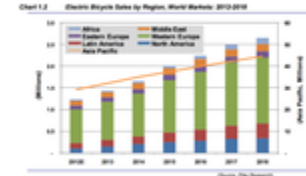


Pike Research forecasts annual sales of electric bicycles to surpass 47M units by 2018; Li-ion battery share to climb to 12%

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Pike Research forecasts that the worldwide market for e-bicycles will grow at a compound annual growth rate (CAGR) of 7.4% between 2012 and 2018, resulting in global sales of 47.6 million vehicles in 2018, up from more than 30 million units in 2012. Under a more aggressive forecast scenario, worldwide e-bicycle sales could reach 51 million units and \$13.2 billion revenue in 2018, Pike suggests.



Electric bicycle sales by region, world markets: 2012-2018. Source: Pike Research. [Click to enlarge.](#)

Pike expects China to account for 42.4 million of these e-bicycles that year, giving it 89% of the total world market. Western Europe follows in second place with 1.5 million e-bicycles sold in 2018 and a CAGR of 11.8%. The North American market will be comparatively small with e-bicycle sales of 105,682 in 2012, growing to 342,526 units in 2018. By 2018, North American e-bicycle sales are expected to near their peak, according to Pike.

E-bicycle sales volumes are being driven by macroeconomic trends such as the growth of urbanization and the increasing need for low-cost transportation in developing markets. Additionally, Pike notes, the e-bicycle market is very broad, with a number of manufacturers offering different styles including throttle-controlled drive trains (twist-and-go, no pedaling); pedal-assist electric bicycles (pedelecs); and scooter-style electric bicycles (SSEBs).

SSEBs are all throttle-controlled designs and are the most popular e-bicycles in Asia Pacific. For the most part, e-bicycles are defined by their top speed (<20 mph/32 km/h in North America and <15.5 mph/25 km/h in other regions) and operating pedals; in Western Europe, the bicycles must be pedelecs. In general, the pedelec design has not done well in markets where consumers have a choice between throttle-controlled and pedelec e-bicycles, Pike says.

The vast majority of the e-bicycles sold in China, the world's largest market, utilize sealed lead acid (SLA) batteries. By utilizing SLA batteries, the cost of e-bicycles in China averages about \$167 (compared to \$815 in North America and \$1,546 in Western Europe). However, lead poisoning has become a serious public health concern, resulting in crackdowns on SLA manufacturing facilities that closed almost 90% of battery manufacturing and recycling facilities in late 2011. (Many of these are expected to reopen

quickly, Pike notes.) In 2011, China consumed approximately 41% of the world's lead.

Pike Research anticipates that the global penetration of lithium ion (Li-ion) batteries will grow from 6% in 2012 to 12% in 2018. Cost pressures from Asia Pacific will keep manufacturers interested in SLA batteries through this decade, but once manufacturing efficiencies have driven down the costs of Li-ion, the market will start to see the decline of SLA as the battery of choice in e-bicycles.

In 2012, Western Europe has the largest concentration of e-bicycles with Li-ion batteries (65%), compared to 56% in North America and 4% in Asia Pacific