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**217 – EV Charging & Infrastructure Guide**

SBD Automotive's EV Charging & Infrastructure guide maps out the current landscape of EV charging infrastructure to track its footprint and highlight its growth. Taking a deep dive into the ecosystem, the report profiles its key players, identifies their strengths and weaknesses, and understands the business models adopted by them.

#623

EV

Electric
Vehicle

Electric Vehicle Guide

EVs are seeing a surge in both popularity and consumer uptake due to their wide availability from a variety of OEMs. For OEMs, this renewed interest follows government policies and incentives alongside the chance to embrace new business models and revenue streams. This has led to dozens of automakers adopting electrification strategies that will see their ICE vehicles phased out in favor of EVs before 2030.

Before these strategies were announced in response to strict emission policies, the ecosystem for EVs was already expansive - with several OEMs and third parties developing charging infrastructure, and consumers benefitting from the new features and technologies offered exclusively in EVs. As key players in the industry look to boost this ecosystem even further, it will only grow in importance and complexity over time.

The EV Guide provides key insights into the landscape of EVs today with a focus on mass-produced passenger and light commercial EVs. It assesses and compares the features offered by different OEMs across their EV line-ups while taking a deep dive into the charging infrastructure provided for EV users. The guide also works to thoroughly profile the landscape's key players and outline the key policy considerations and environmental impacts centric to EV development.

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Key questions answered

- > What new EVs are being launched?
- > How do EVs differ from the vehicles already in the market?
- > Which established car makers are achieving faster transitions from ICEs to BEVs?
- > How do BEVs developed by disruptive start-up OEMs differ from those of established OEMs?

This research supports



PRODUCT PLANNERS



IT



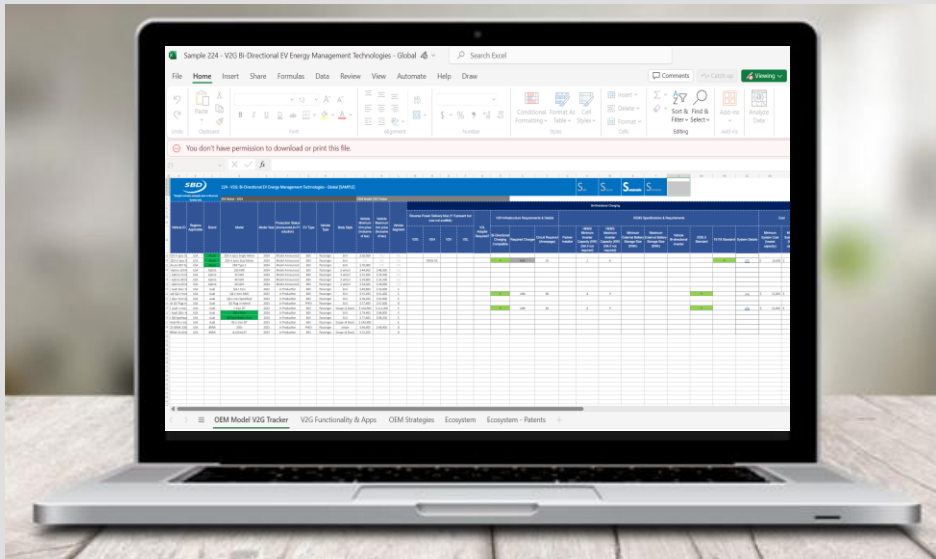
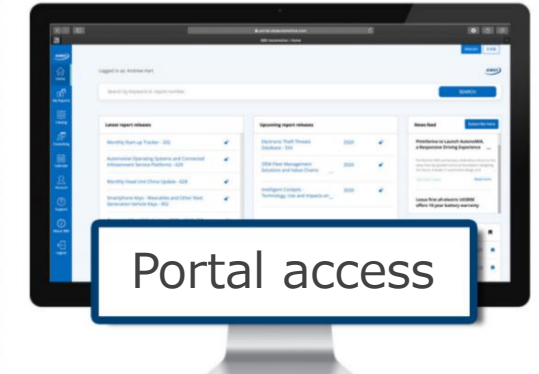
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View Excel Data Sheet Sample

Electric Vehicle Guide

Key insights into the landscape of EVs today

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623 Electric Vehicle Guide

623 - EV Guide - EUR

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Data Deep Dive
View and analyze deep data in your own way



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Introduction

EV turmoil impacting OEMs at various levels

The EV market faces challenges in growth and the commitments made by automaker brands. These challenges stem from the need for affordable vehicles, economic uncertainty, and changing government policies to achieve environmental targets. As a result, many automakers have postponed their previously planned electrification strategies. Some brands are considering PHEVs before phasing out ICE vehicles in favor of fully electric vehicles (EVs) by 2030. This shift will require automakers to adopt new operational models and explore alternative revenue streams.


In today's rapidly advancing EV industry, staying informed about the latest developments is crucial and complex. The EV Guide provides in-depth coverage of EV specifications, features, charging infrastructure, environmental impact, and policy considerations. **SBD's 623 – EV Guide** provides data-driven insights into the various EV offerings by OEMs. The report looks at **FIVE key benefits of BEVs for automakers**:



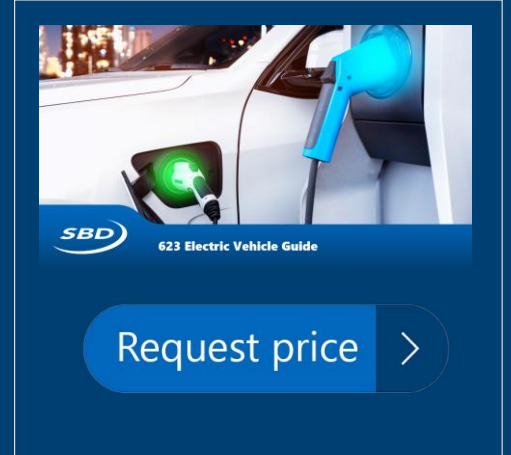
What are the key questions answered in this chapter?

- What new EVs have been launched, and how do they differ from vehicles already in the market?
- Which established car makers are achieving faster transitions from ICEs to BEVs?
- How do BEVs developed by EV Native OEMs differ from those of transitional OEMs?

Note: The Sales volume data has been sourced from and [GlobalData](#)

Layer	Section	Conclusion
STRATEGY & IMPACT	Executive Summary	This report highlights the ongoing challenges of the EV market, including slow growth, deferred commitments, and the need to make affordable vehicles.
	The Basics	Definition of all the EV-related terms covered throughout this report.
LEARNING & ACTION	What's New?	It highlights new models, key announcements, partnerships, and acquisitions in the EV industry.
	Analysis	In-depth information on automakers' trends and strategies with their production lineup.
CORE INSIGHTS	Summary Tables	The Vehicle Summary section shows various models with their technical specifications and the pricing available in the region.
DATA DEEP DIVE IN EXCEL	Deep Dive	 View and analyze deep data in your own way
	Markets	
	Announcements	
	Rankings	
	Definitions	
CONTEXT	Birds Eye View	An overview of the tangential trends to this topic, as identified in SBD's neighboring products
	Future Outlook	Four OEM personas are considered against drivers and barriers into the future to understand when Electric Vehicle benefits will be truly realized
	Next Steps	Can SBD help you with any unanswered questions?

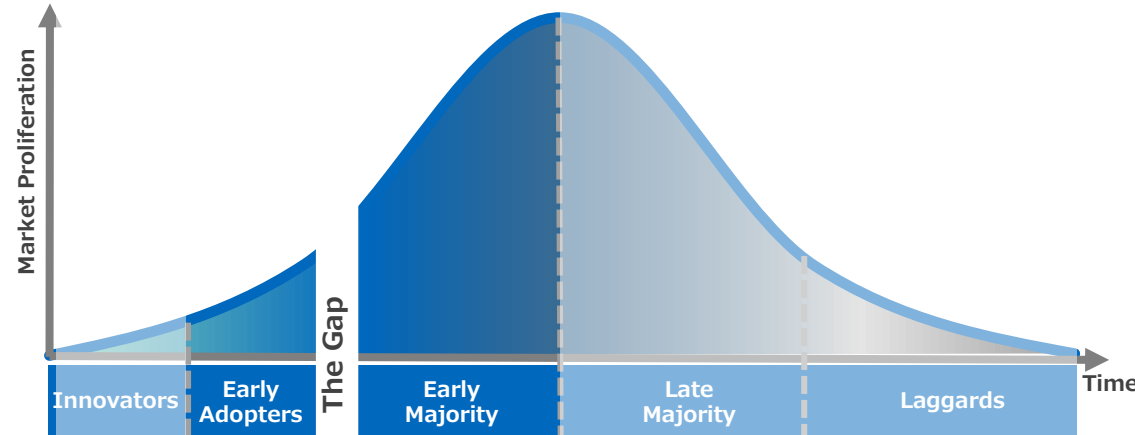
Example slides from the report





EV headwinds slow growth

In 2024, the target was to jump the chasm from early adopters to the early majority,



... and the media conveys that automakers are failing in EV adoption

INNOVATION > TRANSPORTATION

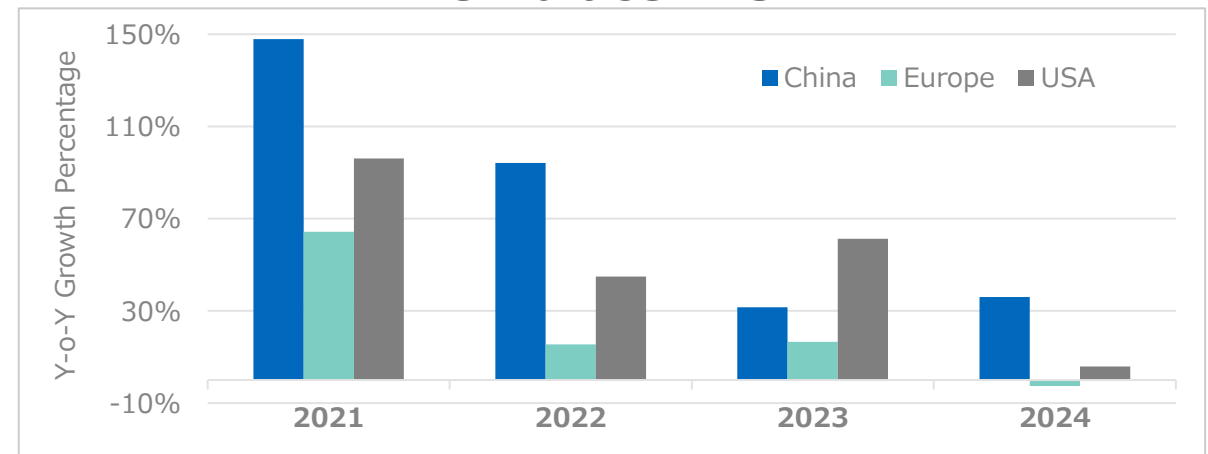
EU Drive To Force EV Adoption Looks Set To Stumble

BMW halts plans for EV production at Oxford Mini plant

Stellantis Extends Fiat 500e And Maserati Production Halt Again By Two More Weeks As Sales Struggle

Hyundai Halts Ioniq 5, Kona EV Production for 5 Days Amid Weak Demand








... however, growth is only slowing over time due to early majority, who are late to embrace EVs





Interesting highlights of some latest models

Here is a list of a few new EVs that has been introduced with noteworthy updates or innovations.

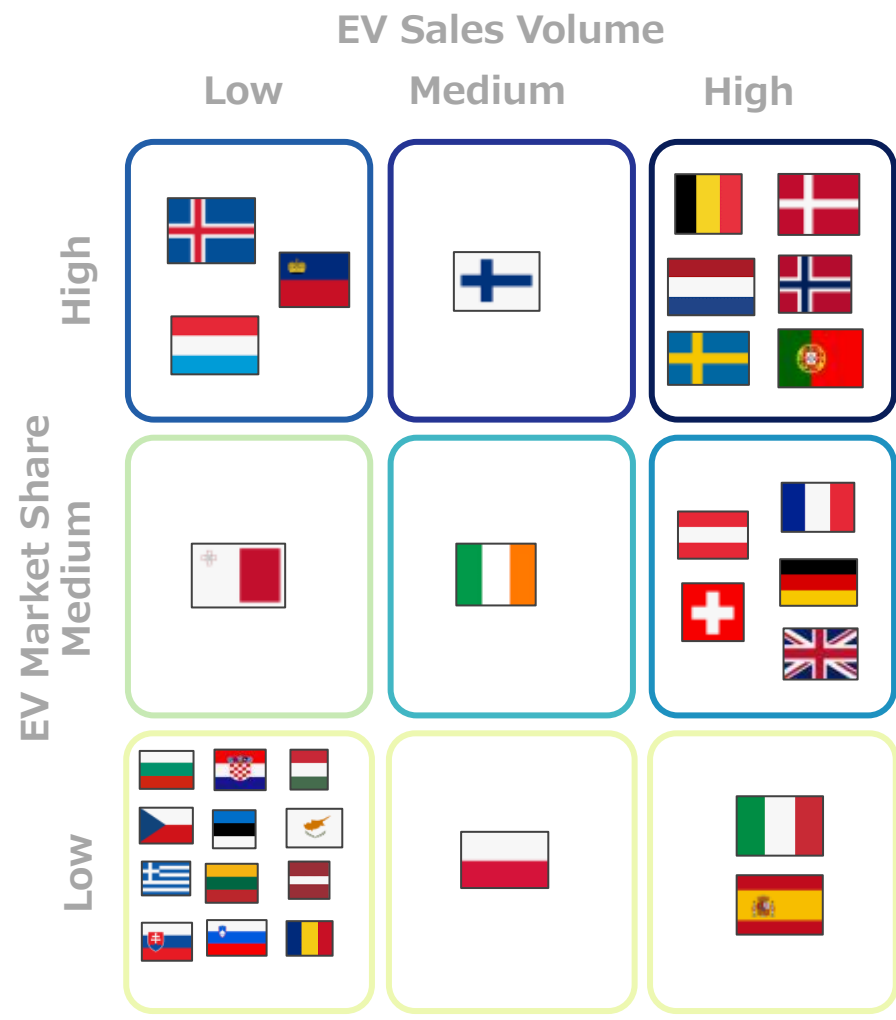
OEM	New Model Launched	Interesting Highlights
	Q6 SUV e-tron	Audi's Q6 SUV e-tron all-electric is the first production model based on Premium Platform Electric (PPE). The model has a range of 455 – 533 km with maximum energy efficiency of 18.7 kWh/100 km.
	Sealion	BYD Sealion has three options: Comfort, Design AWD, and Excellence AWD. The models have in-house battery cells with sizes of 82.5 (for Comfort and Design AWD) and 91.3 kWh (for Excellence AWD). All the models support DC charging of 230 kW and have V2L capabilities.
	EV9	The new 2025 model for the E-segment comes with a minimum of 443 km of advertised driving range according to WLTP and has fast-charging capability. It comes with a 76-kWh battery of Lithium-ion polymer from SK On.
	Cyberster	The all-electric MG Cyberster EV comes in two versions: Single Motor and Dual motor, with a driving range of 507 and 443 km, respectively, according to the WLTP test cycle.
	Elroq	The compact all-electric SUV from Skoda has three battery sizes: 52, 59, and 77 kWh. The Elroq 60 and Elroq 50 can charge from 10% to 80% in less than 24 minutes (50) and less than 25 minutes (60).
	eVitara	The eVitara will be based on 'HEARTECT-e' platform which is developed specifically for the BEVs. The model is announced to have battery capacity of 49 and 61 kWh.
	Zeekr 7X	The 7X model will feature an 800V electrical architecture, allowing for ultra-fast DC charging rates of up to 480 kW. The Premium model can charge from 10% to 80% in as little as 13 minutes, while the Long Range and Performance models will take approximately 16 minutes for the same charge.



Regional EV Market Sales

Market Block

The 3x3 block below depicts the volume of EV sales and the EV market share of European countries.



Highlights of - High EV Sales Volume – High EV Market Share



- Belgium leads in EV volume with highest percentage of PHEV sales distribution at 34% within the block.
- Norway has the highest EV market share of 88% in Europe.
- Sweden and Portugal have a split of approximately 60:40 BEV to PHEV sales.

Highlights of - Low EV Sales Volume – High EV Market Share



- Liechtenstein has the highest BEV to PHEV ratio in this block, at 83%, but has the lowest BEV and PHEV sales.
- Luxembourg leads this category with the highest BEV and PHEV sales of 13K and 4K respectively.
- No country in this group has any FCEV sales.

Highlights of - High EV Sales Volume – Medium EV Market Share



- Among this category, all the European countries have more than 65% of the BEV to PHEV market share in the EV market sales.
- UK leads the BEV sales with 403K, while Germany leads PHEV sales in Europe with 192K.
- France ranks third in BEV sales figures across Europe.

Highlights of - High EV Sales Volume – Low EV Market Share



- Italy leads the EV race in this category, followed by more significant sales of BEVs than in Spain. While Spain attributes to slightly higher PHEV sales than Italy.

Highlights of - Low EV Sales Volume – Low EV Market Share

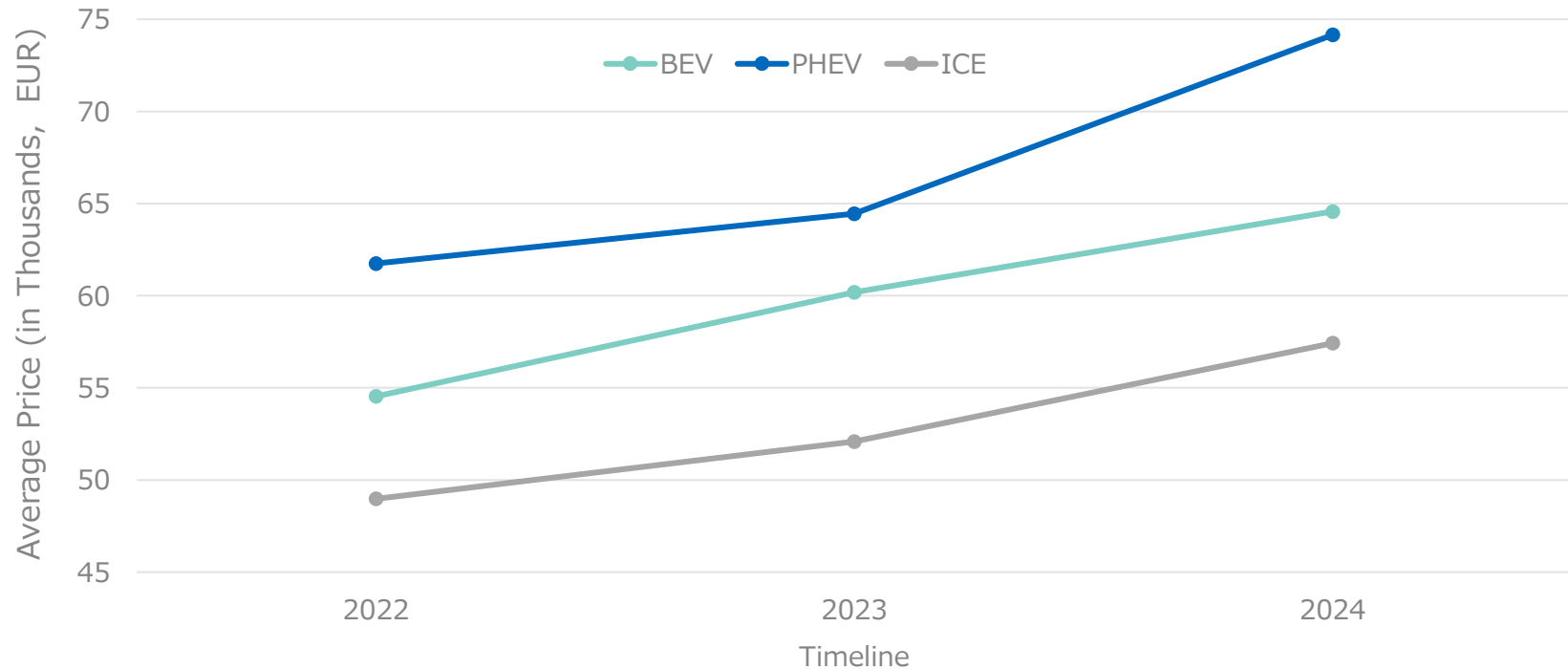


- Greece is leading this market block with ~19K EV sales in 2024.
- Romania is in second place, and Czechia is in third with 17K EV sales.
- Cyprus and Latvia have the lowest BEV sales volume of 1.2K and 1.3K units, respectively.



EVs are costlier than ICE vehicles in EU & US, unlike China

EU Vehicle Price by Type of Vehicle



Note: The Price comparison is done between the HY2 of the Years. Additionally, ICE vehicle pricing is taken from the 526 -Connected Services Guide



- VW has slashed the prices of its ID.3 in several European countries



- Dacia brand cut the price of its low-cost EV by €2,000 in France



- Leapmotor (JV with Stellantis) slashed the price of its T03 by €4,000

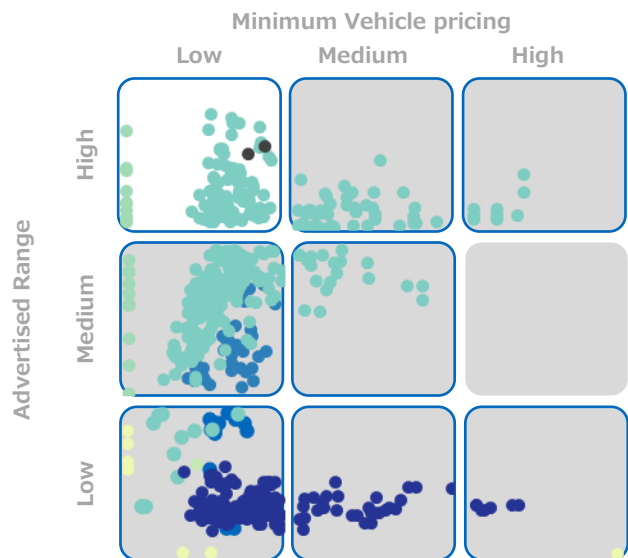
Key Highlights

- The figure shows that PHEVs consistently cost more than ICEs and BEVs. BEV pricing is observed to maintain a steady line when compared to ICEs. The traditional automotive industry struggles to cut manufacturing costs for EVs and their technology. Since EVs prioritize advanced driving systems, investment in smart tech currently leaves less room for cost adjustments.
- On the other hand, EVs have two ways to reduce costs in China: declining battery prices and reduced tax costs through joint ventures between automakers and suppliers. Since the EV supply chain is still developing, there are opportunities to find flexible and effective cost-saving solutions.
- Meanwhile, some European automakers are trying to slash the price of their EV models at the expense of profit margins to boost sales/market shares and attract more customers.



Low vehicle price – High electric range

Vehicle Block



Key Highlights

- Cupra has introduced three new models: the **Born, Terramar, and Tavascan**. These models feature an auto-payment option through Standard Plug & Charge ISO 15118.
- Among fuel cell electric vehicles (FCEVs), the **Hyundai Nexo** sets a new standard with an impressive range of 666 km, the highest in its category.
- The **Ford Capri has three battery variants**: 52 kWh, 72 kWh, and 92 kWh.
- Additionally, the **BYD Seal Excellence** offers a Vehicle-to-Load (V2L) charging feature.

Summary Table

	Automaker	Model	Advertised Range (in km)			Battery Size (in kWh)	Charging Speed (in kmph)		Charging Network Partner	Price (€)
			Electric (Min)	Electric (Max)	Total		AC	DC		
BEV	BYD	Seal Excellence	520	-	-	82.5	60	600	Shell Recharge	50,990
	Cupra	Born VZ 79 kWh	530	539	-	79	62	856	Elli	48,770
	Elaris	Jaco	630	-	-	71	90	756	TBC	45,900
	Fisker	Ocean AWD	690	707	-	113	58	852	TBC	58,900
	Ford	Capri 77kWh (RWD)	590	627	-	77	78	885	TBC	51,950
	Genesis	G80	520	-	-	87.2	77	993	Ionity, Shell	73,580
	Zeekr	Zeekr 7X Long Range RWD	615	-	-	100	112	1614	TBC	TBC
FCEV	BMW	iX5 Hydrogen	504	-	-	TBC	N/A	N/A	TBC	TBC
	Hyundai	NEXO	666	-	-	1.56	N/A	N/A	TBC	77,490
	Toyota	Mirai	650	-	-	1.24	N/A	N/A	Air Liquide, ENGIE	68,490

Note: Total advertised range is for PHEV and EREV only



Medium Development Effort – High Importance to Industry (1/2)

Technology Block

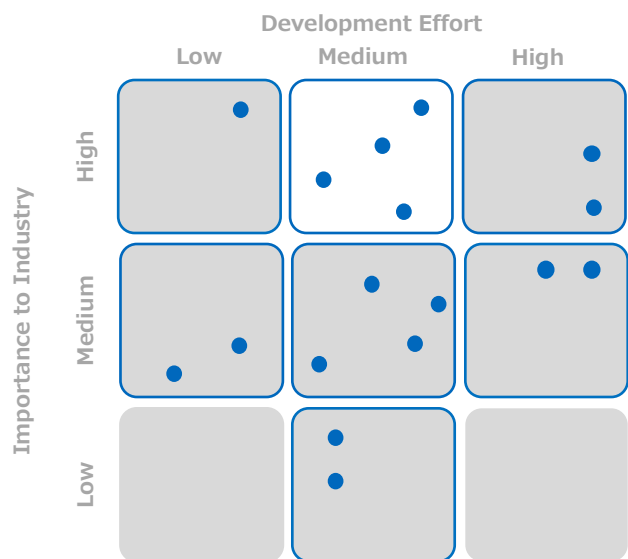
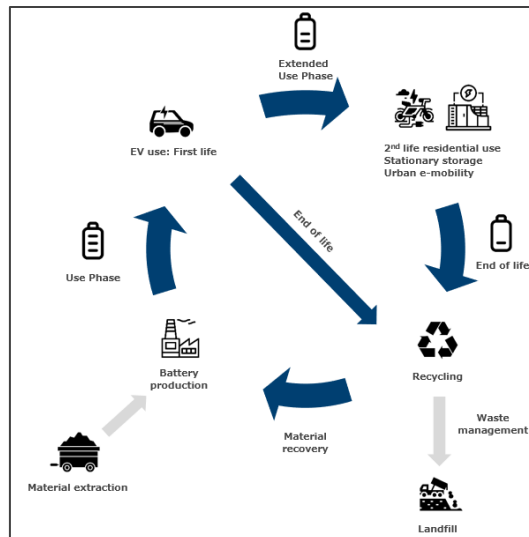


Image Source:

1. Report: 219 - EV Battery Technologies and Ecosystem
2. Wired

Battery Reuse and Recycling



High Speed Charging



Battery Reuse/Recycling is the Next Industry Frontier

The increasing growth, demand, and manufacturing of automotive batteries present the industry with difficulties and opportunities. A battery's service life typically varies from 5 to 8 years, and when its capacity falls below 80%, it can no longer fulfill the consumption expectations of new EVs. As a result, it must be retired or recycled as soon as possible. Battery application, recycling channels, networks, gradient utilization, pre-processing, and material reutilization are all standard connections in the battery recycling business chain.

Few EV batteries used in electric vehicles are nearing the end of their serviceable lifespan. Since there aren't enough post-consumer batteries from electric vehicles, investment in battery recycling has been limited. According to some projections, by 2030, the world will have recycled close to 11 million tons of Li-Ion batteries. Regulations have been introduced in the EU and are being considered in the US and other regions to support, prioritize, and enforce battery reclamation and recycling.

Charging Convenience Nearing Parity with ICE Fueling

Bypassing the drawbacks of the onboard charger and the associated power conversion, DC fast charging delivers DC power straight to the battery, considerably increasing charging speed and efficiency. The size of the battery and the output of the charging station, among other things, affect how long it takes to charge. However, many vehicles can charge 70% of their capacity using DC fast chargers in less than 30 minutes.

The first vehicles featuring DC charging were typically limited to 50kW, but newer vehicles are now being released with charging capabilities up to 270kW. Because battery capacity has increased significantly since the first EVs hit the market, DC chargers have been getting progressively higher outputs to match – with some now being capable of up to 350kW.



Affordable price for EVs will give an edge over competition

Vehicle 4.0 Benefit 2 — Staying Relevant

Competitive pricing and technologies for having a significant market share

2025

2026

2027

2028

2029



Established Premium

Medium Volumes
High Margins
High Legacy



Improve range anxiety while shifting away from PHEV. Invest in 800V architectures for fast charging and improved efficiency.

Moderate market share of EVs
Increased vehicle range and fast charging solutions

Disrupter

Start-up or pivoting automakers for BEV have leapt straight to Vehicle 3.0 but some struggle to deliver the full value



Ensure pricing is competitive while scaling production capacity. Focus on one region at a time. Partner with others to provide innovative headline-grabbing solutions.



Ensure model line up continues to evolve and launch dates aren't missed.

High BEV market adoption
Challenge to legacy automakers

High Volume

High Volumes
Low Margins
High Legacy



Cost-effective production, battery resource availability, trade wars



Develop modular platforms and batteries. Offer multiple battery sizes to customers.

More vehicle segments in lineup

New Market Entrant

Automakers that are either new to the automotive market or foraying into new geographies



Focus on niche vehicle segments. Provide 'delight' features and quality at least on par with existing brands.

High volume production
Reward customers for their bravery in choosing a new brand



Outcome



Barriers



Solutions



Request the price



623 Electric Vehicle Guide

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