



Electric Mobility: Opportunities and Challenges in the Clean Fuel Industry

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INTRODUCTION

Scope

Key findings (1)

Key findings (2)

Global electric vehicle sales forecast to expand 10-fold over the next two decades

Asia and Europe to drive electric vehicle market growth

Emerging markets to witness fastest electric vehicle market growth

Europe is forecast to have the largest market share of electric vehicles

Higher EV registrations in more affluent markets, but more affordable EVs appearing

Challenges of EV adoption

Opportunities: Various incentives and perks are offered to make the EV transition

Automakers are shifting their focus towards EV production

Case study: GM commits to USD27 billion investment in E-mobility

Case study: Volkswagen plans for 50% of its vehicles sales to be electric by 2030

Case study: Stellantis plans USD35.5 billion investment in electrification

China is the global leader in EV charging

Charging station numbers surge in part thanks to available subsidies and tax rebates

Opportunities can be found in markets with too few charging stations

Most charging occurs privately but public charging to show the largest growth potential

EV charging is a big business that caters to a broad range of industry specialists

EV charging industry is fostering new strategic partnerships and M&A

Case study: Carrefour partners with Meridiam to deliver EV charging at its hypermarkets

Case study: Motor Fuel Group to partner with Swarco in rolling out charging stations

Oil and gas companies and energy firms pushing ahead charging infrastructure roll-out

Case study: Shell to build half a million EV charging points by 2025

Case study: BP focuses on delivering rapid EV charging systems

Case study: Enel seeks ambitious target of 736,000 EV charging points by 2022

EV charging stations will require large electricity demand from sustainable sources

EV industry hampered by low profitability, but future prospects are high

Different chargers are suitable for different locations

Wireless charging can solve charging adaptor challenges

Case study: WiTricity working to develop wireless charging

Developing a successful strategy for companies in the EV charging business is vital

Summing up: Opportunities and challenges of the EV charging industry

Asian countries continue to dominate battery production

Price parity with internal combustion engine vehicles to be reached by 2025

As industry matures, manufacturers eye new technologies to reduce prices

Case study: Tesla promises "tabless" battery design

Case study: Volkswagen and QuantumScape rush to develop solid-state battery

Case study: CATL develops sodium-ion battery

Europe to offer new growth opportunities for battery producers and suppliers

European Battery Alliance aims to catch up with Asian battery manufacturers

OEM manufacturers aim for in-house battery production

Battery production to support metals, chemicals and hi-tech good industries

Securing stable supply of metals remains an issue

Concerns over ethical mining and sustainability increase

Case study: Volvo to use blockchain technology to track metal origins

Battery production localisation is needed to reduce environmental impact

Battery recycling could create new value for economies

Case study: Volkswagen battery recycling plant

Case study: Volkswagen changes selling model to secure old battery supply

Summing up: Opportunities and challenges for the battery industry

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