



MASS  
ADOPTION  
OF EV'S  
WOULD BE A  
BIG MISTAKE

WE ARE SET FOR A  
21<sup>ST</sup> CENTURY  
MATRIX OF  
CONNECTED  
SHARED  
AUTONOMOUS  
ELECTRIC VEHICLES







2018/02/03 15:12:35 F15-YG





Roger Atkins  
Electric Vehicles  
**OUTLOOK**

[www.electricvehiclesoutlook.com](http://www.electricvehiclesoutlook.com)

30 YEARS  
IN AUTO  
15 YEARS  
IN EV  
60 YEARS  
ON  
PLANET EARTH



LINKEDIN  
TOP VOICE  
FOR EV  
280,000 +  
FOLLOWERS



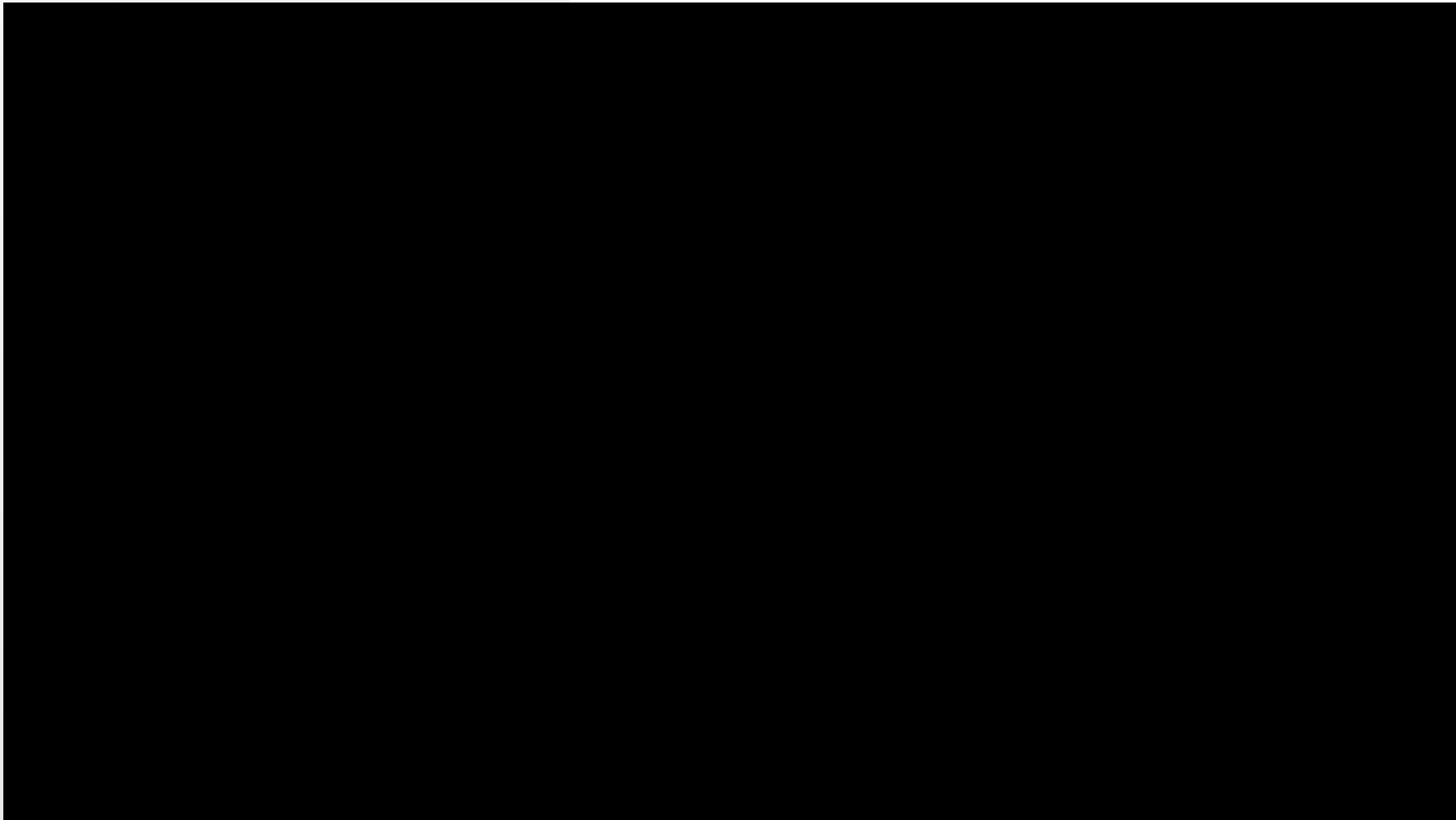
CO-FOUNDER  
OF  
2 START-UPS  
JOSH & NAT





IT'S ALL ABOUT  
THE CHALLENGE  
OF MATCHING  
ECO WITH  
ECONOMIC

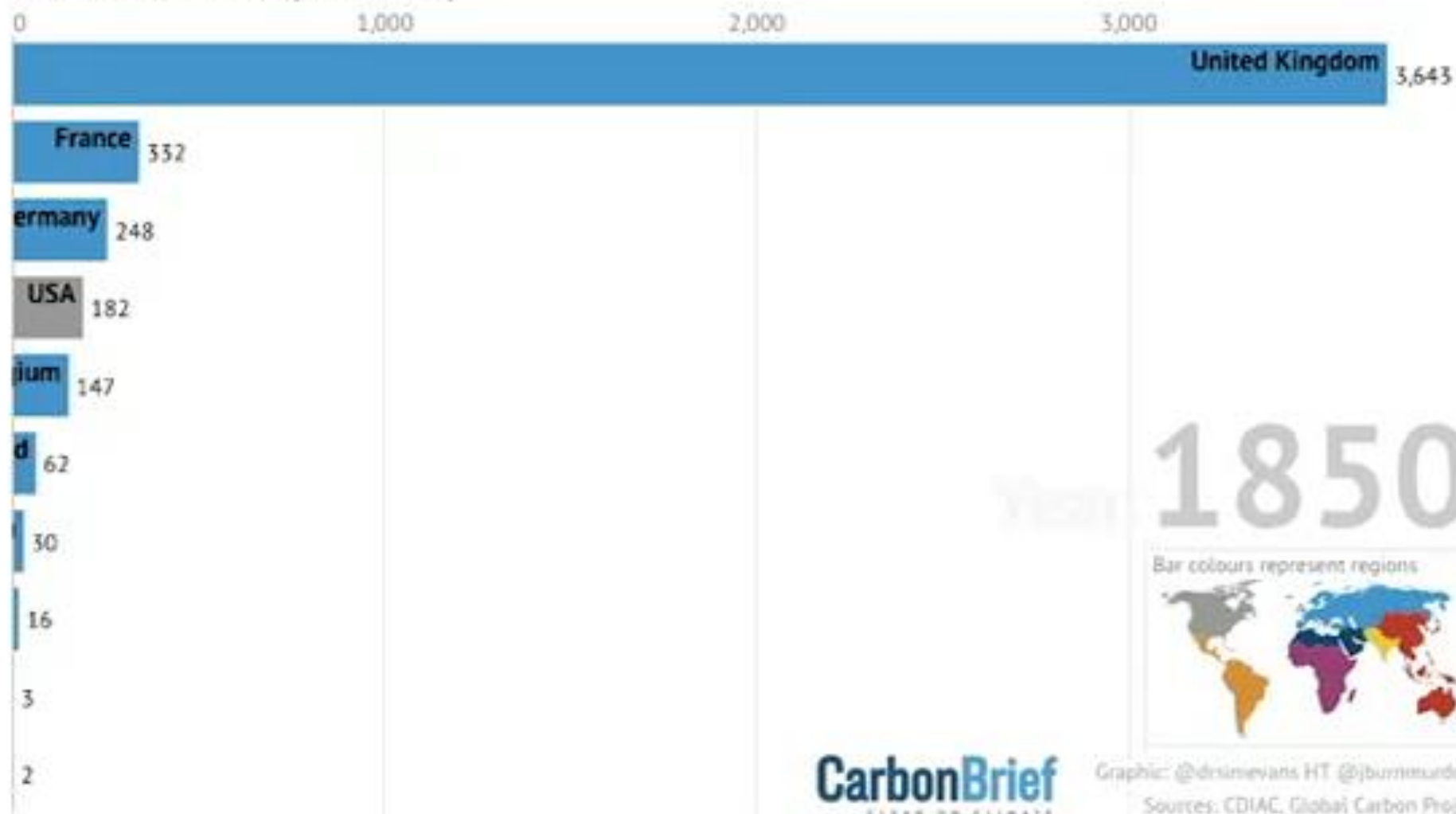






## The countries with the largest cumulative CO2 emissions since 1750

Cumulative CO2 emissions (million tonnes)





AND SO TO  
ELECTRIC  
VEHICLES...





EU EMISSIONS  
REGS -  
CHINA'S NEV  
STRATEGY -  
AIR QUALITY  
CONCERNS -  
THE END OF  
HUMANITY...



AND...THE  
**ECONOMIC**  
CASE FOR  
OPERATING  
EV'S  
**IS IMPROVING**  
ALL THE TIME...



GLOBAL AUTO  
MAKERS **ARE**  
**NOW**  
INVESTING  
MASSIVELY IN  
EV TECH OVER  
THE NEXT FEW  
YEARS

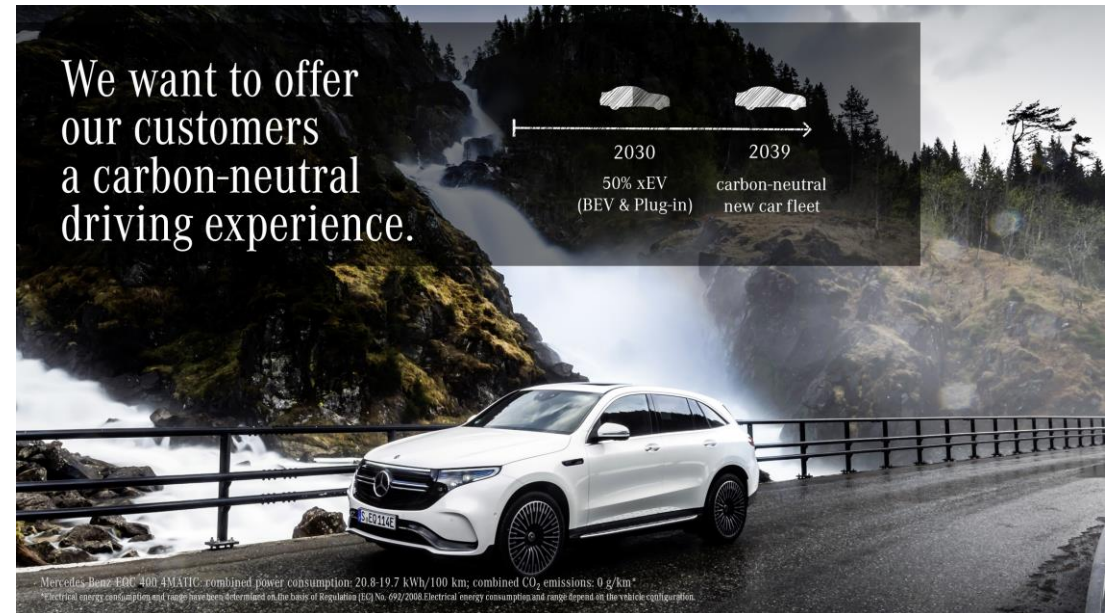
A Reuters analysis of 29 global automakers  
they are investing at least

**\$300**  
**billion**

in electric vehicles, with more than 45 percent of that  
earmarked for China.



GLOBAL AUTO  
MAKERS **ARE**  
ANNOUNCING  
THE END OF  
THE INTERNAL  
COMBUSTION  
ENGINE!



We want to offer our customers a carbon-neutral driving experience.

2030 2039

50% xEV (BEV & Plug-in) carbon-neutral new car fleet

Mercedes-Benz EQC 400 4MATIC: combined power consumption: 20.8-19.7 kWh/100 km; combined CO<sub>2</sub> emissions: 0 g/km\*  
\*Electrical energy consumption and range numbers determined on the basis of Regulation (EC) No. 692/2008. Electrical energy consumption and range depend on the vehicle configuration.

GLOBAL AUTO  
MAKERS **ARE**  
SHARING AND  
CONNECTING  
WITH EACH  
OTHER...AND  
ELSEWHERE



**Roger Atkins**

LinkedIn Top Voice for EV - Electric Vehicles Outlook Ltd  
11h

This is a VERY interesting development!...and worth picking up on the nuance in some of the attributed comments. Epic commercial and strategic 'tectonic plates' are shifting around the world - strong and smart leadership will be essential in securing a successful future. [#technology](#) [#diesel](#) [#mobility](#) [#electricvehicles](#) [#electrification](#) [#batteries](#) [#europe](#) [#china](#) [#germany](#) [#automotive](#)



BMW and Jaguar Land Rover to jointly develop electric car parts

reuters.com



LOOKING  
BACK TO  
LOOK  
FORWARD...  
LONDON 2010  
TO 2020



IF WE ALL  
KNEW THEN...  
WHAT WE ALL  
KNOW NOW!



MODEC'S  
MANTRA...  
URBAN  
OPERATING  
DEFINED  
MILEAGE  
BACK TO BASE



IT'S **ALWAYS**  
BEEN ABOUT  
A TWIN  
IMPERATIVE...  
CO<sub>2</sub>  
**AND**  
AIR QUALITY



HERE'S WHY!

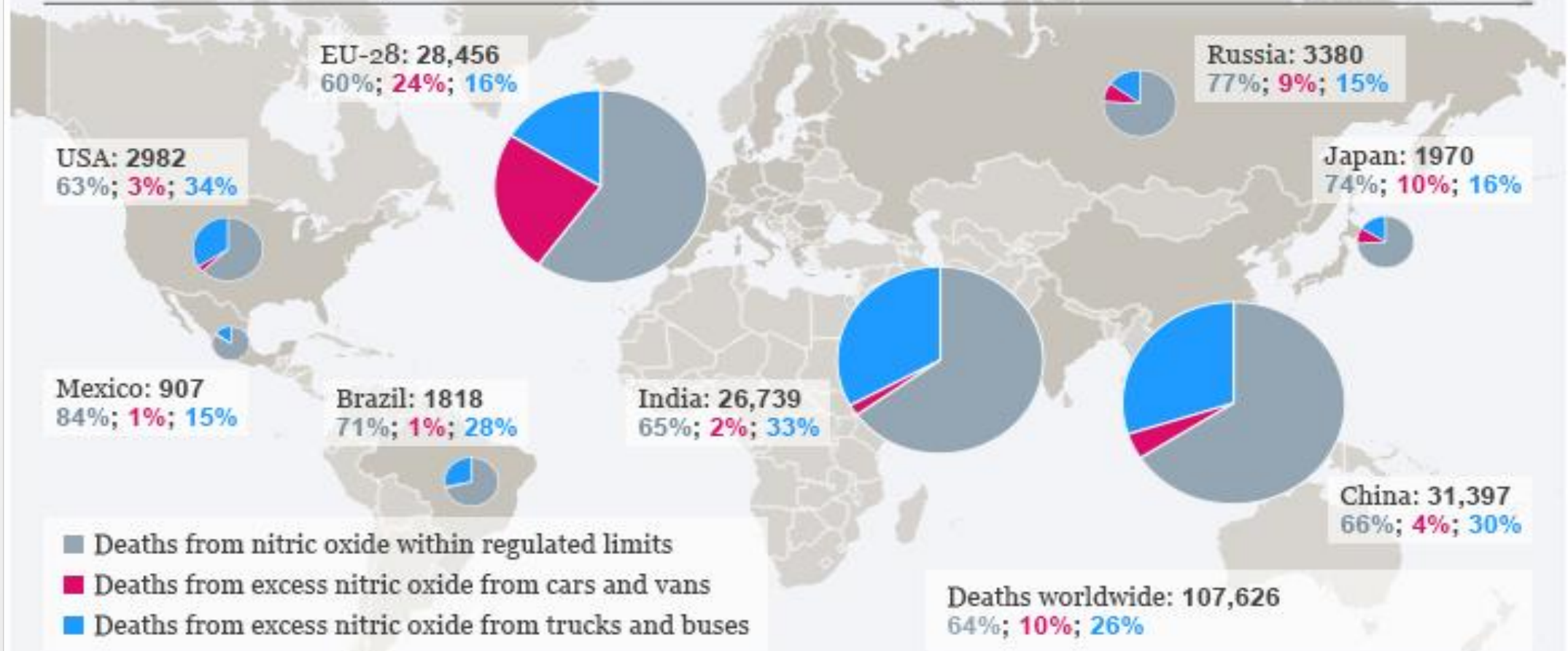




TESLA HAVE  
BEEN THE BEST  
OF EV...  
AND THE  
WORST OF EV!



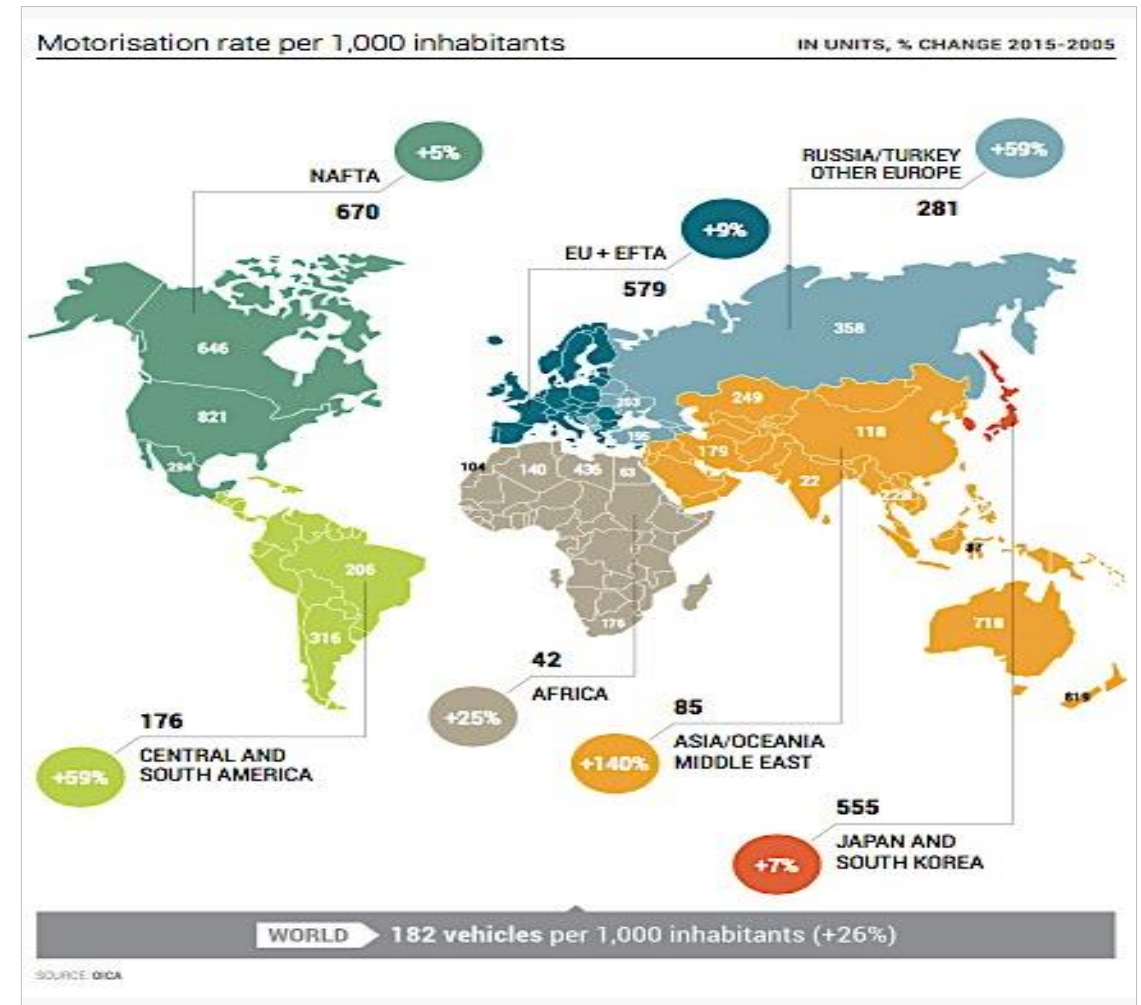
# Deaths caused by nitric oxide from diesel engines worldwide in 2015



Source: International Council on Clean Transportation | May 15, 2017

© DW

# THE STORY OF CAR OWNERSHIP & UTILISATION... A CENTURY OF CHANGE & CONSEQUENCE





# CHARGING INFRASTRUCTURE



A MIX OF  
CHARGING  
OPTIONS  
AHEAD  
PERHAPS?  
CABLE  
WIRELESS  
SWAP



**Momentum**<sup>®</sup>  
Wireless Power



BATTERY SWAP  
IS ALIVE AND  
KICKING!  
WITH  
CHINESE  
OEM  
NIO

**NIO**Power  
加电比加油更方便



“Wireless charging has the potential to deliver lower cost electric vehicle fleets, safer unobtrusive infrastructure and provides an important solution where constraints on physical space mean wired charging is not practical”

UK Power Networks - 2019

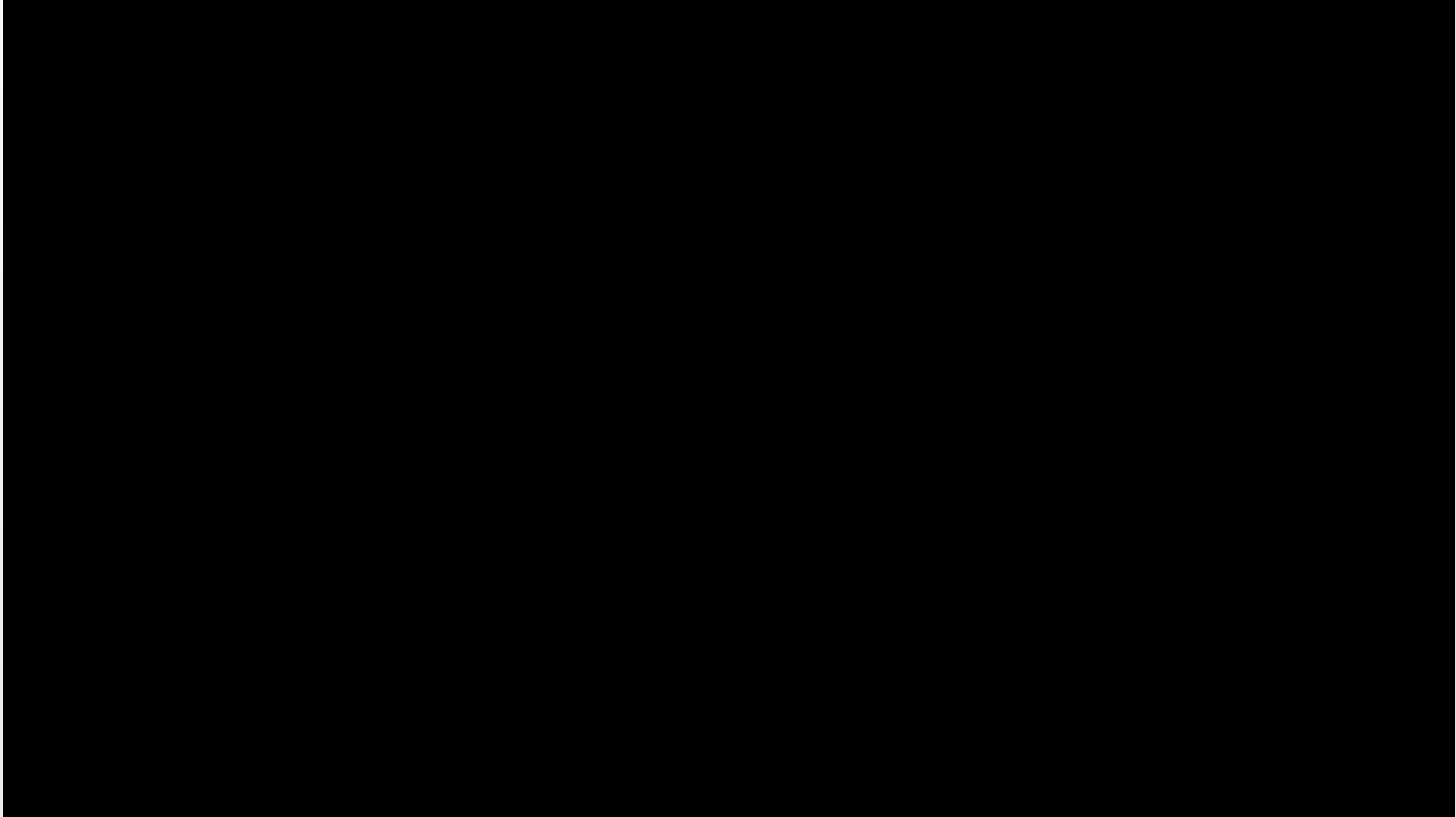
ELECTRIC  
VEHICLES  
RUN ON  
ELECTRONS...  
NOT BATTERIES



QUALIFY THE  
PROBLEM YOU  
ARE TRYING TO  
SOLVE BEFORE  
YOU PREPARE  
THE SOLUTION



**LESSONS LEARNED**



Roger Atkins



[www.electricvehiclesoutlook.com](http://www.electricvehiclesoutlook.com)

*thank you* 😊