

Guide to Electric Mobility

**Recommendations for action
by the German National Platform for Electric Mobility**

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The present booklet presents an overview of the developments in the electric mobility sector in Germany until June 2016 and provides recommendations for political decision-makers to help achieve the defined goals.

Further information and publications by the NPE:

 www.nationale-plattform-elektromobilitaet.de/en

 @NPEmobilitaet

June 2016

Executive Summary

Electric mobility is an integral part of the global mobility transition.

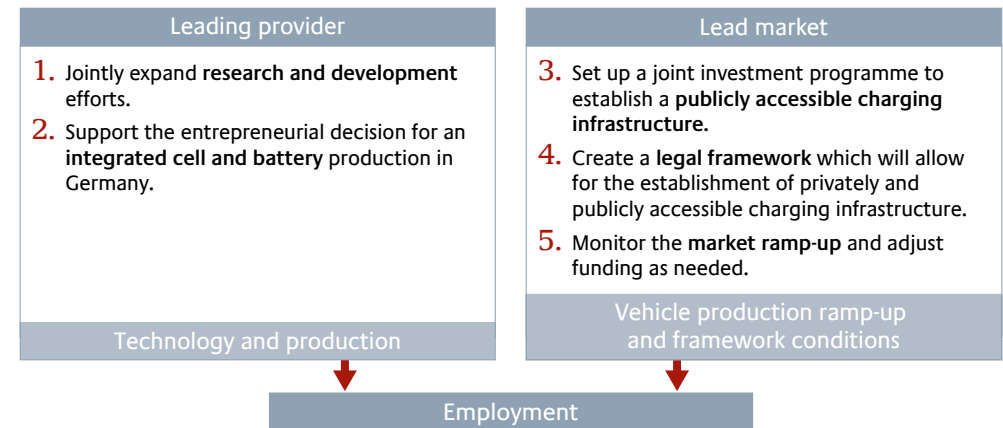
Experts from the National Platform for Electric Mobility (NPE) expect a significant breakthrough of electric mobility between 2020 and 2030. Around the world, the market is already highly dynamic, particularly in countries with according framework conditions.

In Germany, industry, academia, politics, trade unions and society have closed ranks to win the country the technology leadership and make it leading supplier (→ target: leading supplier) as well as lead market (→ target: lead market) by 2020, thus also keeping up the high level of employment along the entire value chain (→ target: employment).

The current state of development is the result of joint efforts in the areas of research and development, standardisation, training and qualification, as well as regarding the establishment of a publicly accessible charging infrastructure and the introduction of a legal basis for electric mobility.

The German industry is one of the leading providers worldwide, offering high-quality products, services and solutions. Germany's registration rate of new electric vehicles is developing very dynamically.

The relevant players in Germany are working hard to increase the efficiency of the electric mobility system as a whole. By 2020, German automotive manufacturers will have significantly expanded the range and availability of competitive vehicles in the different segments. The NPE recommends the implementation of the following accompanying measures between 2017 and 2020:



Seizing opportunities!

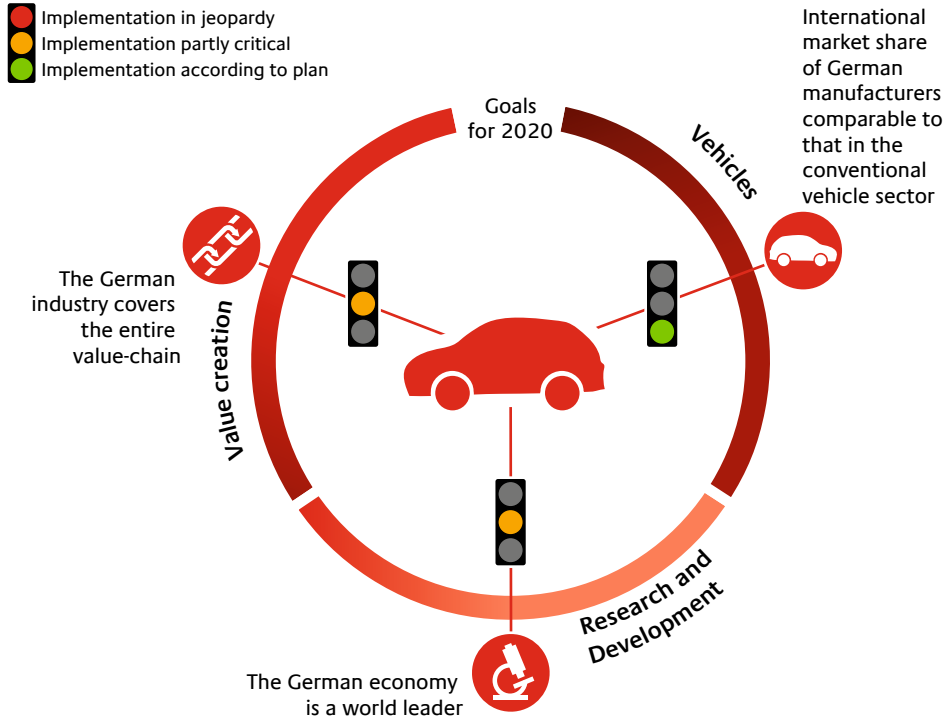
Mobility of people and goods creates prosperity and quality of life. However, mobility also causes congestion, noise and air pollution. We therefore need new mobility concepts and products that meet the societal conception of environmental protection, efficiency and urban and spatial quality standards while ensuring a powerful economy.

Electric mobility is the key to a sustainable transformation of mobility: It is climate-friendly, environmentally compatible, efficient and saves resources. For Germany, moreover, electric mobility represents the opportunity and challenge to secure and expand its position as a top location for industry, science and technology. The development of electric mobility is a challenge to society as a whole and touches upon various policy fields:

Climate policy	Regeneratively generated power replaces long-term fossil fuels for mobile applications.
Energy policy	Electrical vehicles used as mobile intermediate storage units and the intelligent use of the charging process stabilise the energy systems.
Industrial policy	Electric mobility dissolves classic sectoral boundaries, thus promoting new vehicle concepts and business models.
Transport policy	Electric mobility is a key element of a sustainable transport system.
Labour and social policy	Electric mobility secures and creates jobs while requiring new standards for training and qualification.
Innovation policy	Electric mobility provides new stimulus for industrial and scientific research

Goals and recommended measures until 2020

Development level Leading Supplier



Target: Leading Supplier

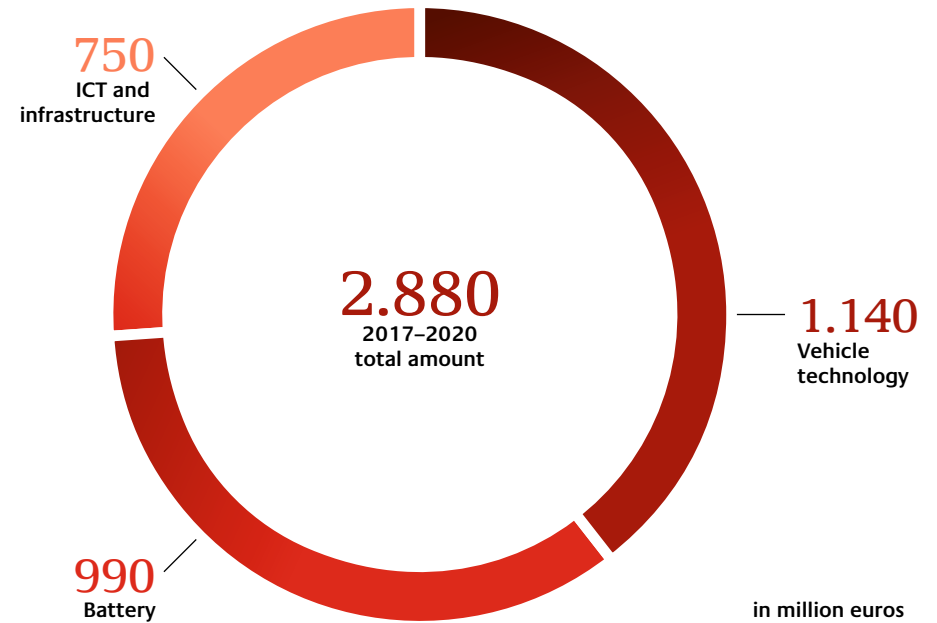
By 2020, the German industry has become international leader in the field of electric mobility.

Recommended measure

Jointly expand research and development efforts.

Project volume for research and development

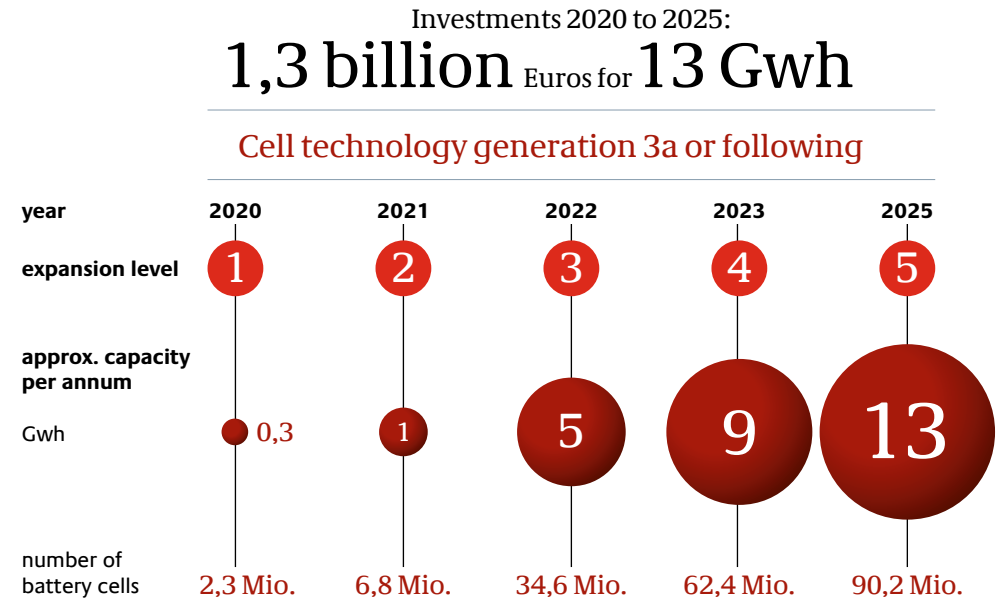
2017 to 2020



Recommended measure

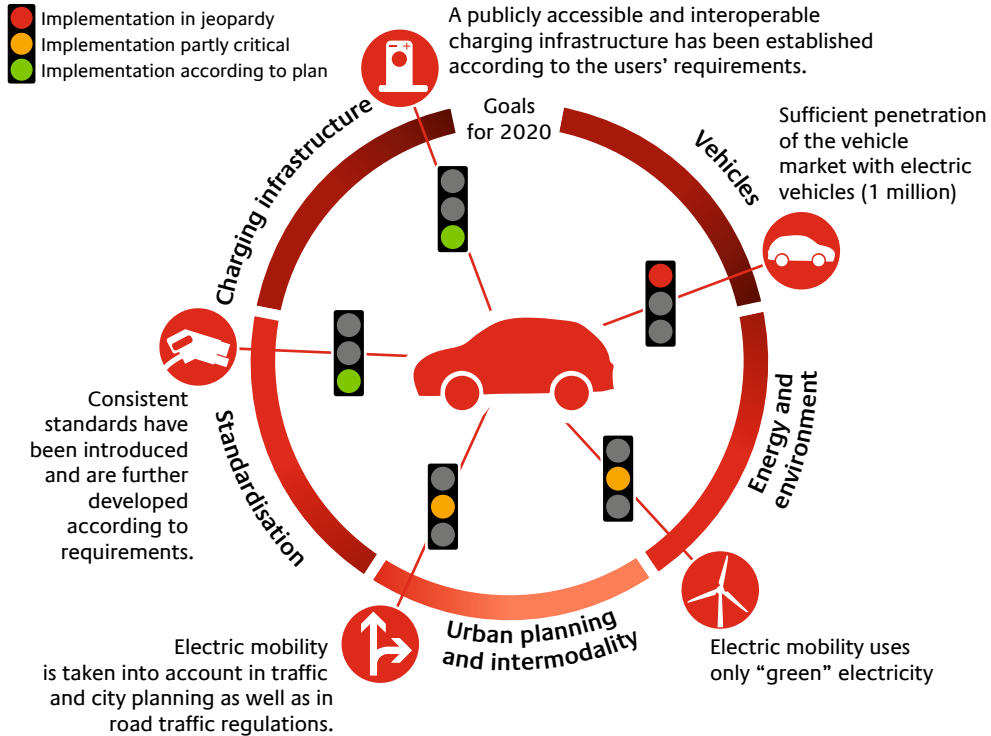
Support the entrepreneurial decision for an integrated cell and battery production in Germany.

Scenario for the establishment of a battery cell production in Germany



LEADING SUPPLIER

Development level Lead Market



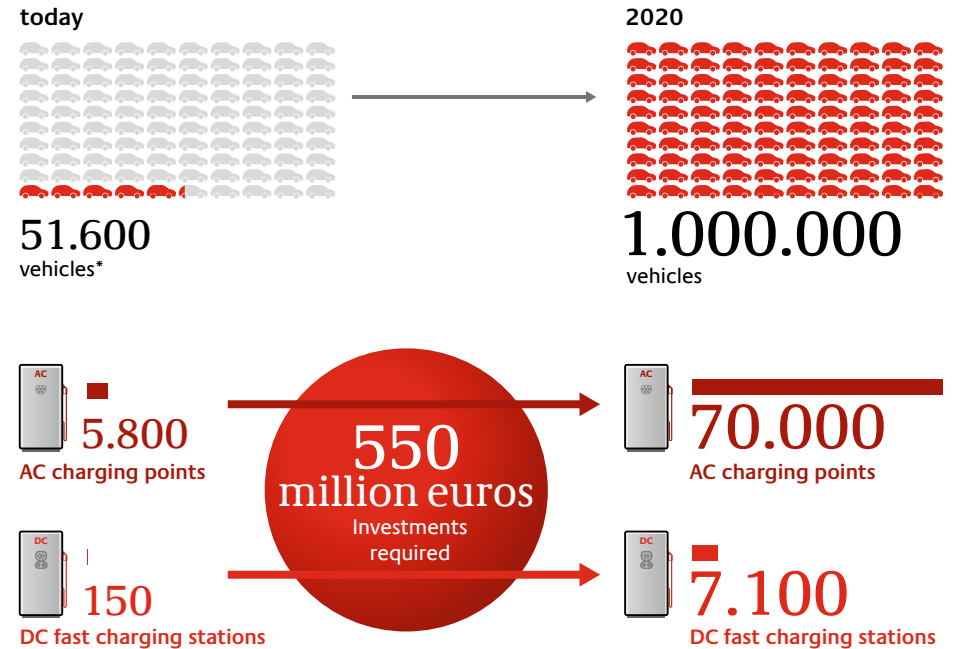
Target: Market Leadership

By 2020, Germany is the international lead market for electric mobility.

Recommended measure

Implementation of a joint investment programme to establish a publicly accessible charging infrastructure.

Expanding the publicly accessible charging infrastructure



*Cumulative new registrations since 2010

Last update: December 2015

Further information:
NPE (2015): Charging Infrastructure for Electric Vehicles in Germany.
Progress Report and Recommendations 2015

Recommended measure

Creation of a legal framework allowing for the establishment of a privately and publicly accessible charging infrastructure.

Legal framework conditions

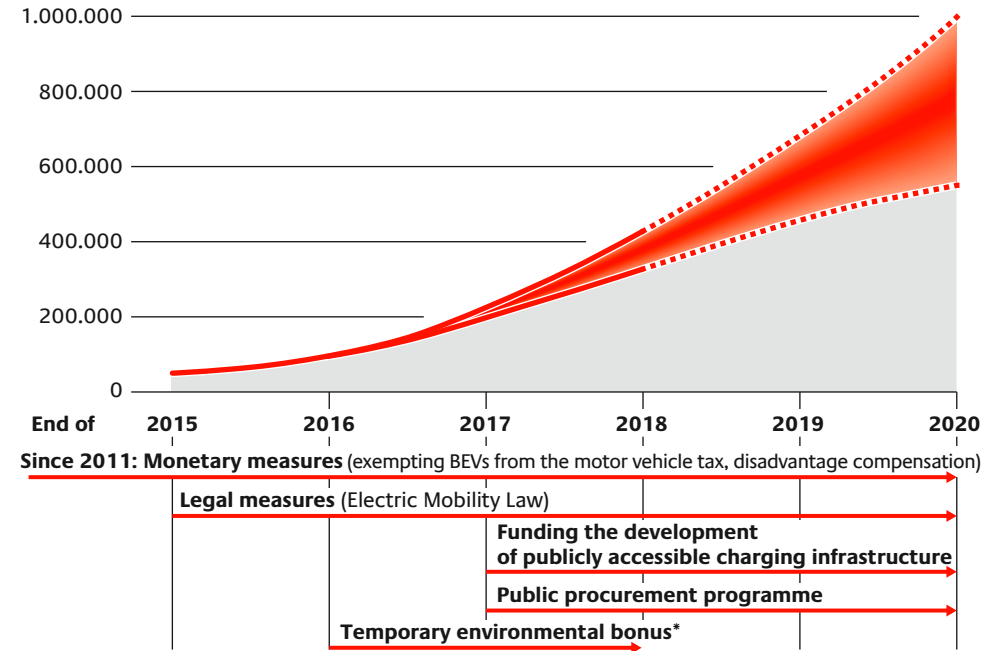
- § Improve the framework conditions of landlord and tenant law regarding the installation of private charging points.
- § Include the installation of the prerequisites for charging infrastructure in new buildings and reconstructions as a mandatory requirement in the building regulations of the Länder.
- § Obligations to designate parking spaces with according charging infrastructure – e. g. in road construction, petrol and service stations as well as in airports, train stations and the public housing sector.
- § Align the regulations of the calibration law for AC and DC charging at the national level, thus introducing clear and practicable provisions for a certificate of conformity for measuring devices.
- § Authorising the commercial use of charging stations in residential areas.



Recommended measure

Observe market ramp-up and adjust the funding as necessary.

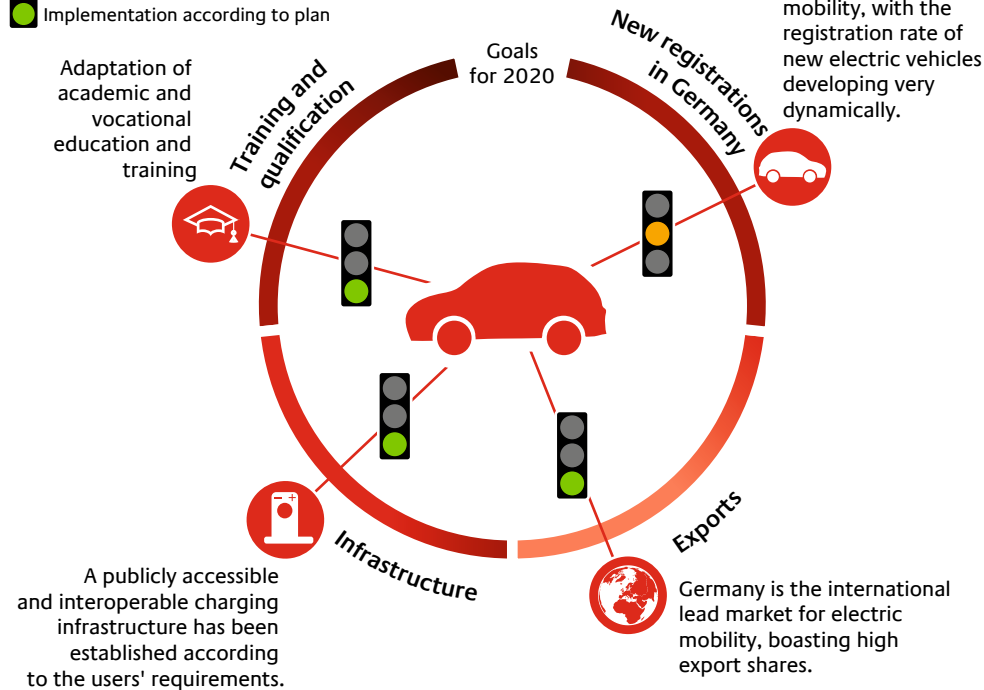
Predicted market ramp-up until 2020



*BEVs are funded in the amount of 4,000 Euros and plug-in hybrids (PHEV) in the amount of 3,000 Euros. The subsidy, amounting to 1.2 billion Euros, is borne to equal parts by the Federal Government and the automotive industry.

Development level Employment

- Implementation in jeopardy
- Implementation partly critical
- Implementation according to plan

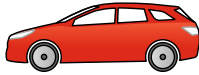


Target: Employment

By focussing on electric mobility, Germany secures its high level of employment along the entire value chain.

Market overview

Compact class vehicles



Audi A3 e-tron ●

BMW 225xe ●

Ford C-Maxx ●

Ford Focus ●

MB B 250 e ●

Nissan e-NV200
EVALIA ●

Medium size vehicles



BMW 330e ●

MB C 350 e ●

MB C 350 e
T-Modell ●Volvo V60
Twin Engine ●

VW Passat GTE ●

VW Passat GTE
Variant ●

Luxury vehicles



BMW 740e ●

MB S 500 e ●

Porsche Panamera ●

Tesla Model S ●

Small cars



BMW i3 ●

Citroën C-Zero ●

Mitsubishi
Electric Vehicle ●

Peugeot i-On ●

Renault ZOE ●

Smart fourtwo ed ●

VW e-up! ●

Nissan Leaf ●

Opel Ampera ●

Renault
Fluence Z.E. ●

Toyota Prius ●

VW e-Golf ●

VW Golf GTE ●

Market overview

More than 40 vehicle models across all vehicle segments are currently available on the market (last update: May 2016). The range includes the vehicles the NPE focusses on, i.e. battery electric vehicles, plug-in hybrids and range extenders. By 2020, the range of competitive vehicles in the various segments will have further grown.

- BEV
- REEV
- PHEV

Off-road vehicles



Audi Q7 e-tron ●

BMW X5
XDrive 40e ●

Kia Soul EV ●

MB GLC 350 e ●

MB GLE 500 e ●

Mitsubishi Outlander
Plug-in-Hybrid ●

Tesla Model X ●

Volvo XC90
T8 Twin Engine AWD ●

Vans

Citroën Berlingo
Electric ●

MB Vito ●

Nissan e-NV200 ●

Peugeot Partner
Electric ●Renault
Kangoo Z.E. ●

Sports cars



BMW i8 ●

MB SLS AMG E-Cell ●

Porsche 918
Spyder ●

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Further information and publications of the NPE:

 www.nationale-plattform-elektromobilitaet.de/en

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