?



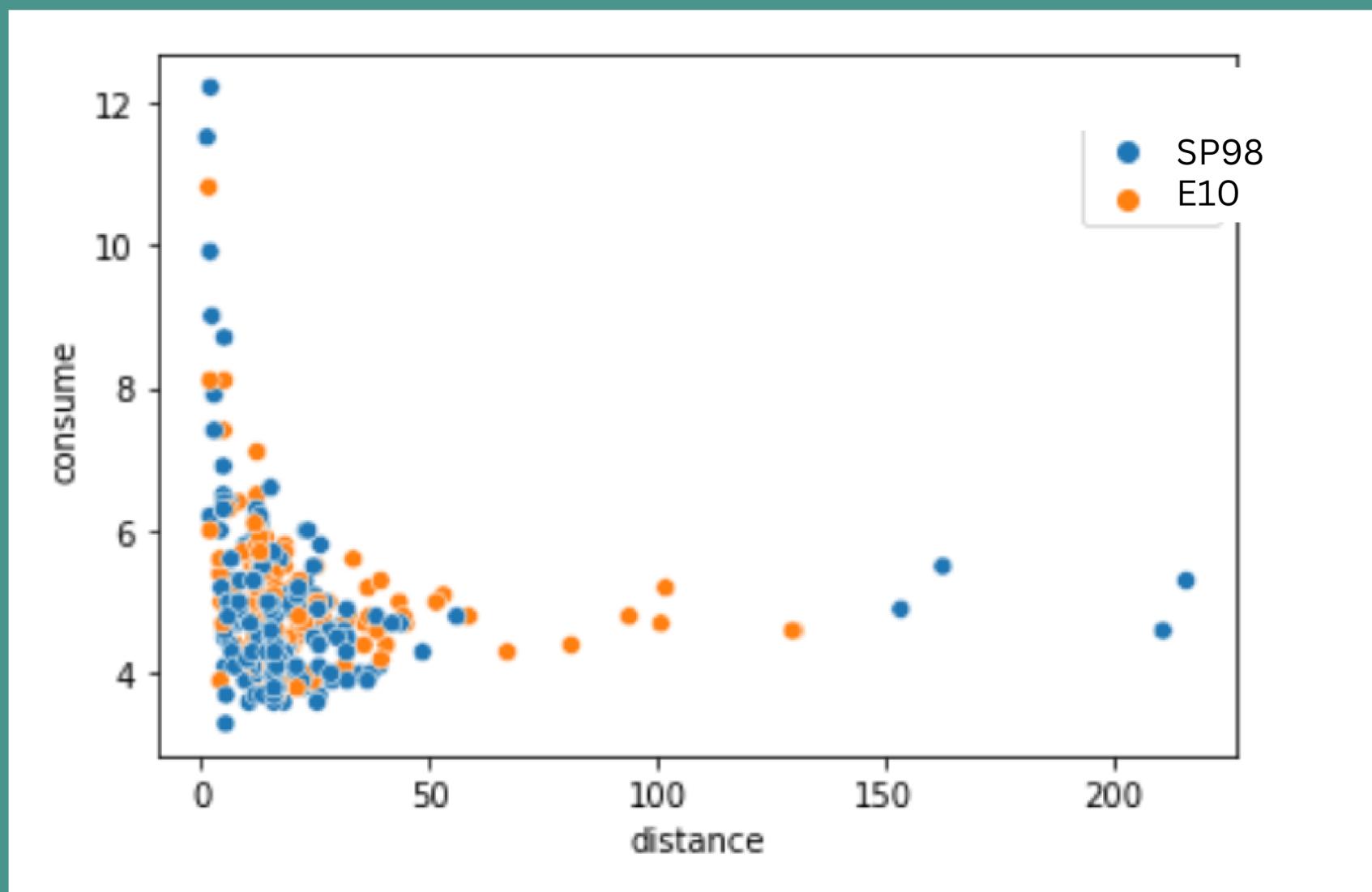


E10 vs SP98

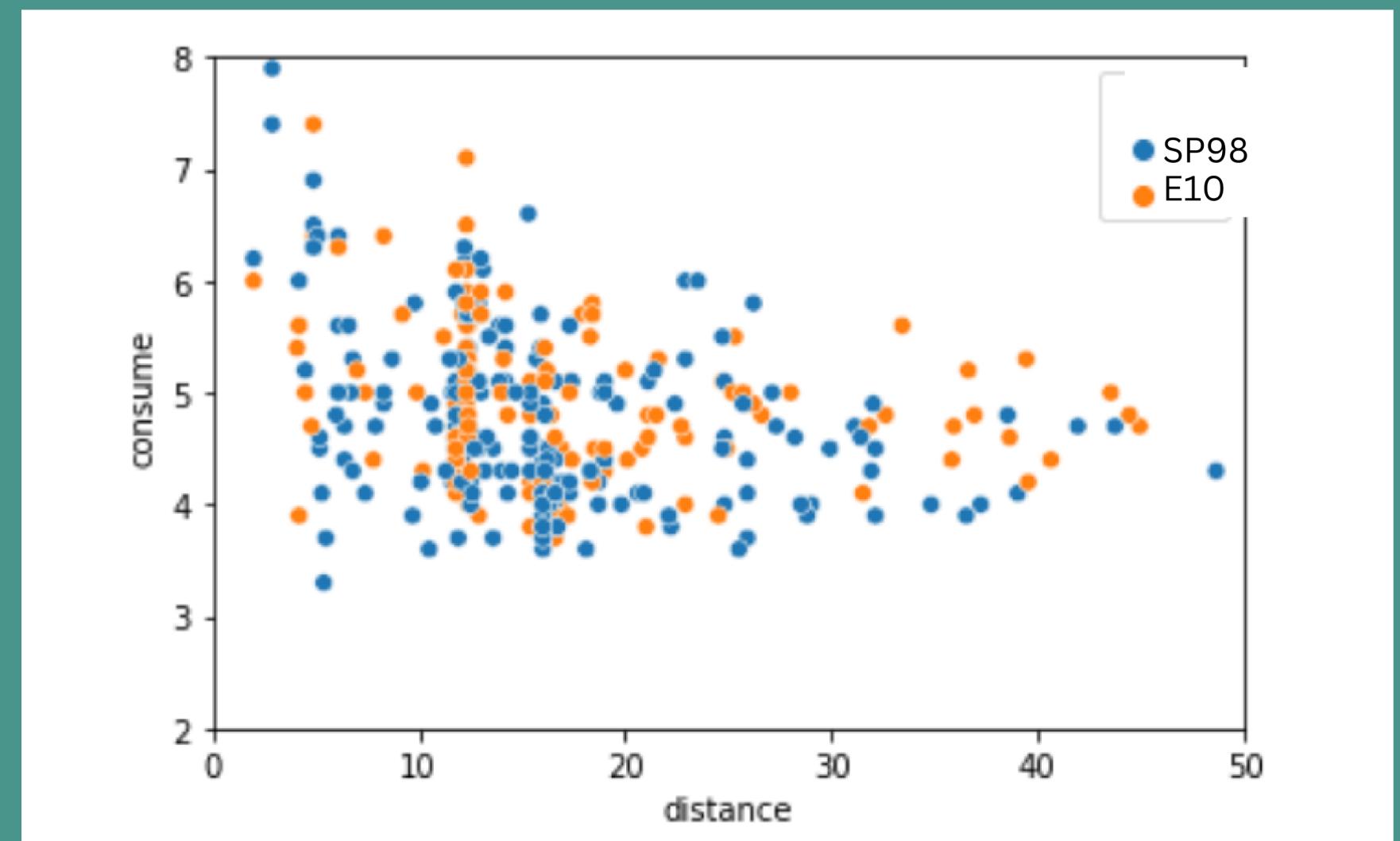
In the ever changing market for fuel. There are many things to consider other than price. We should pay close attention to the mileage per gallon fuel can provide. In other words, **how far can one gallon of fuel take me?**

Because the less gallons I need the cheaper it will be to get to my destination. Sometimes the more expensive gallon yields the cheaper trip.

Distance vs Consumption

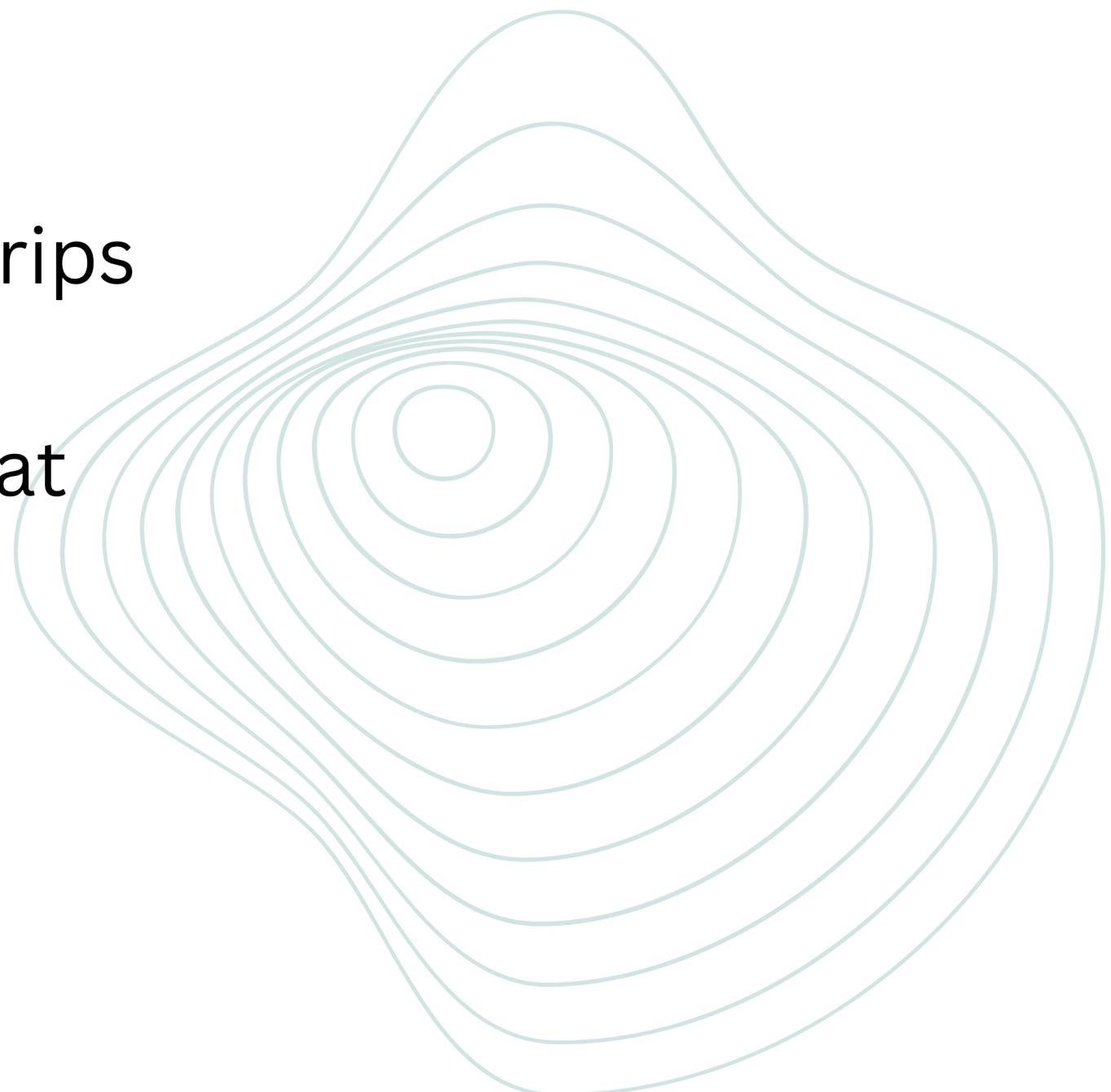


Detail



One thing to note is that generally speaking , trips with a higher consumption rate tend to be shorter. And longer trips tend to stabilize that consumption rate at a reasonable level.

This is true for both fuel types.



Looking at Averages

Performance per Fuel Type

With a very similar consumption, we can see E10 provides more distance, greater speed and it can take a higher temperature variance, let's look at that last variable next...

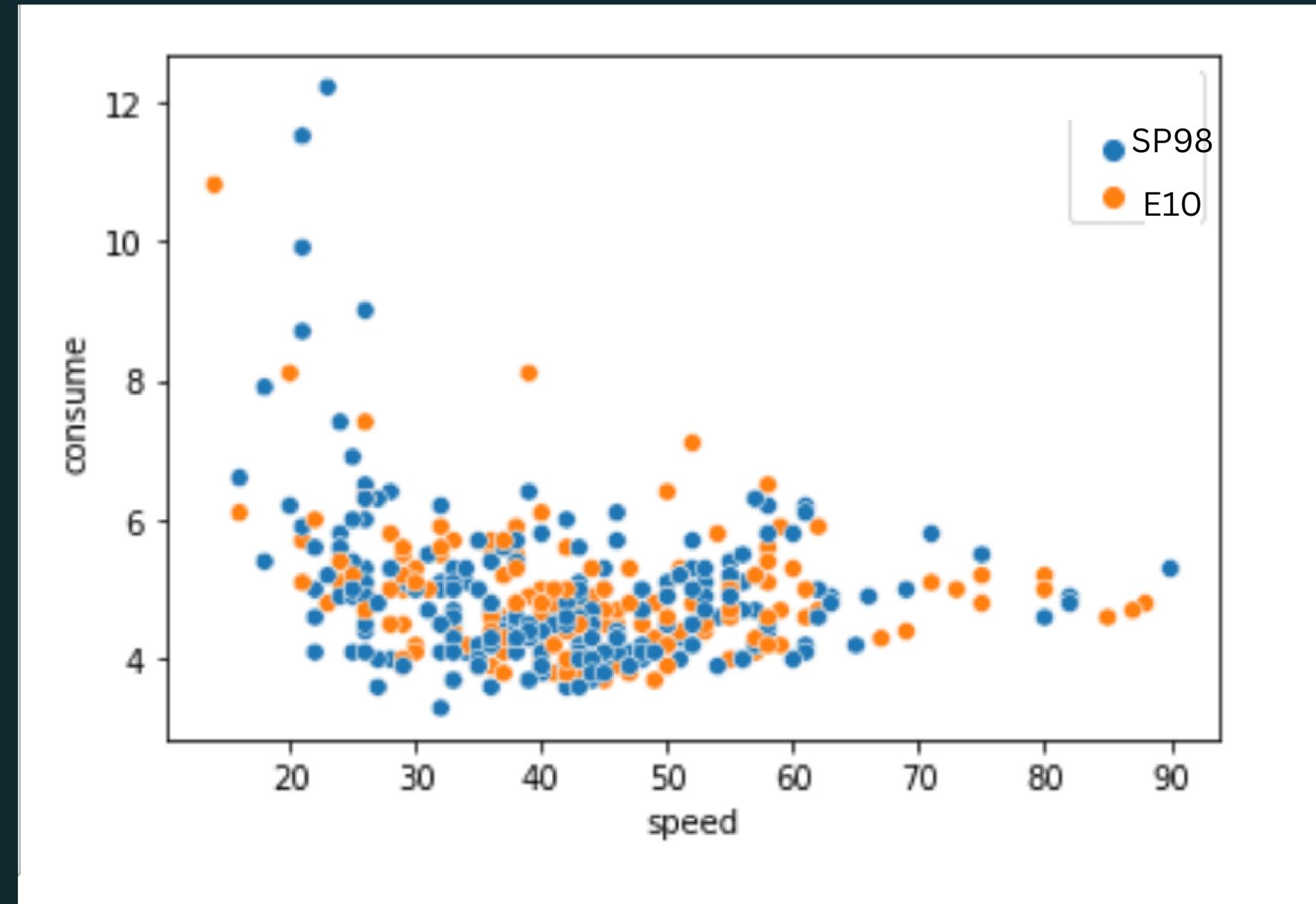
SP98
E10

	consume	distance	speed	temp_var
SP98	4.899123	18.639912	40.820175	9.709937
E10	4.931250	21.096250	43.506250	11.798679



THE SHORT TRIP

One thing one may consider when choosing fuel type is how well gas performs in those shorter trips as they tend to be more common. In this regard SP98 is clearly underperforming. A car with short trips has been observed to consume more gas while using SP98.



Looking another direction.

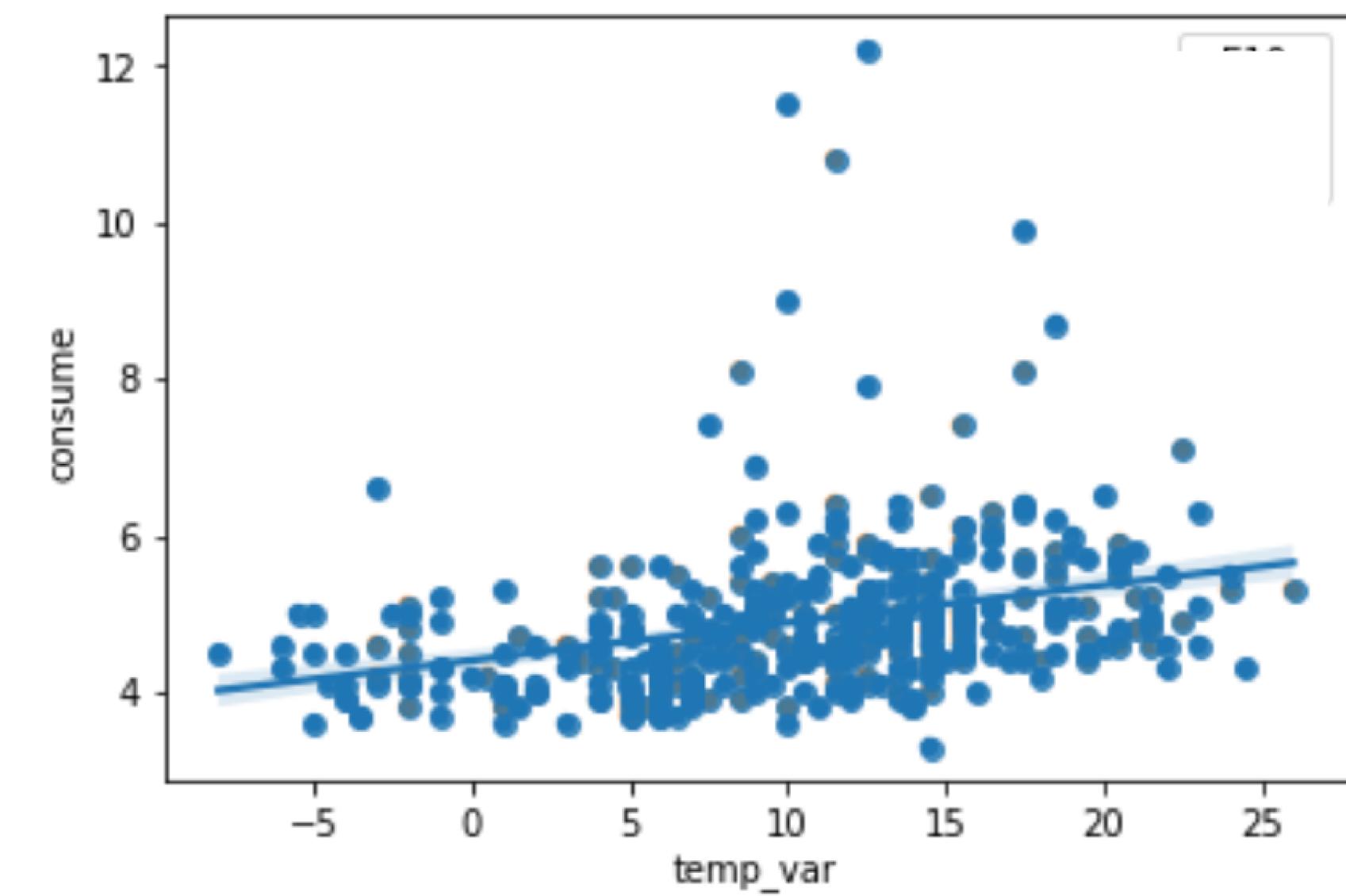
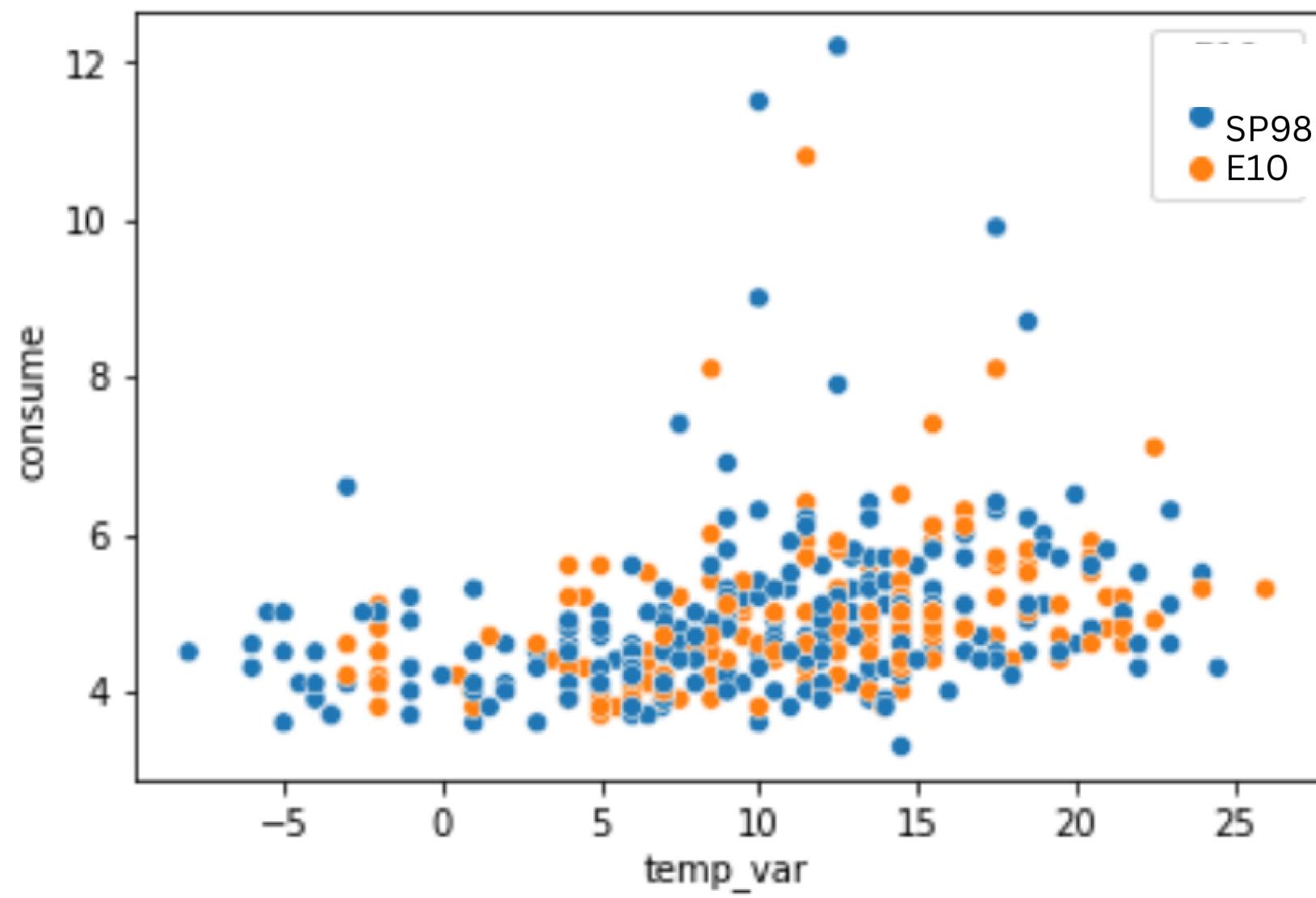
Not the Ethanol but the weather.

Consider for a second that gas consumption might be helped by investigating other measures. As shown in the graphs below, there is no clear differentiation between the type of fuel used. However you can see that temperature variance clearly affects the performance of the vehicles.



Temperature variation matters.

The more temp varies, the more gas we spend.



How fuel type correlates to other things.

This study has found that the different type of fuels does not have an enormous impact on the performance of the vehicles.

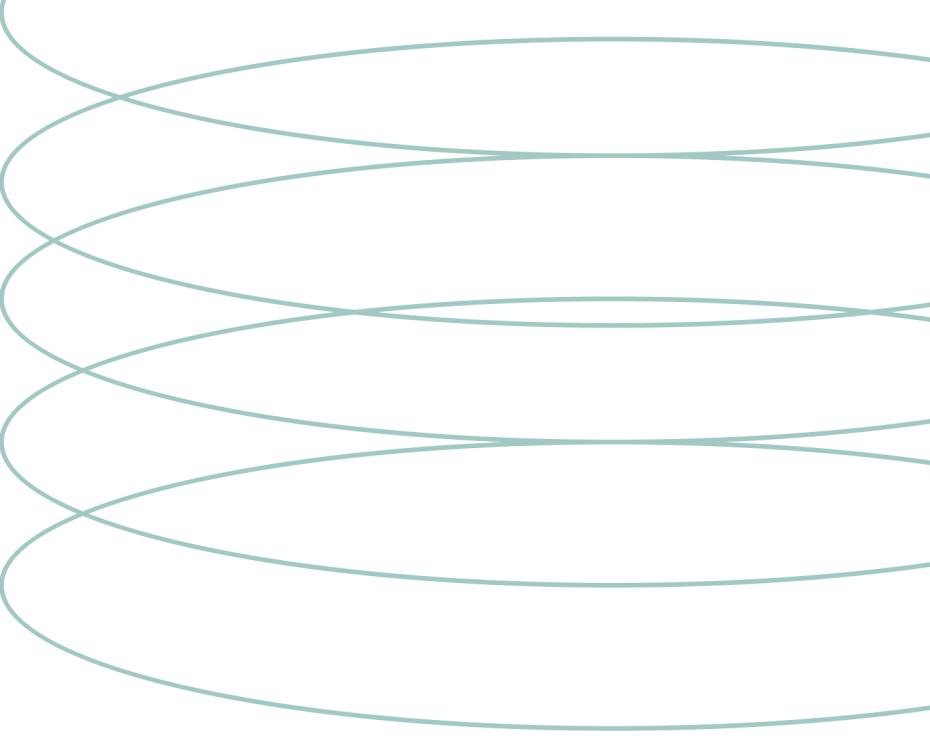
	E10	SP98
distance	0.053411	-0.053411
consume	0.015327	-0.015327
speed	0.097360	-0.097360
temp_inside	-0.010198	0.010198
temp_outside	-0.148705	0.148705
AC	-0.105285	0.105285
rain	-0.060328	0.060328
sun	-0.022761	0.022761
E10	1.000000	-1.000000
SP98	-1.000000	1.000000
temp_var	0.153694	-0.153694

SAME SAME

We built two Machine Learning models to predict the consumption for specific scenarios taking into consideration distance, speed and outside temperature.

	E10	SP98
0	4.719236	4.357987
1	4.565314	4.825775
2	4.871705	4.462965
3	4.682671	4.750036
4	4.313546	4.290905

The results show that **no**
meaningful difference can be
found. However...



Consider the Benefits of your
Public Image

Going green can get you business.

Perhaps the extra cost of a **greener fuel** can yield
higher profit. Think of the extra cents as an
investment.