



## Vehicle Electrification: Impact on the Refining Sector

### Background

The emergence and rapid growth of electrically-powered road vehicles has become a key issue for consideration when assessing the outlook for refined products demand. While overall numbers remain negligible at the global scale, vehicle fleet electrification has gained significant momentum in recent years, supported by regulatory incentives, changing consumer perception and an apparent decision by much of the auto manufacturing industry to throw its weight behind the development of affordable electric models in large numbers.

Depending on the outcome of these key trends, electric vehicles have the potential to displace significant volumes of gasoline and diesel, raising the possibility of disruption to refined product markets that have grown accustomed to a close correlation between economic growth, increasing vehicle ownership and increased consumption.

At this early stage of development, forecasts of the extent to which EVs will play a role in future transport fleets vary widely, thanks to a complex set of interdependent market drivers, each of which is subject to considerable uncertainty. This report seeks to analyse the potential impact on refined product demand of a range of scenarios for future EV growth.

### Objectives

This report will address the:

- Development of the Electric Vehicle (EV) fleet to date, globally, by region and key market, and by vehicle type
- Primary factors driving future growth in EV markets, and how these will interact in the coming decades
- Assumptions underlying Nexant's three key EV market growth scenarios
- Level of gasoline and diesel consumption that will be displaced by EVs under each of Nexant's scenarios
- Implications of the different EV growth scenarios on the petroleum refining industry, in the context of concurrent structural threats, including tightening bunker fuel specifications, peaking diesel demand, and vehicle efficiency improvements
- Identify markets most likely to see refiners challenged by EV growth and other structural threats.
- Potential variations in EV growth by vehicle type, and differing implications for refined product consumption trends

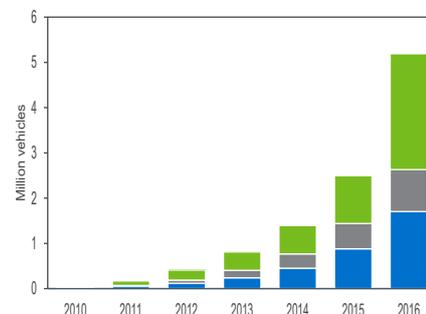
### Report Scope

This report will focus on the impact of the growing use of Electric Vehicles in different regions on the consumption of conventional transport fuels, namely gasoline and diesel.

### Abstract

Recent years have seen a major increase in the number of Electric Vehicles of all types in use in key transport fuel markets around the world. From a very low level in 2010, the number of Battery and Plug-In Hybrid Electric Vehicles (BEVs and PHEVs) rose to exceed two million by end-2016. Estimated growth in 2017 was even more rapid, bringing the total number of BEVs and PHEVs on the roads to over six million units. In addition, over four million Low Speed EVs, as well as over 200 million electric two-wheeled vehicles are in use in China.

Electric Passenger Cars by Type





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