



Research Report

EXECUTIVE SUMMARY:

Electric Two-Wheel Vehicles

Electric Bicycles, Mopeds, Scooters, and Motorcycles:
Market Analysis and Forecasts

NOTE: This document is a free excerpt of a larger research report. If you are interested in purchasing the full report, please contact Pike Research at sales@pikeresearch.com.

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Section 1

EXECUTIVE SUMMARY

Electric two-wheel vehicles come in a variety of forms with electric bicycles (e-bikes), scooters (e-scooters), and motorcycles (e-motorcycles) being the most common. Most countries define e-bikes as vehicles that have pedals and can be human-powered as well as powered by a low-powered motor with limited speed capabilities. China, however, does not require e-bikes to have pedals, but limits them simply to 20 kph (12 mph). The classification of e-bikes, e-scooters, and e-motorcycles varies substantially across the globe.

The demographics of those using e-bikes align with key socioeconomic, demographic, and behavioral trends in their respective countries. In North America, consumers tend to be baby-boomers (age 45 to 65) and affluent. The vehicles are more of a lifestyle or style choice, rather than fulfilling a missing transportation need. In many Middle Eastern, African and Latin American countries, the consumers tend to be working and young. The United Nations forecasts substantial growth in these markets within populations aged 15 to 64.

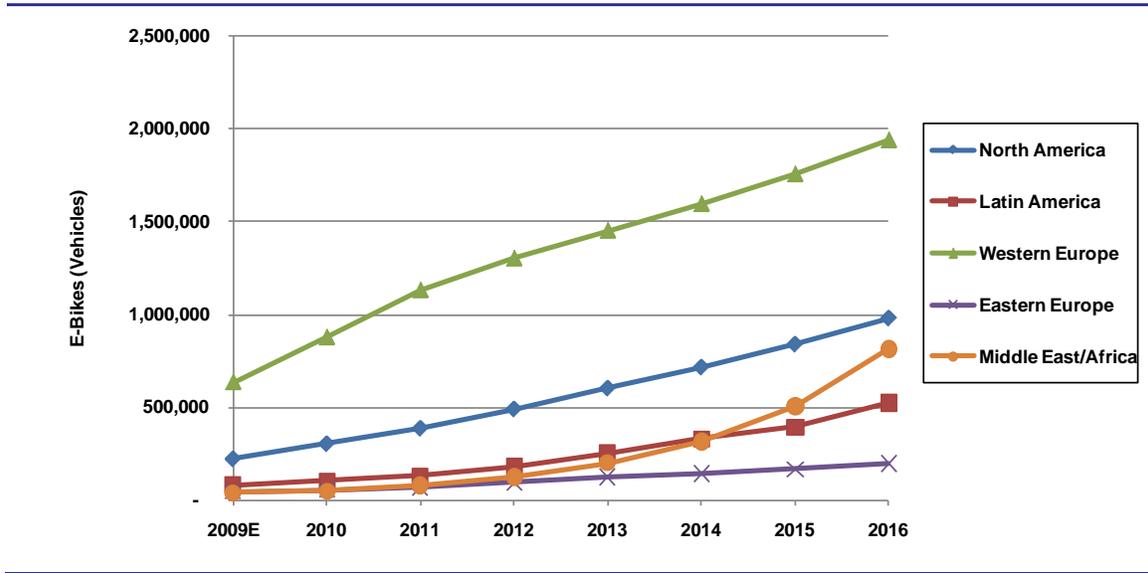
Other trends contributing to the adoption of electric two-wheel vehicles include the growth of e-bikes as a fitness tool in North America and Europe. In Asia, the Middle East, Africa, and Latin America, increased urbanization and growing wealth contribute to the need for (and ability to purchase) reliable transportation. Additionally, people increasingly accept electric two-wheel vehicles as capable forms of transportation, particularly in densely populated urban areas. Since the cost of ownership of an e-motorcycle or e-scooter remains low enough to see payback on the vehicle within a year or two of purchase, the market is likely to remain strong in markets with high economic growth rates.

One of the most important barriers to the market for electric two-wheel vehicles is the lack of an established distribution channel for the vehicles. Many manufacturers are trying to find a combination of independent dealers, mass retailers, and online sales that will effectively deliver the vehicles and after-sales service to customers. Most manufacturers acknowledge this as one of the most difficult aspects of the electric two-wheel marketplace.

Pike Research anticipates that the global market for such vehicles is poised for strong growth in the coming years. China is currently the largest marketplace for electric two-wheel vehicles, commanding 98% of the global market in 2009. China's compound annual growth rate (CAGR) of 8.2% between 2009 and 2016 will contribute to Asia-Pacific's sales of 78.6 million electric two-wheel vehicles in 2016 (with a CAGR of 8.9% for the region overall). Outside Asia, Pike Research forecasts Western Europe as having the largest market for electric two-wheel vehicles with 1.941 million vehicles for a CAGR of 17.3% between 2009 and 2016.

In the e-bike market, the Western European region will garner a disproportionate share of revenue (\$2.4 billion in 2016), relative to unit sales. Western Europe will account for 3.4% of the global e-bike marketplace by 2016, generating 12% of the revenue from the global market. A similar, albeit smaller scale, market dynamic will exist in North America by 2016, when North America's share of global sales will be 1.9%, which will represent 5.6% of the global revenue (\$1.2 billion in e-bike revenue in 2016). Overall, Pike Research sees a strong opportunity for growth in the electric two-wheel vehicle market.

Chart 1.1 Annual Electric Two-Wheel Vehicle Sales, World Markets Excluding Asia-Pacific: 2009-2016



(Source: Pike Research)

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SCOPE OF STUDY

This Pike Research report provides participants at all levels of the two-wheel electric vehicle market including vehicle manufacturers, suppliers, trade associations, and battery providers with a study of the market for two-wheel electric vehicles. The major objective is to determine the state of the industry and the future demand for two-wheel electric vehicles in the overall consumer market. In addition, this report provides a review of major demand drivers as well as key industry players within the competitive landscape.

The report's purpose is not to present an exhaustive technical assessment of the vehicles and technologies covered. Rather, it aims to provide a strategic examination from an overall tactical business perspective. Pike Research strives to identify and examine new market segments to aid readers in the development of their business models. All major global regions are included and the forecast period extends through 2016.

SOURCES AND METHODOLOGY

Pike Research's industry analysts utilize a variety of research sources in preparing Research Reports. The key component of Pike Research's analysis is primary research gained from phone and in-person interviews with industry leaders, including executives, engineers, and marketing professionals. Analysts are diligent in ensuring that they speak with representatives from every part of the value chain, including but not limited to, technology companies, utilities and other service providers, industry associations, government agencies, and the investment community.

Additional analysis includes secondary research conducted by Pike Research's analysts and the firm's staff of research assistants. Where applicable, all secondary research sources are appropriately cited within this report.

These primary and secondary research sources, combined with the analyst's industry expertise, are synthesized into the qualitative and quantitative analysis presented in Pike Research's reports. Great care is taken in making sure that all analysis is well-supported by facts, but where the facts are unknown and assumptions must be made, analysts document their assumptions and are prepared to explain their methodology, both within the body of a report and in direct conversations with clients.

Pike Research is an independent market research firm whose goal is to present an objective, unbiased view of market opportunities within its coverage areas. The firm is not beholden to any special interests and is thus able to offer clear, actionable advice to help clients succeed in the industry, unfettered by technology hype, political agendas, or emotional factors that are inherent in cleantech markets.

NOTES

CAGR refers to compound average annual growth rate, using the formula:

$$\text{CAGR} = (\text{End Year Value} \div \text{Start Year Value})^{(1/\text{steps})} - 1.$$

CAGRs presented in the tables are for the entire timeframe in the title. Where data for fewer years are given, the CAGR is for the range presented. Where relevant, CAGRs for shorter timeframes may be given as well.

Figures are based on the best estimates available at the time of calculation. Annual revenues, shipments, and sales are based on end-of-year figures unless otherwise noted. All values are expressed in year 2010 U.S. dollars unless otherwise noted. Percentages may not add up to 100 due to rounding.

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