

글로벌 전기 자동차 시장 전망 2030: 차량(승용차 및 상용차), 차량 등급(중급 및 고급), 추진(BEV, PHEV 및 FCEV), 차량 판매(OEM/모델), 충전소(보통 및 슈퍼), 지역별 분석

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개요

전기 자동차 시장은 2019년 기준 300만 대에서 2030년 2700만 대 규모로 연 평균 21.1%의 성장 이 전망된다.

전 세계 여러 국가 정부의 전기 자동차 도입 확대를 위한 투자 촉진으로 OEM이 수입원과 지역 적 존재감을 확장할 수 있는 기회를 창출했다. 유럽 시장은 지속적인 성장이 예상되며 이는 발전 된 전기 자동차 인프라에 기인한다. 아시아 태평양 시장은 주요 전기 자동차 생산 OEM의 존재로 가장 빠른 성장을 보일 전망이다. 하지만, 높은 원가와 충전소 표준화 부족은 글로벌 전기 자동차 시장 성장을 저해할 요소로 평가된다.

Attractive Opportunities in the Electric Vehicle Market CAGR 21.1% The electric vehicle market is estimated to grow from 3 million units in 2019 to 27 million units by 2027 · The encouraging incentives for electric vehicles and huge investments by companies are expected to fuel the electric vehicle market growth Developing electric infrastructure, rising emission concerns, 3 Million 27 Million and government support are likely to propel the overall Units Units market 2019-е 2027-p

시장 역학

호의적인 정부 정책과 보조금

많은 나라의 정부는 전기 자동차 수요 증진이라는 결과를 낳은 엄격한 이산화탄소 배출 규범을 유지하고 있다. 또한 전기 자동차 판매를 권장하기 위한 인센티브와 보조금을 제공한다. 중국 정 부는 전기 자동차 구매에 최대 3700 달러에 달하는 보조금을 제공한다. 이러한 정부의 장려책은



자동차 제조사가 전기 자동차 개발에 힘을 쏟을 이유가 된다.

몇몇 정부는 낮은 등록비 혹은 등록비 무료와 더불어, 관세, 구매세, 자동차세 등을 면제해주는 정책을 시행 중이다. 보조금 지원 이외에도 정부는 충전소 발전을 위한 여러 호의적인 정책을 추진 중이다. 미 정부는 최근 50억 달러를 투자해 전기 자동차 인프라 확장에 열을 올리고 있다. 미국 내 신규 전기 자동차 구매자에게는 2,500에서 7,500 달러에 달하는 연방 국세청의 세액 공제를 제공한다. 세액공제액은 자동차 크기와 배터리 용량에 따라 결정된다. 비슷한 트렌드는 유럽국가에서도 확인할 수 있다. 노르웨이나 독일과 같은 국가는 전기 자동차 판매 증진을 위해 많은투자 중이다. 많은 장려책과 보조금으로 인해 유럽에서는 높은 전기 자동차 성장률을 확인할 수 있다.

2016년 7월, 미 정부는 교통부와 에너지부의 파트너십을 통해 '국내 고속 충전 네트워크를 위한 비전 2020'을 발표했다. 이 프로젝트는 미국 지상 교통 개선법의 일부분으로, 충전소를 위한 최적의 장소와 충전 비용, 공공 인프라 비용 등을 결정한다. 추가로 2017년 9월에는 독일 연방 교통및 디지털 인프라 부서가 전기 자동차 고속 충전소 제공자인 B.V. 발전 가속화를 위한 490만 달러의 자금을 승인했다. 이는 독일 내 최신 고성능 충전기를 보유한 25개의 고속 충전소 발전을위한 자금으로, 20분 이내의 충전으로 최대 250km의 주행이 가능한 시설이다. 2019년 3월, 노르웨이 교통국(OFV)에 따르면 신규 등록된 자동차 중 전기 자동차의 점유율은 58.4%로, 전기 자동차 역사상 가장 높은 기록을 보였다.

충전 인프라 표준화 부족

충전 인프라 표준화를 위한 전 세계적으로 공유되는 비전은 중요하다. 정보 처리 상호 운용을 통한 충전 인프라 개선을 위한 노력은 운전자와 충전 네트워크 운영자 모두에서 있어 왔다. 전기자동차 운전자의 경우, 정보 처리 상호 운용이란 운전자가 어느 충전소에서나 하나의 신원 확인이나 결제 방법만 있으면 충전이 가능하다는 것을 의미하는데, 이는 모든 충전소가 자동차와 동일하게 통신한다는 것을 의미한다. 전기 자동차 시장 성장이나 충전 부하의 변화 등의 요인은 충전 표준화에 대한 필요성을 강조한다. 특정 전기 자동차 충전소는 특정 유형의 전압에서만 호환된다. 예를 들어, AC 충전소는 1단계에서는 120 VAC의 전압을, 2단계 충전소에서는 208/240 VAC를 지원한다. 이와 별개로, DC 충전소는 480 VAC를 통해 고속 충전을 지원한다.

표준화의 부족은 전기 차 시장 성장을 저해하는 주요 제약 중 하나로 꼽힌다. 정부는 호의적인 생태계 발전과 전기 자동차 판매 상승을 위해 충전 인프라를 표준화할 필요가 있다. 전기 자동차 충전 인프라의 걸림돌이 되는 두 가지 요소는 충전기 종류와 충전기가 사용되는 위치이다. 여러 국가는 각기 다른 고유의 고속 충전 표준을 가지고 있다. 일본은 CHAdeMO를, 유럽, 미국, 대한 민국은 CCS를, 중국은 GB/T를 표준으로 사용한다. 추가로, 미국을 기반으로 하는 전기 자동차 제조사인 Tesla는 Tesla 모델에서만 사용이 가능한 자체 고성능 슈퍼 충전기를 사용한다. 이렇듯 범국가적 표준화의 부재는 충전소 설치에 영향을 주고 궁극적으로는 전기 자동차 시장 성장을 저해한다.



신 재생 에너지를 사용하는 전기 자동차 충전소

전기 자동차는 전기 충전소 혹은 태양 전지판을 통해 충전할 수 있다. 신 재생 에너지를 이용한 전기 자동차 충전소는 전기 자동차 충전 시장에 있어 주요 기회 중 하나로 여겨진다. 태양 전지판의 낮은 가격과 손쉬운 설치로 태양광 충전소는 주책 소유자나 상업 건물에 이상적이다. 이러한 충전소는 주거용 건물, 쇼핑몰, 극장가, 컨벤션 센터, 공원, 기타 시설 등에 설치하기 적합하다. 10개의 태양 전지판은 대략 연간 21,000km의 거리를 운전할 수 있는 양의 에너지를 생산한다. 급속 성장하고 있는 태양 전지판 혁신과 디자인으로, 여러 회사들은 화석 연료의 의존도를 낮추기 위한 태양광 충전소 개발에 착수했다.

전기 자동차의 제한적인 사용 범위

많은 전기 자동차주들은 단일 충전으로 갈 수 있는 범위나 거리에 대해 걱정한다. 전기 자동차의 주행 범위는 내부 연소 엔진 차량보다 짧다. 많은 전기 자동차는 배터리의 낮은 에너지 밀도로 인해 1회 충전으로 대략 11 마일에서 21 마일의 거리를 주행할 수 있다. 전기 자동차의 1회 충전 최대 주행 거리는 Tesla Model S의 370 마일이다. 사용자들은 장거리 주행 시 특히 중단 없이 많은 거리를 주행하는 것을 선호하는데, 장거리 전기 자동차의 가격은 높은 편이다. 이러한 요인은 전기 자동차 시장 성장에 제약이 될 수 있다. 하우징 및 컨텍트를 위한 공간 감소를 통해 더 많은 배터리를 수용해 점차 600마일까지의 주행을 위한 많은 연구 개발 활동이 이뤄지고 있다.

가장 높은 성장률이 예상되는 중간 가격 시장

중간 가격 시장은 전기 자동차 시장 중 가장 빠른 성장이 기대된다. 아시아 태평양 지역의 중국은 중간 가격 자동차 시장의 선두 국가 중 하나이다. BYD, Smart, Great Wall Motors 등의 회사들은 비교적 덜 비싼 자동차를 생산한다. 2018년 7월 Great Wall Motors는 BMW Group과의 파트너십을 통해 전기 MINI 자동차를 중국 내에서 생산할 것을 발표했다. 2018년 12월에는 신규 자동차 브랜드인 'ORA' 산하의 플래그십 자동차인 ORA R1을 출시했다. 또한 Hyundai, General Motors, Honda, Nissan 등의 인정받는 자동차 회사들도 중간 가격의 전기 자동차 제조를 통해 더 큰 시장점유율을 얻고자 한다.

가장 높은 성장률이 예상되는 수소연료전지차

수소연료전지차는 더 나은 연료 경제를 가지고 있으며 최대 300-400 마일을 주행할 수 있다. 연료 전지로 운행하는 이 자동차는 충전에 3에서 5분 정도가 소요된다. 이는 한정적 혹은 고정된 노선을 주행하는 교통 수단에 적합하다. 그러나, 수소 충전소, 수소 제조 시설, 연료 전지 기술 지원 등의 인프라 유효성은 전세계적으로 미흡한 편인데, 이는 연료 전지 스택 및 시스템의 상당한 경비 때문이다. 그러나 일본이나 대한민국과 같은 국가들은 수소연료전지차 개발에 투자하고 있다. 그 예로, 일본은 2030년까지 900 여 개의 수소 충전소 설립과 800,000 대의 연료 전지 차량을 목적으로 하고 있다. 대한민국은 지식경제부 아래 연료 전지 촉진을 위해 일본과 유사한 노력을 기울이고 있다.



아시아 태평양 전기 자동차 시장은 전망 기간 내 가장 빠른 성장 전망

아시아 태평양 시장은 가장 빠른 성장을 보이고 있으며, 그 뒤를 유럽과 북미 시장이 따르고 있다. 이 지역은 BYD, BAIC, SAIC, Geely 등 여러 전기 자동차 제조 OEM 제조사의 존재로 강한 입지를 구축하고 있다. 게다가 아시아 태평양 지역은 높은 기술 도입률을 자랑한다. 이산화탄소 배출 감소를 향한 수요 증가와 선진 고속 충전소 발전은 전기 자동차 시장 성장을 촉진할 것으로 예상된다.

27 2017 2018 2019-e 2022-p 2025-p 2028-p 2030-p Asia Pacific Europe North America

ELECTRIC VEHICLE MARKET, BY REGION (MILLION UNITS)

e-estimated; p-projected

Source: Secondary Research, Expert Interviews, Company Presentations, and MarketsandMarkets Analysis

주요 시장 회사

글로벌 전기 자동차 시장은 Tesla(미국), BYD(중국), BMW(독일), Volkswagen(독일), Nissan(일본) 등의 주요 회사들이 지배하고 있다. 이러한 회사들은 튼튼한 유통 네트워크를 국제적 수준으로 구축하고 있다. 추가로, 이들은 다양한 범위의 전기 자동차 제품을 판매하며, 신규 제품 개발, 협업,계약 및 협의 등의 전략을 통해 입지를 구축하고 있다.

범위

항목	상세
전기 자동차 시장 규모 연도	2017–2030
기준 연도	2018
전망 기간	2019–2030
전망 단위	자동차 대수
세부 시장	차량 유형, 추진 유형, 차량 등급, 부
	품, 충전소 유형
연구 지역	북미, 아시아 태평양, 유럽

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포함 회사	Tesla (미국), BYD (중국), BMW (독일),
	Volkswagen (독일), Nissan (일본).
	총 24개의 주요 회사 포함

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□ 보고서 문의





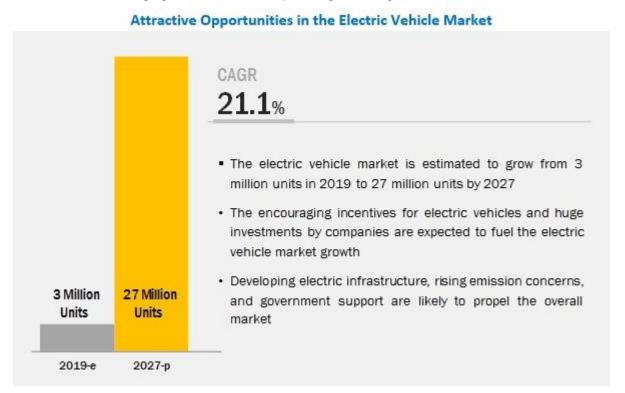
Electric Vehicle Market by Vehicle (Passenger Cars & Commercial Vehicles), Vehicle Class (Mid-priced & Luxury), Propulsion (BEV, PHEV & FCEV), EV Sales (OEMs/Models) Charging Station (Normal & Super) & Region - Global Forecast to 2030

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Summary

The **electric vehicle market** is projected to reach 27 million units by 2030 from an estimated 3 million units in 2019, at a CAGR of 21.1%.

Encouraging investments made by governments across the globe to increase the adoption of electric vehicles, creating opportunities for OEMs to expand their revenue stream and geographical presence. The European market is projected to experience steady growth, owing to a well-developed infrastructure for electric vehicles, while the Asia Pacific market is the fastest due to the strong presence of major electric vehicle manufacturing OEMs. However, the initial high costs and lack of standardization of charging stations could hamper the growth of global electric vehicle market.



Market Dynamics

Favorable government policies and subsidies

The governments of various countries have formulated stringent CO2 emission norms that have increased the demand for electric vehicles. Also, the governments are providing incentives and subsidies to encourage EV sales. The Chinese government will provide revised incentives of up to USD 3,700 for BEVs. These incentives from governments have also encouraged automakers to



develop an increasing number of electric vehicles.

Several governments are providing various kinds of incentives such as low or zero registration fee and exemption in import tax, purchase tax, and road tax. Apart from providing subsidies, governments are also making favorable policies for the development of charging infrastructure. The US government recently invested USD 5 billion for promoting electric infrastructure. The federal Internal Revenue Service (IRS) tax credit is USD 2,500 to USD 7,500 per new EV purchased for use in the US. The size of the tax credit depends on the size of the vehicle and its battery capacity. A similar trend can be observed in European countries. Countries such as Norway and Germany are investing heavily in promoting EV sales. Thus, owing to the high amount of incentives and subsidies in Europe, a high growth rate in electric vehicle sales can be observed.

In July 2016, the US government announced a partnership between the Department of Transportation (DOT) and the Department of Energy (DOE) for "a 2020 vision for a national fast charging network." The project is a part of the Fixing America's Surface Transportation (FAST) Act. The partnership will determine the best locations for charging stations and the cost of charging and utility infrastructure. Furthermore, in September 2017, the German Federal Ministry of Transport and Digital Infrastructure granted a fund of USD 4.9 million to Fastned B.V., an EV fast-charging station provider. This fund was given to develop 25 fast charging stations in Germany equipped with the latest high-powered chargers, which can help cover a distance up to 250 km within 20 minutes of charging. In March 2019, Norway created the best EV record in history as BEV market share touched 58.4% according to statistics for new cars registered from the Norwegian Road Federation (OFV).

Lack of standardization of charging infrastructure

For standardization of charging infrastructure, a globally shared vision is significant. There have been several efforts to improve the user experience of charging infrastructure by promoting interoperability, both for drivers and charging network operators. For EV drivers, interoperability means that drivers can charge at any station with a single identification or payment method and that all charging stations can communicate equally with vehicles. Factors such as the growth of the electric vehicle market and variation in charging loads have accentuated the need for standardization of EV charging. Certain EV charging stations may only be compatible with a certain type of voltage. For instance, AC charging stations provide a voltage of 120 VAC through level 1 charging stations and 208/240 VAC through level 2 charging stations. On the other hand, DC charging stations provide fast charging through 480 VAC.

Lack of standardisation in charging infrastructure has been a major restraint in development for the electric vehicle market. Governments need to standardize charging infrastructure for the development of a favourable ecosystem and increasing sales of EVs. The two significant aspects that cause challenges to EV charging infrastructure is the type of chargers and the location where the chargers are implemented. Different countries use their own standard for fast charging. Japan uses CHAdeMO; Europe, the US, and Korea use CCS; and China uses GB/T. Further, US-based electric car maker Tesla uses its own high-performance superchargers that are exclusive to Tesla models and cannot be used for other EVs. The lack of standardization across countries may impact the installation of charging stations, ultimately slowing down the growth of the electric vehicle market.



EV charging stations powered by renewable energy

EVs can be charged at an electric charging station or using a solar panel. The use of renewable energy to power EV charging stations is one of the key opportunities for players in the electric vehicle charging market. Due to the lower price and easier installation of solar panels, solar powered charging stations have become ideal for homeowners or commercial buildings. These charging stations can be installed at residential buildings, shopping malls, theatre complexes, convention centres, parks, and other facilities. 10 solar panels can provide the electricity required to power an electric vehicle that can drive approximately 21,000 km each year. Due to the rapidly advancing solar panel innovations and designs, companies have started developing solar powered charging stations to reduce the dependency on fossil fuels.

Limited range of EVs

Many electric vehicle owners are concerned about the range or distance covered in a single charge of EVs. The driving range of EVs is shorter than that of ICE vehicles. Many EVs cover a distance between 11 miles and 21 miles because of the low energy density of batteries. The maximum coverage of an EV is 370 miles (Tesla Model S). Users usually prefer covering a long distance without any interruption, especially for long trips, and a long-range EV comes at a high price. This factor could inhibit the growth of the electric vehicle market. Various R&D efforts are being taken to reduce the space required for housing and contacts so that more batteries can be accommodated and the car range can be increased substantially to about 600 miles.

The mid-priced segment is expected to grow at the highest CAGR

The mid-priced segment is expected to be the fastest growing electric vehicle market. In the Asia Pacific region, China is one of the leading countries for mid-priced vehicles. Companies such as BYD, Smart, and Great Wall Motors are manufacturing comparatively less expensive automobiles. In July 2018, Great Wall Motors announced a partnership with BMW Group to produce electric MINI vehicles in China. In December 2018, the company launched its new flagship vehicle under its new 'ORA' electric car brand: the ORA R1. The small urban car will cost only USD 8,680, post incentives, with a range of almost 200 miles. Also, established automotive manufacturers such as Hyundai, General Motors, Honda, and Nissan are manufacturing mid-priced EVs to acquire a greater market share.

FCEV segment is expected to grow at the highest CAGR

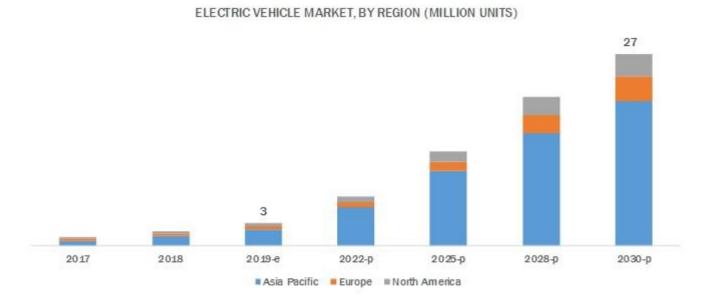
FCEVs have better fuel economy and can travel around 300-400 miles with a full fuel tank. The refueling time for fuel cell powered vehicles is about 3 to 5 minutes. This makes FCEVs an ideal option for transportation on definite or fixed routes. However, the availability of infrastructure such as hydrogen refueling stations, hydrogen production facilities, and supporting fuel cell technology is minimal worldwide due to the substantial cost of fuel cell stack and system. However, countries like Japan and South Korea are investing in the development of FCEVs. For instance, Japan is aiming to set up 900 hydrogen refueling stations and 800,000 fuel cell cars by 2030. In South Korea, the Ministry of Knowledge Economy is also making similar efforts to promote fuel cells in the country.

Asia Pacific electric vehicle market is expected to register the fastest growth during the forecast period

The Asia Pacific market is expected to witness the fastest growth, followed by Europe and North Copyright © 2008-2018 SBD Information Co., Ltd. All rights reserved.



America. This region has a strong presence of EV manufacturing OEMs such as BYD, BAIC, SAIC, and Geely, among others. Moreover, the region has high technology adoption rate. The increasing demand for reducing carbon emission and developing more advanced and fast charging stations are expected to propel the electric vehicle market growth.



e-estimated; p-projected

Source: Secondary Research, Expert Interviews, Company Presentations, and MarketsandMarkets Analysis

Key Market Players

The global electric vehicle market is dominated by major players such as Tesla (US), BYD (China), BMW (Germany), Volkswagen (Germany), and Nissan (Japan). These companies have strong distribution networks at a global level. Additionally, these companies offer an extensive product range in electric vehicle market. These companies adopt strategies such as new product developments, collaborations, and contracts & agreements to sustain their market position.



Scope of the Report

Report Metric	Details
Electric Vehicle Market size available	2017–2030
for years	
Base year considered	2018
Forecast period	2019–2030
Forecast units	Volume (Units)
Segments covered	Vehicle type, propulsion type, vehicle
	class, component, charging station
	type
Geographies covered	North America, Asia Pacific, and
	Europe
Companies covered	Tesla (US), BYD (China), BMW
	(Germany), Volkswagen (Germany),
	and Nissan (Japan).
	A total of 24 major players covered

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