4.7 million EV charging units expected by 2015

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The first affordable mass-produced electric vehicles will hit the streets of America later this year. Once the Nissan Leaf begins to make its way from dealerships to consumers, the electric vehicle charging revolution will begin. A new report by Pike Research reveals that there will be an estimated 4.7 million EV charging units in operation worldwide by 2015.

Of these 4.7 million units, about 1 million will be located here in the United States and the remainder elsewhere around the world. One primary difference between the national and international markets is location. The majority of charging stations in the United States will be located at individual residences. Americans are expected to prefer the convenience of charging their vehicles at home.

The Pike Research report indicates that about two-thirds of EV charging equipment sales will be in the residential sector. At this time, there is no clear financial benefit for retail outfits to purchase an EV charging station. In order to recoup their investment, retailers will need to charge a usage fee. However, it will typically cost consumers less than $2 to fully charge a vehicle at home. With most trips falling within the initial 100-mile range of an EV like the Nissan Leaf, there is little incentive for commercial entities to invest in charging equipment.

In contrast, charging stations in Europe, Asia and other regions will be primarily found in public locations because there will be less access to convenient and easy-to-use residential charging systems.

Not surprisingly, the report predicts that countries in the Asia Pacific region, including China, Japan, and Korea, will be the largest electric vehicle market in the world. Naturally, the region will also be the largest EV charging market in the world. These three countries have pledged to invest in building the charging infrastructure in the region as well as to provide consumer incentives for the purchase of electric vehicles.

The potential influx of electric vehicles on the road in China is not without controversy, however. A new study suggests that an increase in electric vehicles manufactured at facilities powered by coal is more harmful to the environment than keeping the same amount of gasoline-powered vehicles on the road.

In the study, Environmental Implication of Electric Vehicles in China, researchers report that hybrid electric vehicles would be a better choice than all-electric vehicles in some regions of China, including the cities of Beijing and Shanghai. These two cities are in regions that receive the vast majority of their electricity from coal-powered facilities.

Overall, the study reveals, "EVs do represent a very promising solution to energy issues due to their solid merits in substituting for petroleum fuels. But for now the high pollution levels of coal-fired power plants will trade off EVs' potential energy benefits in China."

While this study suggests that EVs may not be the best long-term solution to reducing carbon dioxide emissions worldwide, one thing is certain -- electric vehicles are coming soon to a neighborhood near you. With the increase in EVs comes an increase in charging stations, to the tune of 4.7 million units installed worldwide over the next five years.