



THE ROAD TO SUSTAINABLE MOBILITY

How will it impact the Lubricants Market?

A presentation for



October 20, 2021

The logo for eKline, featuring a stylized 'e' in a circle followed by the word 'Kline' in a bold, sans-serif font.

» The emerging sustainability agenda is multipronged and evolving.



The Business Environment

- Between 2020 and 2021, sustainability has become a megatrend - rush of corporates and governments declaring their intention to become carbon neutral by a given date, anywhere from 20 to 40 years into the future.
- Environment, social, and governance (ESG) standards will have a profound impact on the operational and business practices of enterprises worldwide.
- Companies will need to make full disclosures to investors and financial and credit rating agencies, making carbon neutrality the centerpiece of boardroom agendas going forward.



De-carbonization technologies

- Several technologies are vying for leadership position with their champions trumpeting the positives and glossing over the drawbacks
- There is no one-best route to net-zero → Context is very important!!
- The route and pace of decarbonization will be influenced, in order of reducing importance by:
 - Government regulations;
 - Energy, automotive, and other industrial company commitments to create a new ecosystem; and
 - Corporate and retail consumer choice



With so many de-carbonization technologies and target markets, how should we think about the emerging changes on the road to sustainable mobility?

De-carbonization Targets

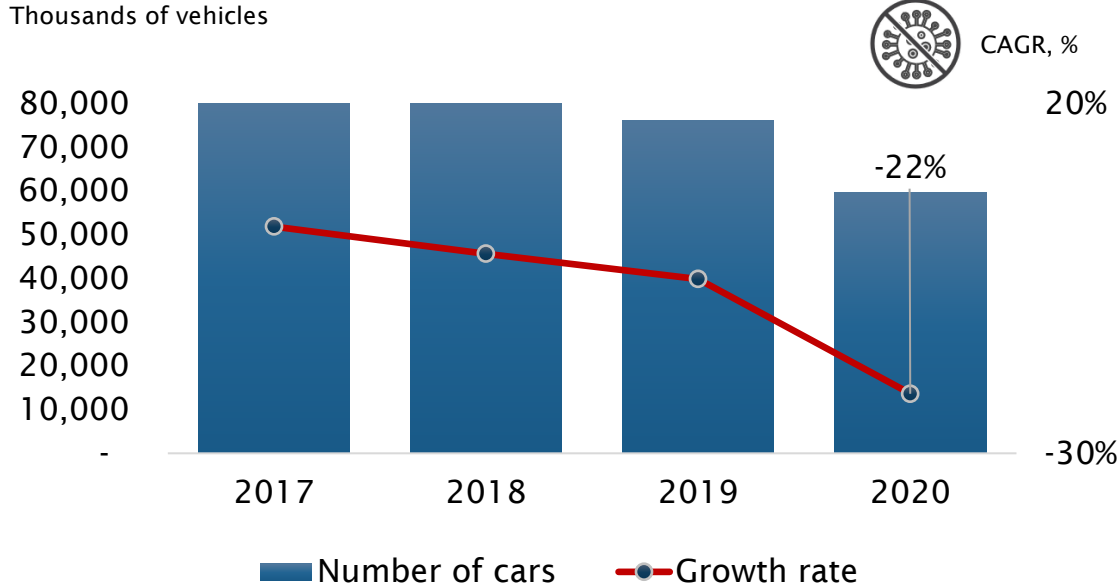
De-carbonization Technologies	Passenger Cars	Motor-cycles	LCVs and Buses	HCVs	Off-highway mobile equipment	Marine	Railroad	Aviation
	Electrification							
	Hydrogen / Ammonia	<p><i>Which de-carbonization technology will “win” in which market will get clear over time.</i></p>						
	E-Fuels							
	CCUS							

The path (technology) and pace of the road to net-zero will keep changing in this time of churn

Due to the uncertainty, ICE technology development has stalled
 Traditional engine oil quality development process (ACEA and ILSAC) is being sidelined.

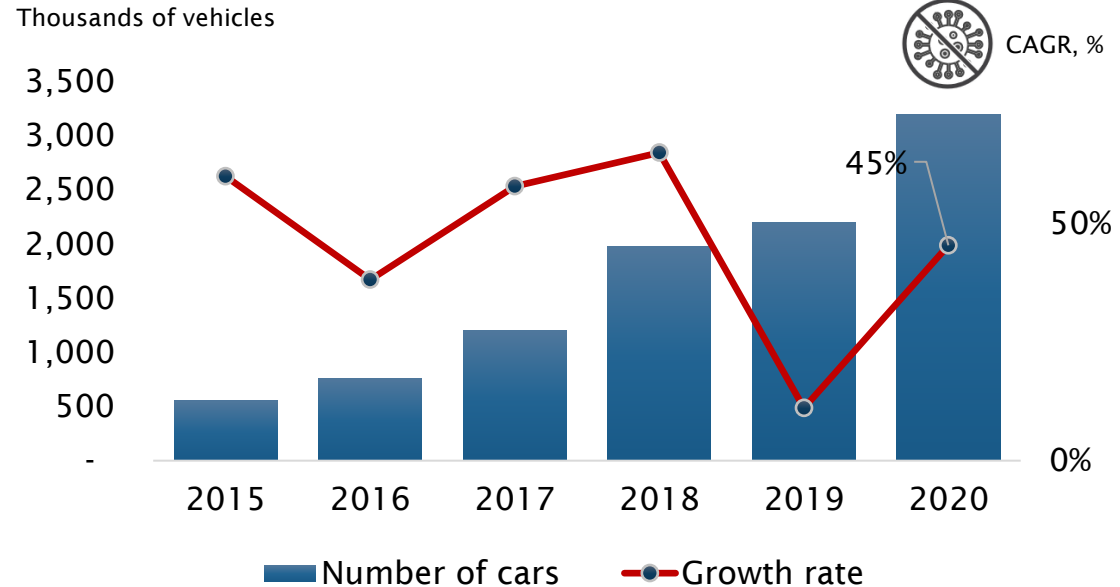
Electric vehicles have proven to be immune to COVID-19.

GLOBAL PASSENGER VEHICLE SALES, 2017-2020 



Source: LMC Automotive

GLOBAL PASSENGER ELECTRIC VEHICLE SALES*, 2015-2020 



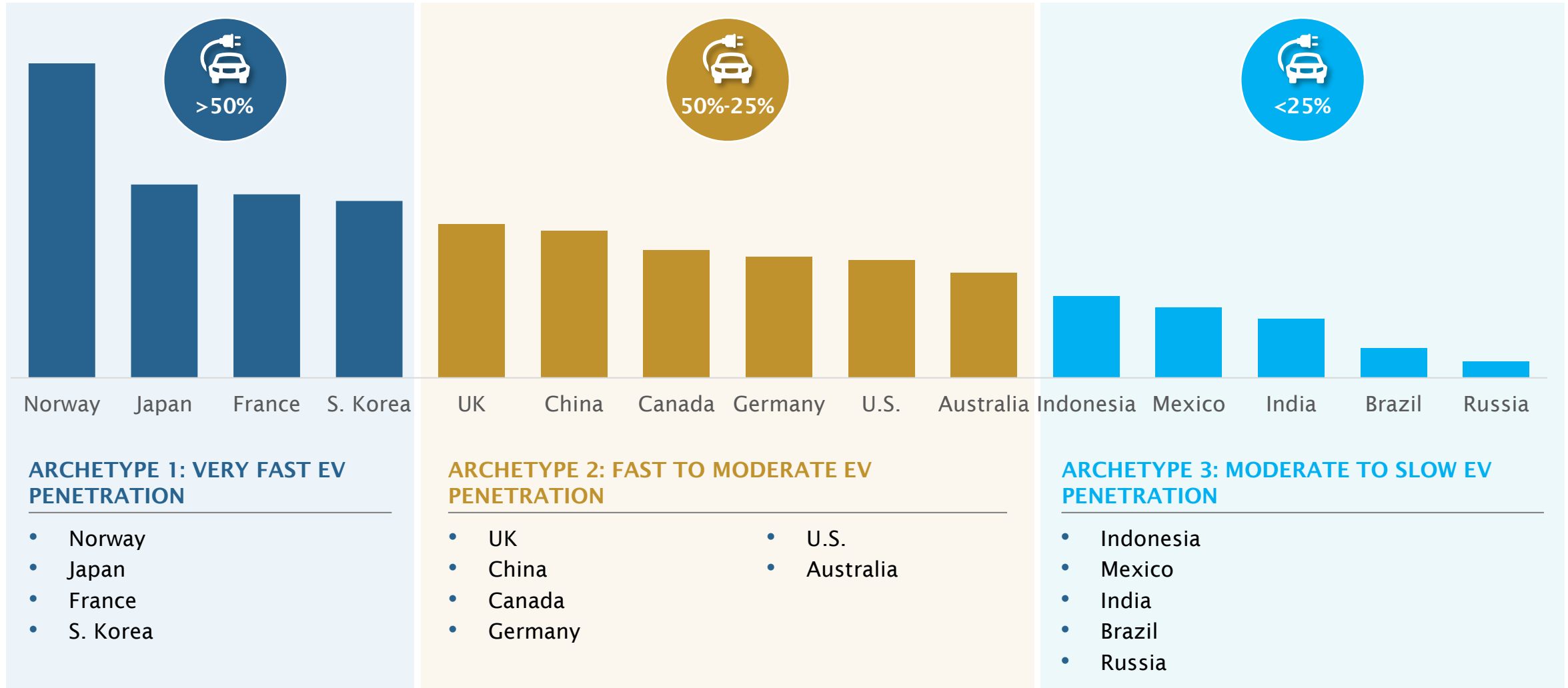
Source: IEA based on EVI country submissions, EV Volume
* Includes only BEV and PHEV



- Financial and fiscal stimulus from current and new governmental programs
 - European Union’s Green Deal, China’s New Energy Vehicles policies, among others
- Intensified consumer focus on sustainability
- Faster technological advancements, particularly in the field of battery technology

Developed countries in Europe, North America, and Asia are estimated to lead the EV transition revolution.

MOST LIKELY EV PENETRATION SCENARIOS IN SELECT COUNTRIES, 2040



➔ Depending on the final version of “Fit for 55” and how new technologies are rolled out, PCMO demand will start declining rapidly in a few years time.



Long-Term Impact on PCMO

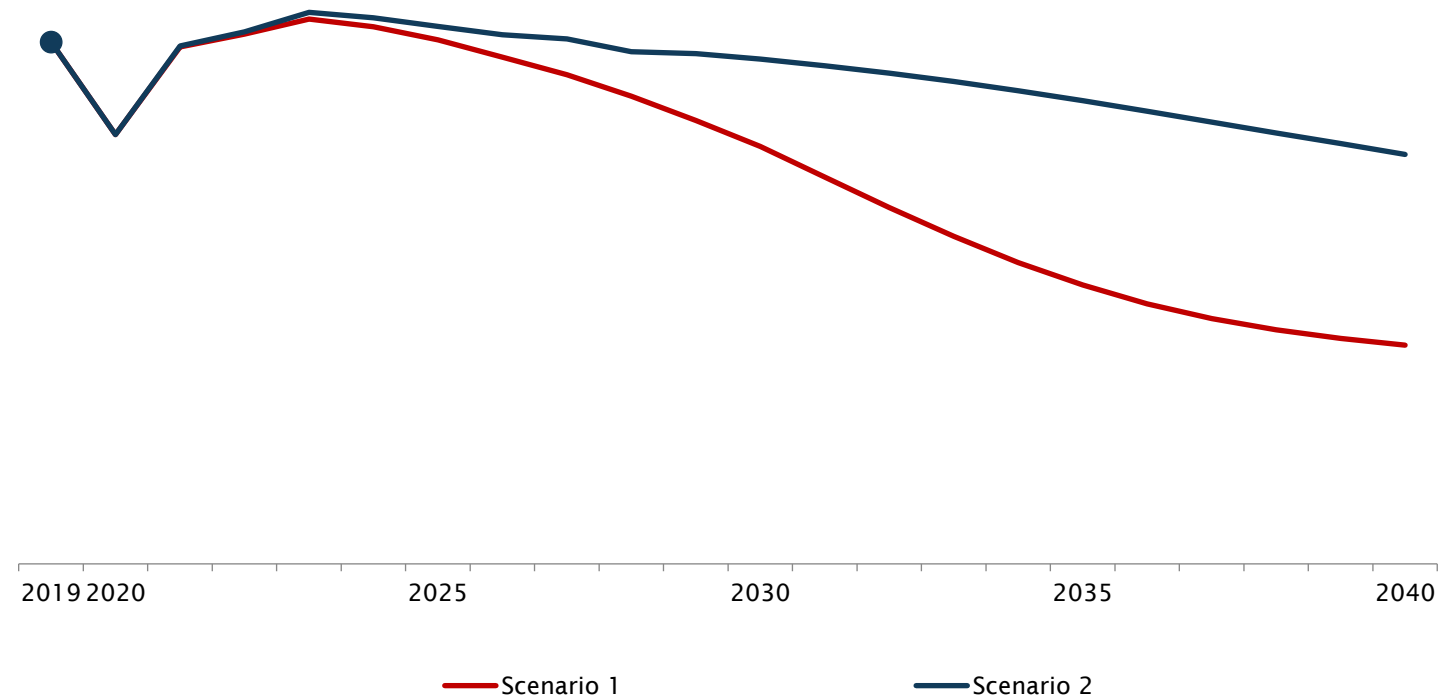
QUANTITATIVE IMPACT

- Elimination of engine oils consumption in BEV and FCV.
- In parallel, the market is witnessing the emergence of EV fluid, offsetting the loss on the PCMO market space.

QUALITATIVE IMPACT

- Accelerated quality shifts toward ultra-low synthetic viscosity grades and premium lubricants products.

PCMO DEMAND TREND LINE SCENARIOS FOR EUROPE, 2019-2040





This sustainability agenda suggests three themes for the role that lubricants and basestocks will play.



Reducing the carbon footprint of finished lubricants (cleaning up lubes to help end-use industries)

- Emerging standards: ISO 14068.
- New product positioning options:

GOOD	BETTER	BEST
Fuel economy	Good + Low carbon footprint	Good + Zero carbon footprint



Enhancing lubrication practices to reduce carbon footprints

- Fuel economy and extended drain intervals have long been used by lubricants marketers to promote products
- Now use of AI and digital technology to optimize maintenance practices, thus reduce lube use



Developing lubricants for emerging low-carbon technologies

Key Takeaways



On-going monitoring of the sustainability agenda is needed.



Government policy will set the range of options available for de-carbonization.



In the short term as commitments are publicized and feedback received there will be changes in targets, but these should reduce with time.



Lubricants and lubricant basestocks have three roles (themes) to play in the road to decarbonization.



Kline is a worldwide consulting and research firm dedicated to providing the kind of insight and knowledge that helps companies find a clear path to success. The firm has served the management consulting and market research needs of organizations in the agrochemicals, chemicals, materials, energy, life sciences, and consumer products industries for over 60 years.

For more information, visit www.KlineGroup.com.

GLOBAL HEADQUARTERS

35 Waterview Blvd.
Parsippany, NJ 07054
Phone: +1-973-435-6262
Fax: +1-973-435-6291

CONTACT US

GLOBAL HEADQUARTERS
E-mail: CustomerCare@KlineGroup.com
Phone: +1-973-435-6262
Fax: +1-973-435-6291

