





AGENDA:

- 1. SCENARIO DI MERCATO MOBILITÀ ELETTRICA**
- 2. BE CHARGE**
- 3. IL RUOLO DELL' INFRASTRUTTURA DI RICARICA PUBBLICA**



1.
SCENARIO DI MERCATO
MOBILITÀ ELETTRICA





Germany to Spend 3-Digit Billion Euros on Climate Plan by 2030

By [Daniel Schaefer](#)

20 settembre 2019, 14:22 CEST Updated on 20 settembre 2019, 14:36 CEST



Google to invest record-breaking amount in renewable energy

The announcement comes in advance of the Global Climate Strike.



Amazon to add 100,000 electric vans to Prime fleet

WHY ELECTRIC VEHICLES (EVs) MATTERS



The electric car market is set to transition from early deployment to mass market adoption over the next decade or so.

Between **9 and 20 million** electric cars could be deployed by **2020**, between **40 and 70 million** by **2025** and **600 million** by **2040** according to estimates based on recent statements from carmakers.

WHY EVs ARE REALLY COMING THIS TIME

“

Electricity is the thing. There are no whirring and grinding gears with their numerous levers to confuse, no dangerous and evil-smelling gasoline and no noise.

— THOMAS EDISON

”



c. 1900
An electric car being charged.
IMAGE: LIBRARY OF CONGRESS



The first practical electric car was invented in London by Thomas Parker in 1884. Electric cars made an appearance in America around the turn of the 20th century.



c. 1895
Thomas Edison poses with his first electric car, the Edison Baker, and one of its batteries.
IMAGE: GENERAL PHOTOGRAPHIC AGENCY/GETTY IMAGES

WHY EVCs ARE REALLY COMING THIS TIME

“

Now it is possible for an owner of an electric to install his own charging plant in his stable.

— NEW YORK TIMES, C. 1911

”



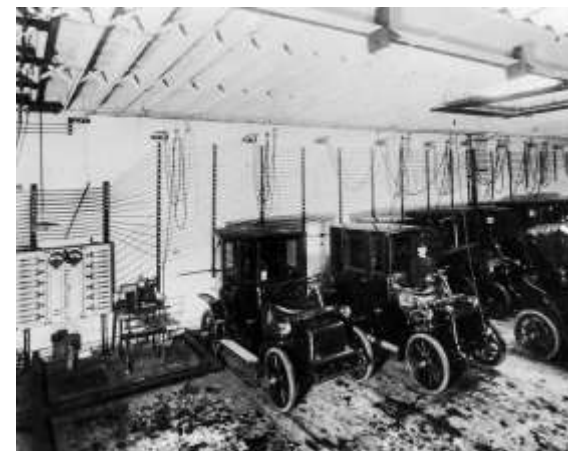
c. 1910

A Mercury Arc Rectifier Charging Set powers up an electric car in a garage in Cleveland, Ohio.
IMAGE: SCHENECTADY MUSEUM; HALL OF ELECTRICAL HISTORY FOUNDATION/CORBIS



c. 1912

A woman uses a hand-cranked battery charger to charge her electric Columbia Mark 68 Victoria automobile. The Pope Manufacturing Company made the car in 1906 and the charger in 1912.
IMAGE: SCHENECTADY MUSEUM; HALL OF ELECTRICAL HISTORY FOUNDATION/CORBIS

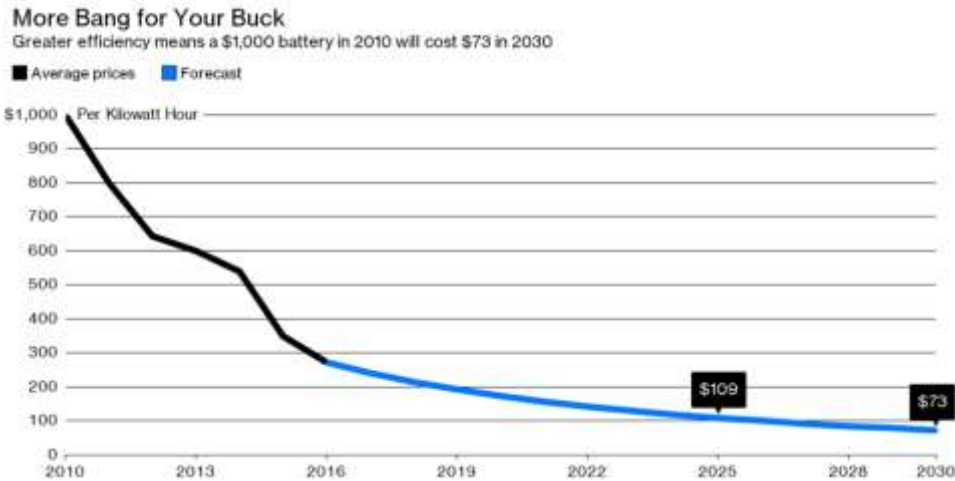


1909

Electric vehicles recharge at a power substation.
IMAGE: SCHENECTADY MUSEUM; HALL OF ELECTRICAL HISTORY FOUNDATION/CORBIS

WHY EVs & EVCs ARE REALLY COMING THIS TIME

1. Battery Costs Trend

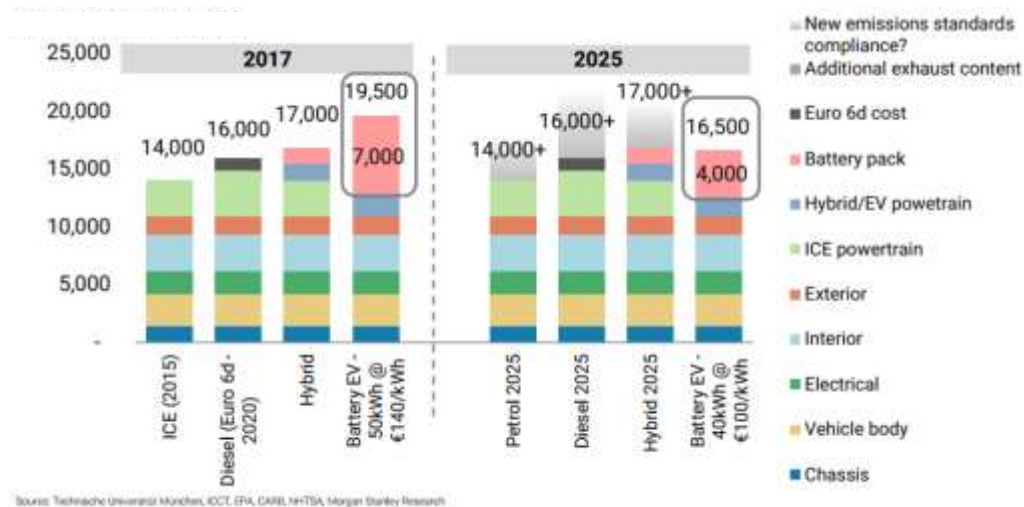


> Trend

Economies of scale and large EV production will help battery costs to decrease

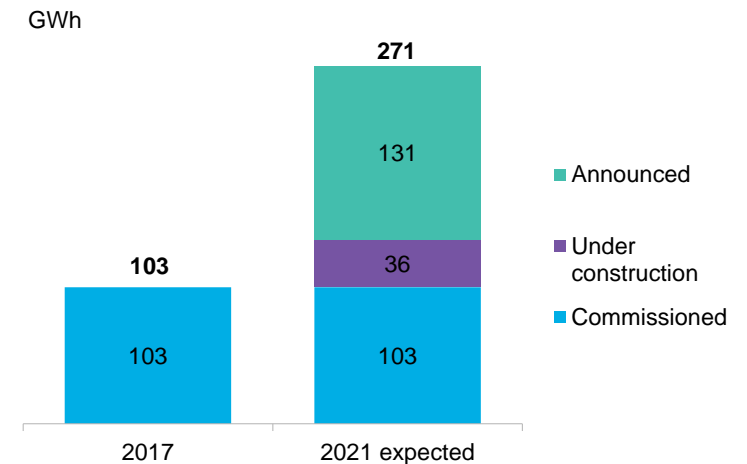
Lower battery costs and more efficient chips could bring EV component costs close to cost parity by 2025, without considering incentives

2. Component Costs/Car (€)



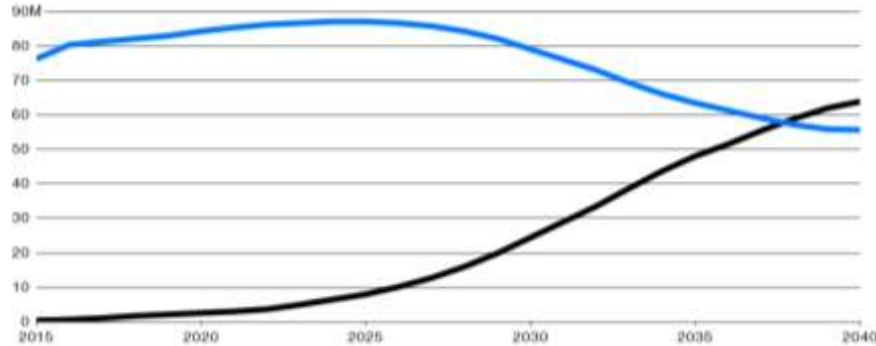
Source: Bloomberg New Energy Finance [EVO 2017](#)

3. Global EV Li-ion manufacturing capacity

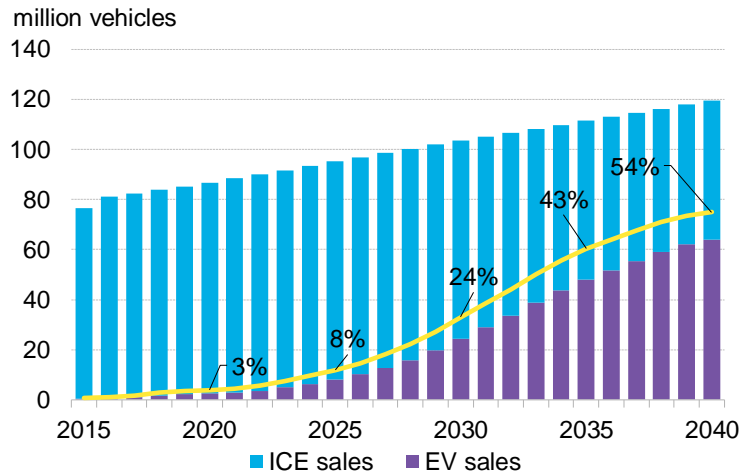


ELECTRIC VEHICLE OUTLOOK TO 2040

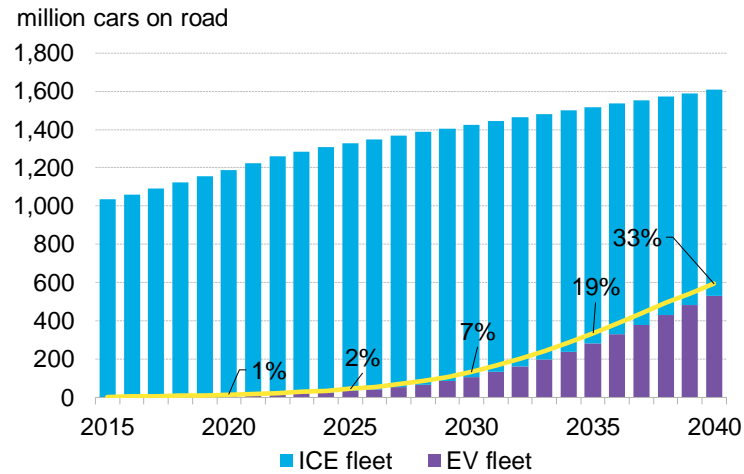
Overtaking Lane – EV sales will surpass ICE sales by 2038



Annual global light duty vehicle sales



Global light duty vehicle fleet



Source: Bloomberg New Energy Finance [EVO 2017](#)

> Trend

The number of electric cars on the roads around the world rose to 2 million in 2016, following a year of strong growth in 2015.

> Market data

China, the US and Europe made up the three main markets, totaling over 90% of all EVs sold around the world:

1. China remained the largest market in 2016, accounting for more than 40% of the electric cars sold in the world.
2. In Norway, electric cars had a 29% market share last year, the highest globally, followed by the Netherlands with 6.4%, and Sweden with 3.4%.

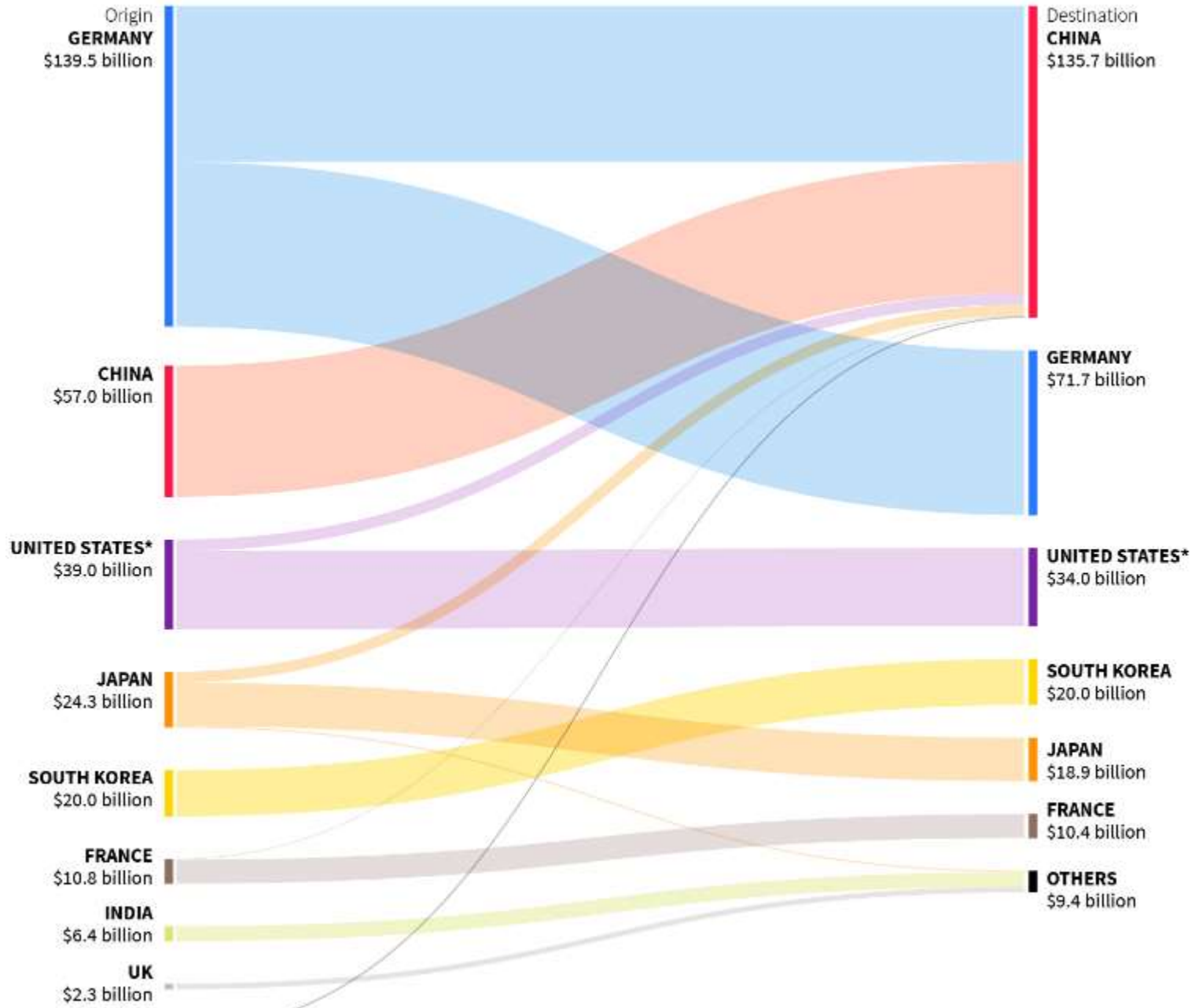
> Context

Cities are taking leadership roles in encouraging EV adoption, often because of concerns about air quality. Major urban centres often achieve higher EV market shares compared to national averages. A third of global EV sales took place in 14 cities in 2016.

Sources: Bloomberg, IEA, ACEA, Accenture, McKinsey

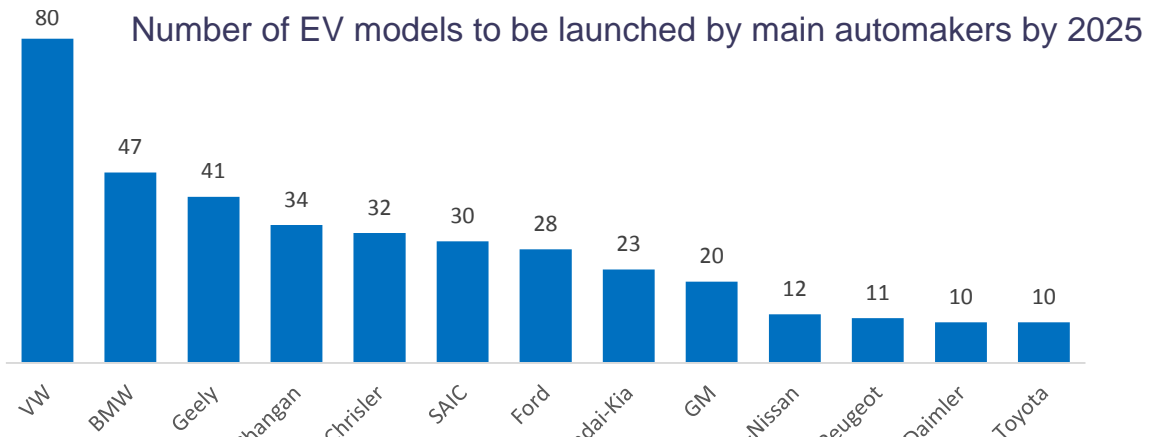
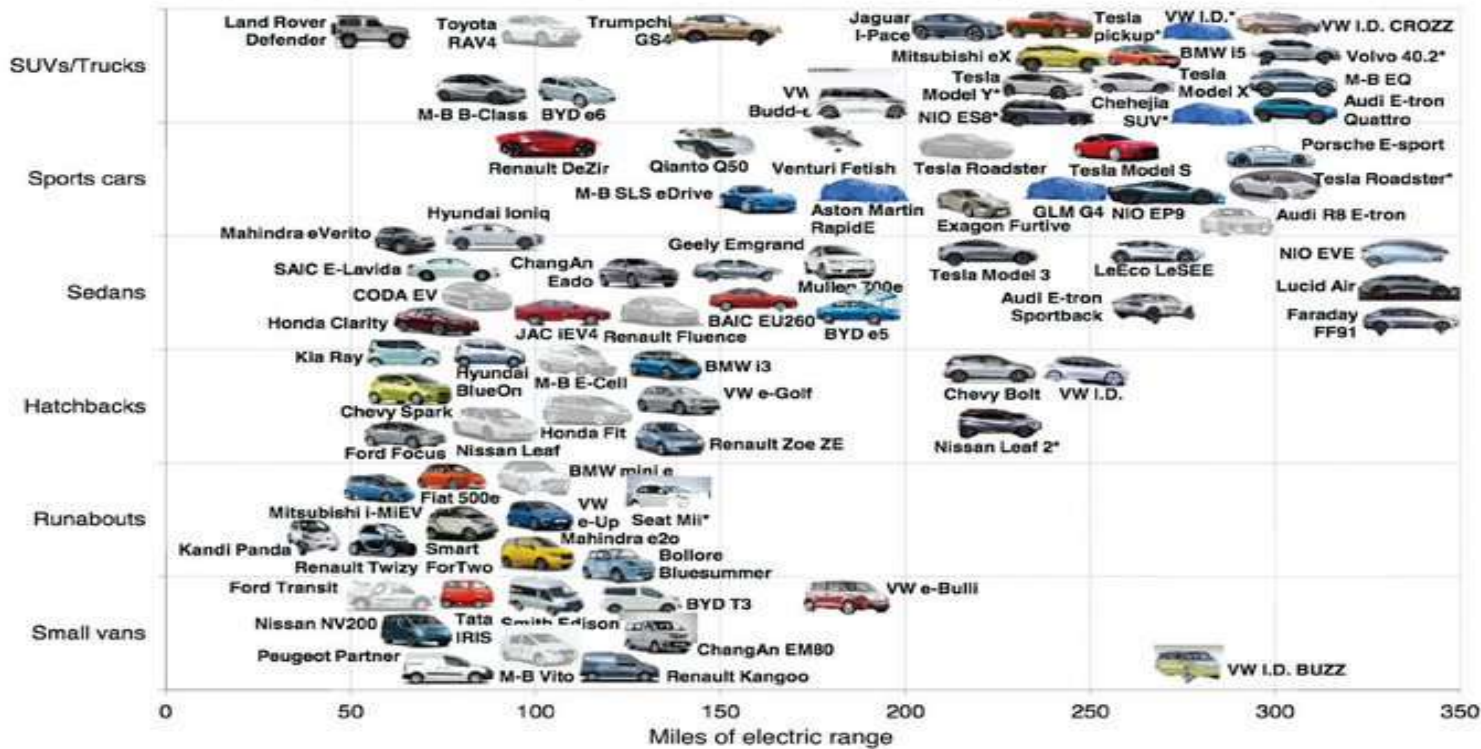
GLOBAL PLANNED INVESTMENTS IN E-MOBILITY

\$300
BILLION



MARKET SCENARIO BY EV PRODUCERS

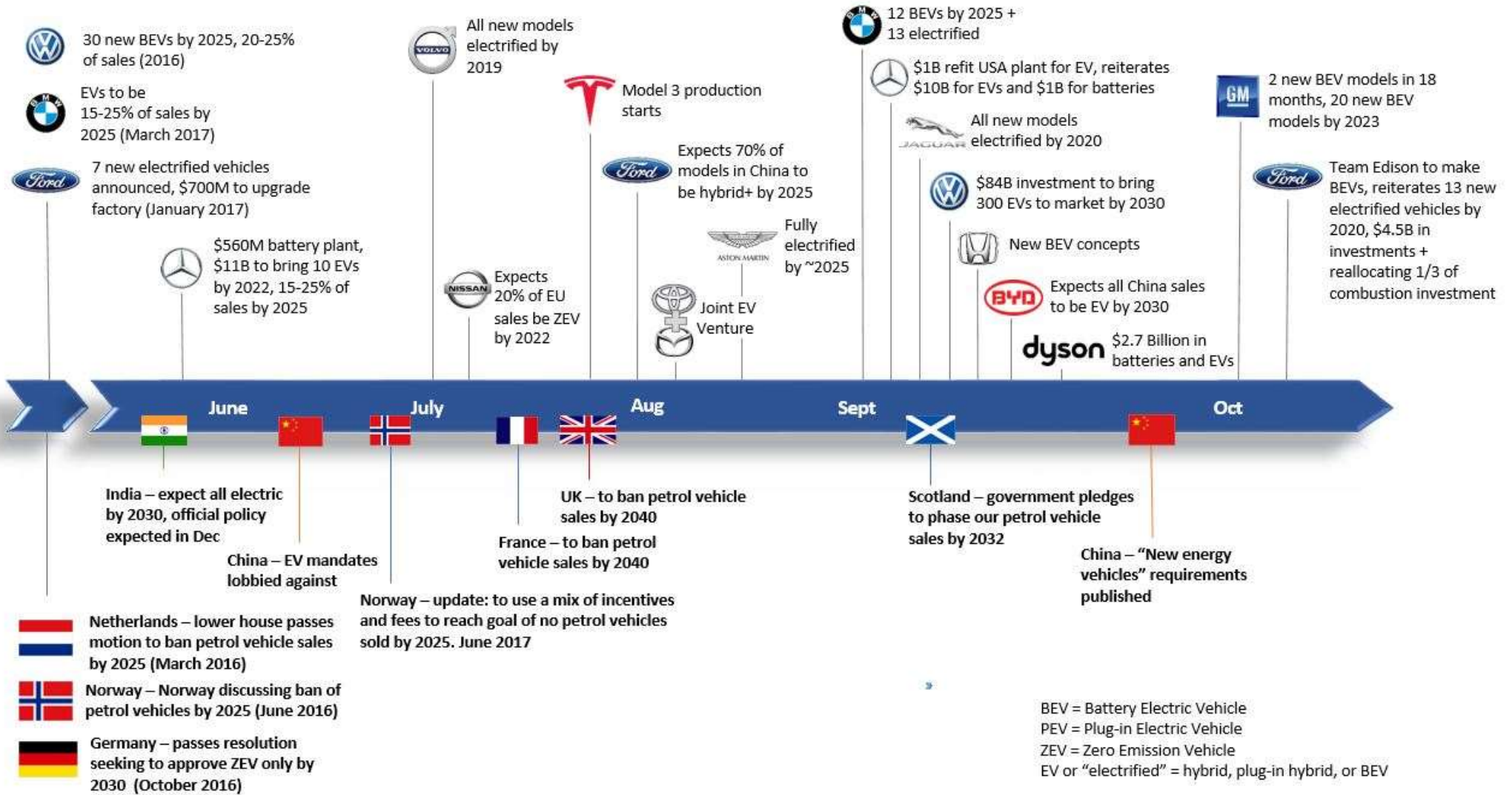
Model of EV cars available, October 2017



**TOTAL
378**

MARKET SCENARIO BY EV PRODUCERS

FROM ANNOUNCEMENTS....



MARKET SCENARIO BY EV PRODUCERS

.... TO FACTS



Dr. Herbert Diess, Chairman of the Board of Management of Volkswagen Aktiengesellschaft.

03/12/19 Wolfsburg Company

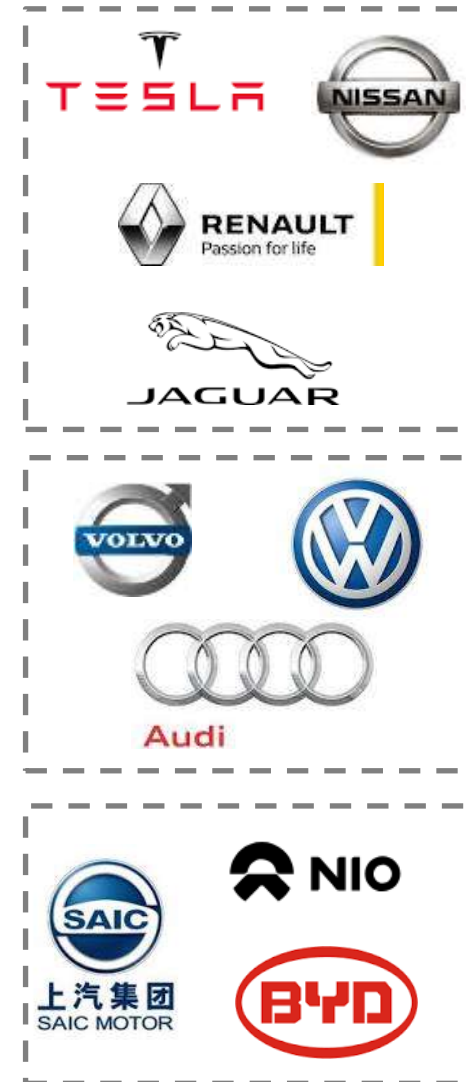
Volkswagen plans 22 million electric vehicles in ten years



Volkswagen to invest €1 billion for battery plant in Germany; huge preorders for new ID.3 car

FCA: nel 2020 partirà la produzione della Fiat 500 elettrica

FCA e Terna insieme per la ricarica intelligente **V2G delle auto**

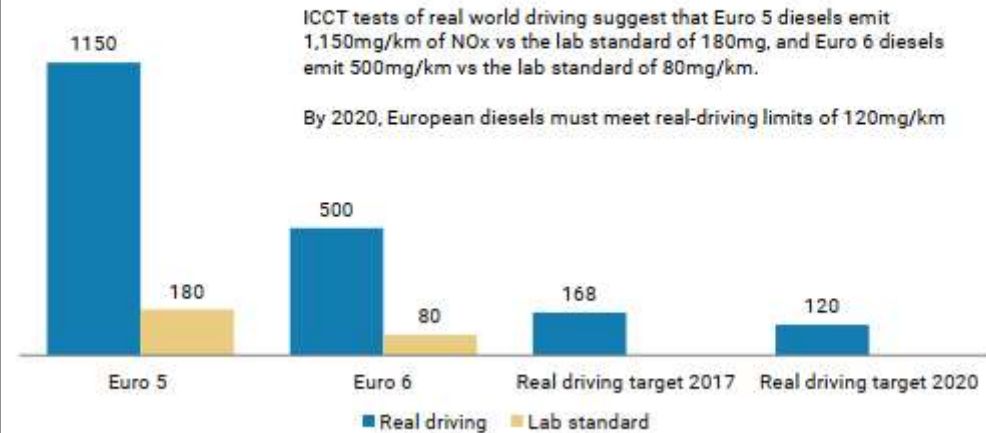


FCA
FIAT CHRYSLER AUTOMOBILES

V2G REVOLUTION - PREMISE

In real driving conditions, European diesels emit many times the lab standard of NOx

NOx real driving emissions vs test standards



Source: ICCT, Morgan Stanley Research

Bosch: "sbagliato demonizzare il diesel, emissioni reali inferiori ai limiti di legge"

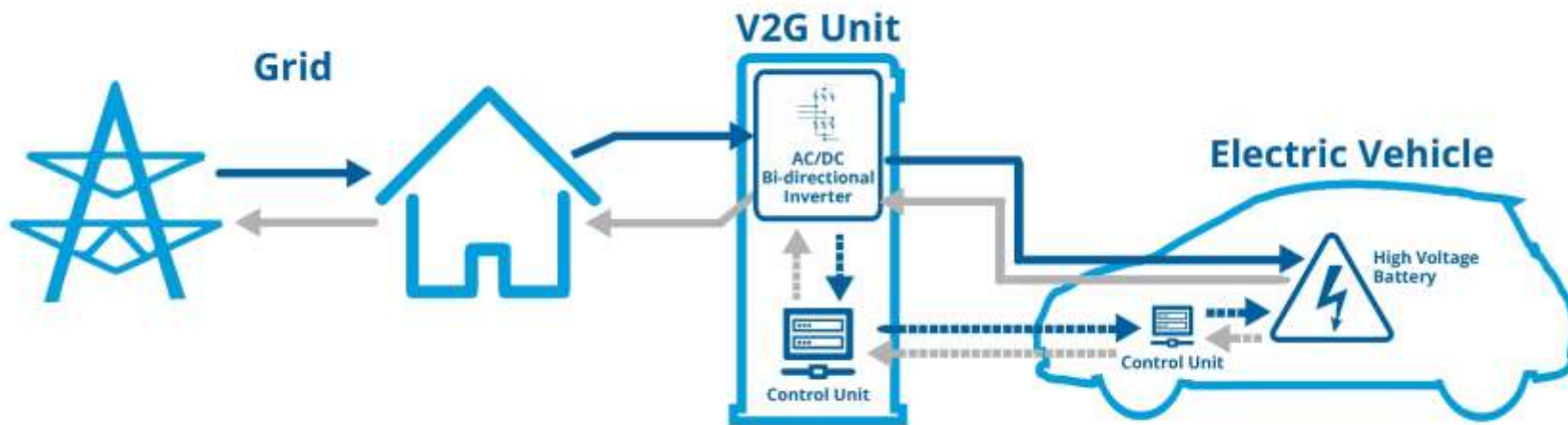
ELECTRIC

VS

DIESEL



**WRONG PERSPECTIVE....
.....V2G!**



A nice simulation in 2030 in Italy....

- 6 million EVs
- 80kW average battery



- 480 GW installed power

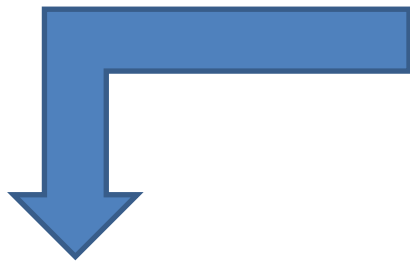


- Italian installed power: 117 GW
- Italian average energy demand: 30 GW
- Italian peak demand: 60 GW

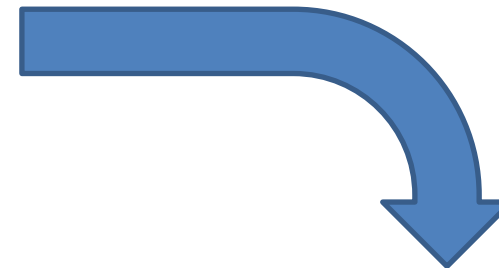
V2G : THE EQUILIBRIUM OF THE SYSTEM



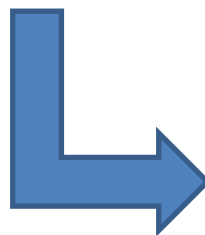
POLICYMAKERS



RENEWABLE
PLANTS



ELECTRIC
VEHICLES



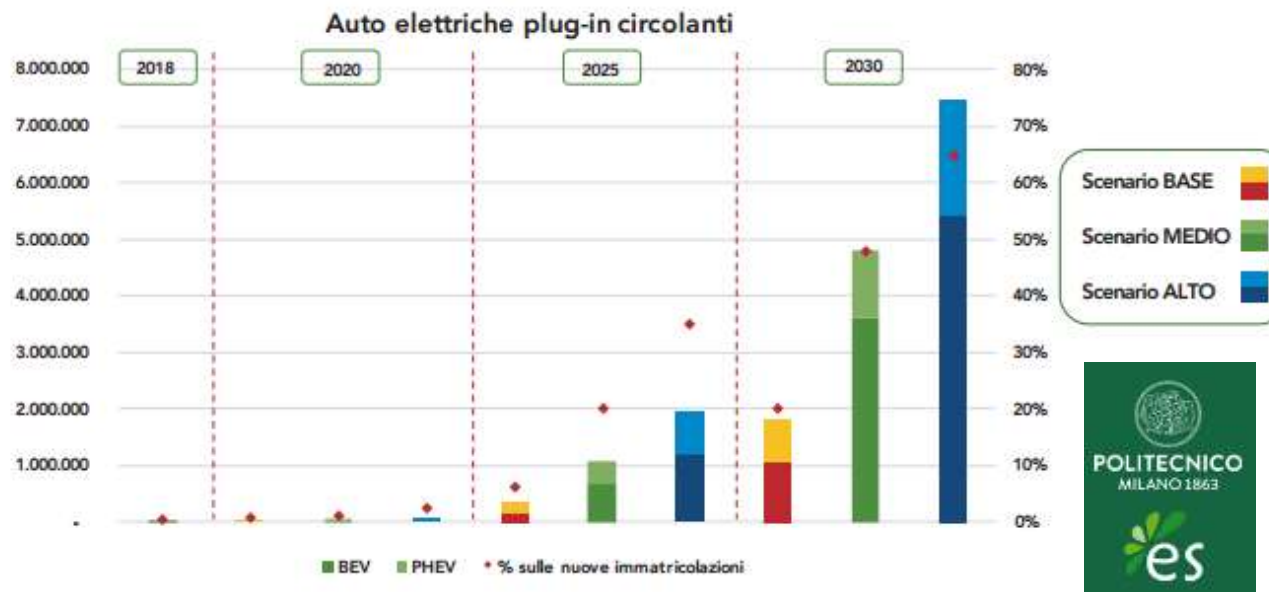
VEHICLE TO GRID !



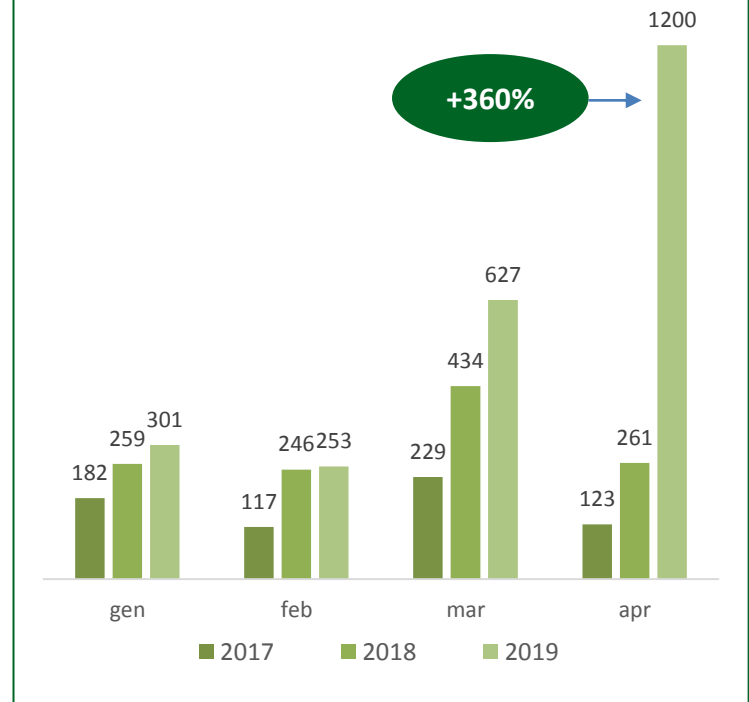
BEV e PHEV sales in Italy: 2012 - 2018

	2012	2013	2014	2015	2016	2017	2018
BEV vendute	524	874	1.110	1.480	1.403	1.964	5.010
PHEV vendute	153	228	451	740	1.160	2.863	4.569
Totale EV vendute	677	1.102	1.561	2.224	2.563	4.827	9.579
% sulle vendite totali	0,05%	0,08%	0,11%	0,14%	0,14%	0,24%	0,50%

BEV e PHEV projections in Italy



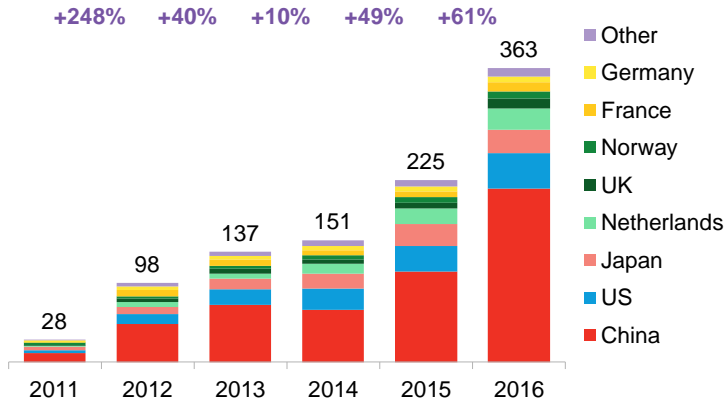
BEV e PHEV sales in Italy - 2019



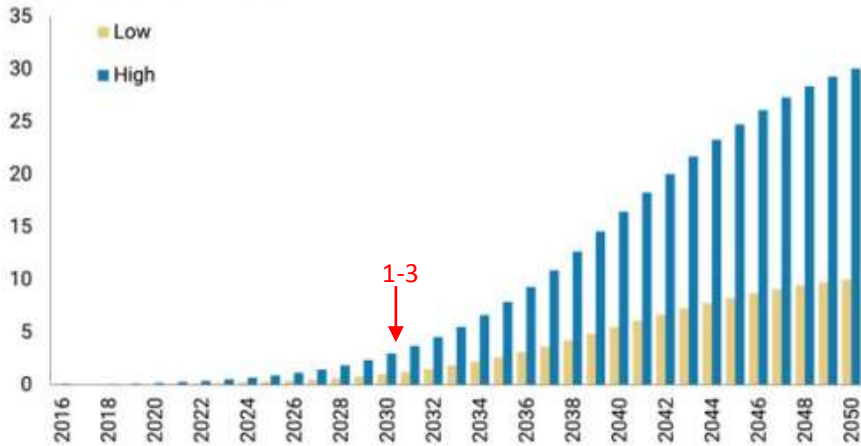
Source: E-mobility report 2018 (Politecnico di Milano)

Global Public EV charging points installed

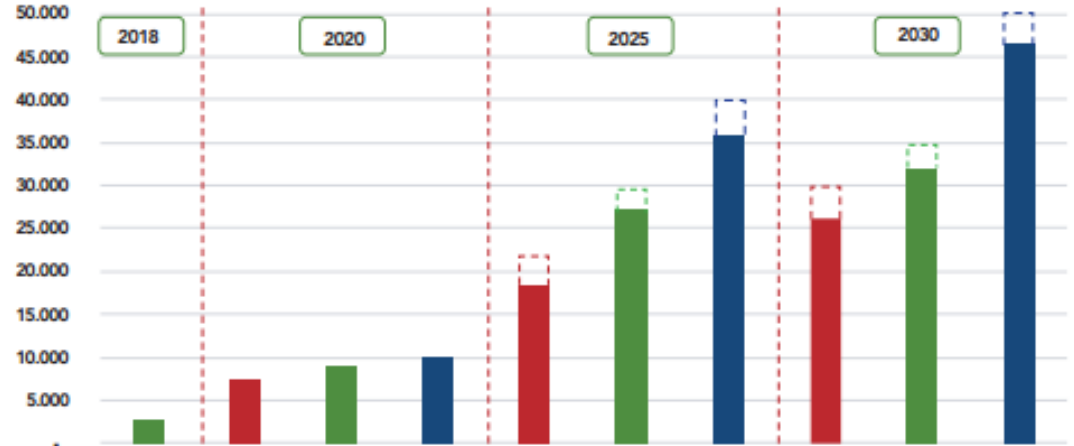
Thousand units installed



Global Public EV charging points projections (mln)



Italy Public EV charging points projections



Source: Morgan Stanley, Bloomberg New Energy Finance [EVO 2017](#), e-mobility report (Politecnico di Milano)



2. PRESENTAZIONE BE CHARGE



BE CHARGE

Be Charge è un operatore integrato per la mobilità elettrica.

Attraverso la propria infrastruttura di ricarica pubblica Be Charge consentirà ai possessori di veicoli elettrici di ricaricare su **tutto il territorio nazionale**.

Il piano industriale di Be Charge prevede l'installazione di **circa 30 mila punti di ricarica nei prossimi anni** che erogheranno energia al 100% proveniente da fonti rinnovabili, per un **investimento complessivo superiore ai 150 milioni di euro**.

Il processo di carica può essere prenotato, avviato ed arrestato via smartphone, in pochi passi facili e veloci, attraverso **una app dedicata** per promuovere una mobilità elettrica sempre più diffusa, smart, user-friendly ed efficiente.

Tutte le stazioni di ricarica sono monitorate 24 ore su 24 da un help desk dedicato.



STRUTTURA DI GRUPPO



Realizzazione e gestione impianti di produzione di energia rinnovabile su scala mondiale



Fondo di investimento con focus infrastrutturale e mobilità elettrica



Società dedicata allo sviluppo della mobilità sostenibile e trading energia avanzato



Corporate car sharing elettrico



Installazione e gestione di infrastrutture di ricarica di proprietà



Trading energia avanzato e Sviluppo progetti di demand / response

KEY DATA BUILDING ENERGY GROUP

- > **193 MW** di potenza installata
- > **700 MW** di impianti in costruzione o fase avanzata di sviluppo
- > **2'600MW** di pipeline in più di 24 paesi nel mondo
- > **€ 150 milioni** raccolti in capitale di rischio
- > **€ 1,5 miliardi** di raccolta in project financing

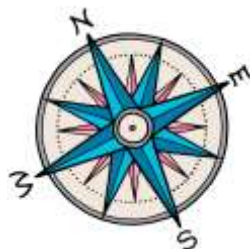
Headquarter a Milano e Londra e sedi in 6 paesi (5 continenti) nel mondo

KEY DATA ZOUK

- > Profilo internazionale
- > **Investimenti in oltre 50 aziende del settore mobilità elettrica e infrastrutture**



LA RETE DI RICARICA DI BE CHARGE



Reta di ricarica capillare e diffusa su tutto il territorio nazionale

DIFFUSA

ACCESSIBILE A TUTTI



Infrastrutture posizionate su suolo pubblico o aree private ad accesso pubblico (supermercati, hotel, parcheggi, centri commerciali, etc etc)

Infrastrutture e software di gestione all'avanguardia che permettono di sviluppare:

- Progetti V2G
- Integrazioni con software di terzi
- Portale B2B dedicato

TECNOLOGICAMENTE AVANZATA

FACILE DA UTILIZZARE

Processo di ricarica snello e digitalizzato attraverso l'utilizzo di una applicazione mobile.



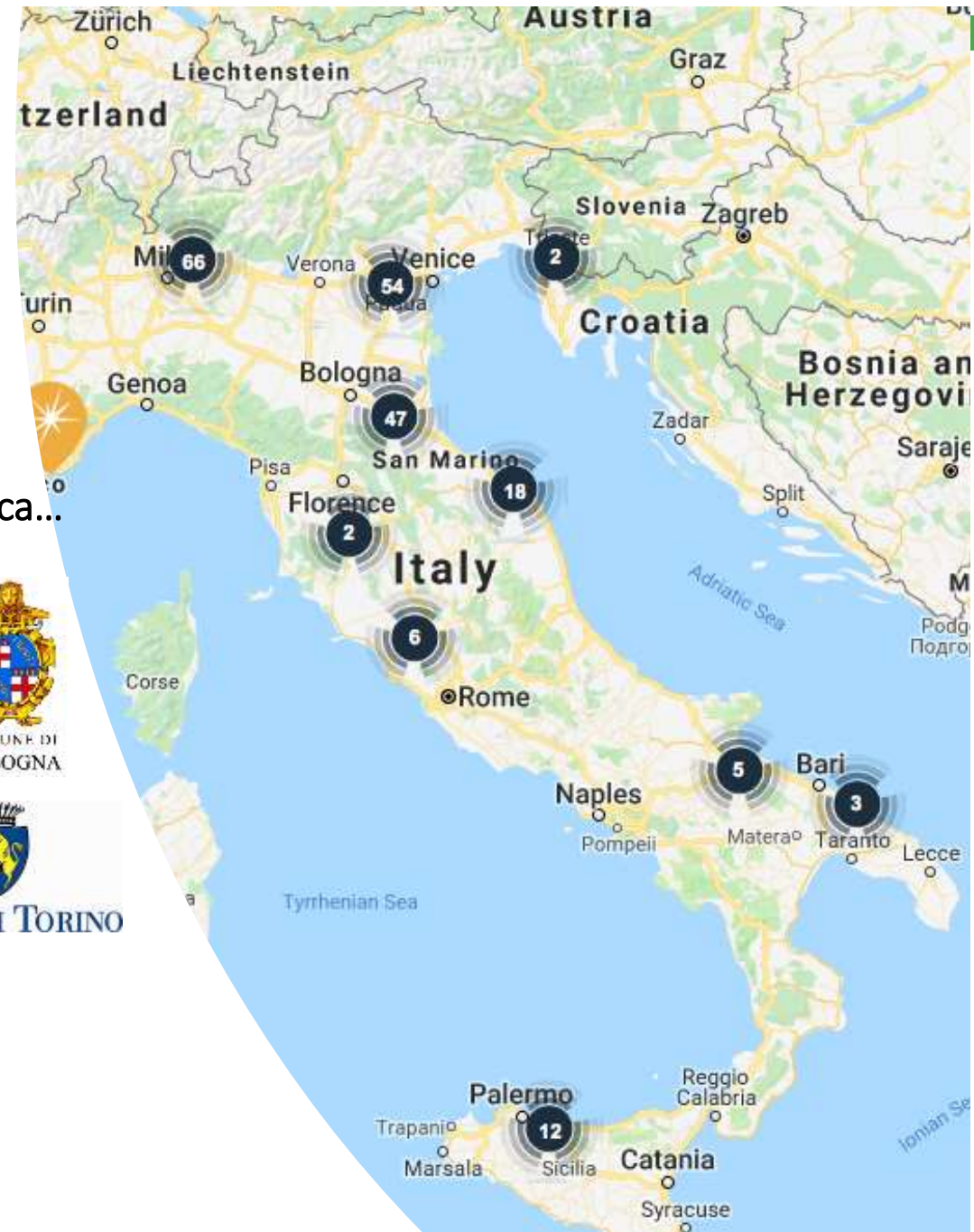
STATO DEL PIANO DI SVILUPPO

- Oltre 1600 punti di ricarica operativi o in costruzione
- Oltre 4000 in fase avanzata di sviluppo / contrattualizzati
- 90% in contesti urbani

Alcuni dei progetti realizzati o in costruzione su area pubblica...



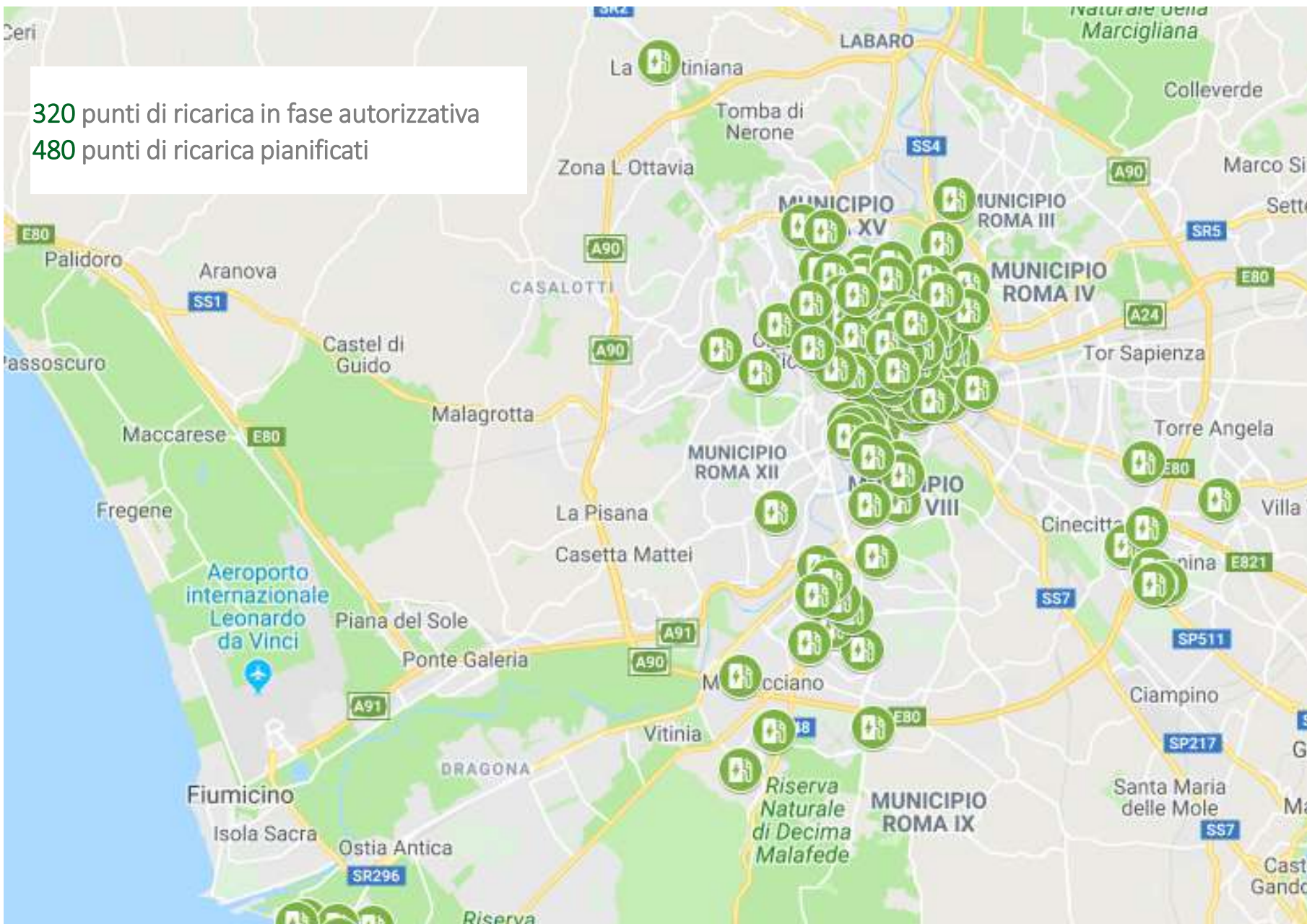
...e contratti firmati con soggetti privati



ROMA

320 punti di ricarica in fase autorizzativa

480 punti di ricarica pianificati



TORINO

300 punti di ricarica autorizzati e in costruzione



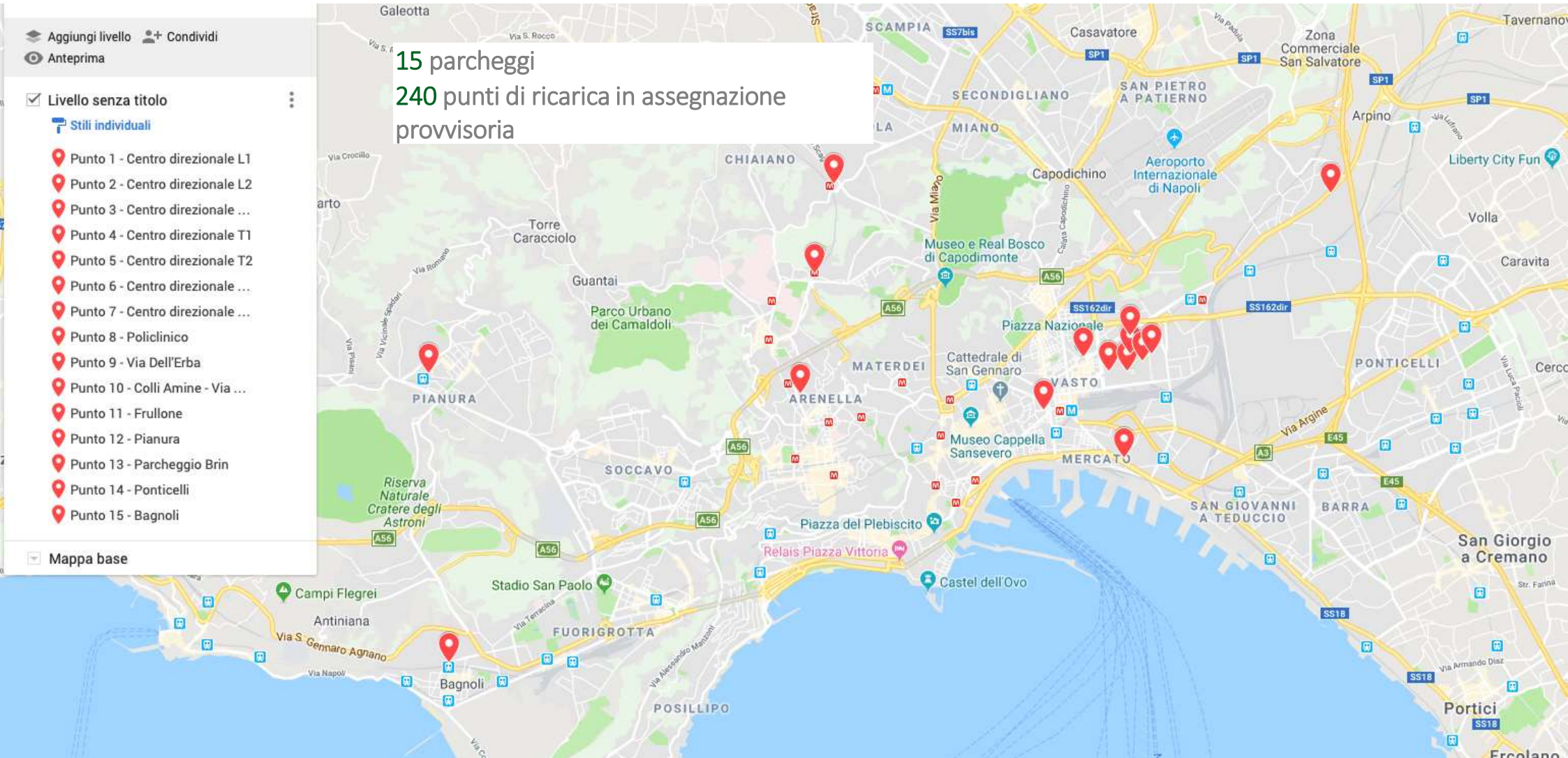
RIMINI



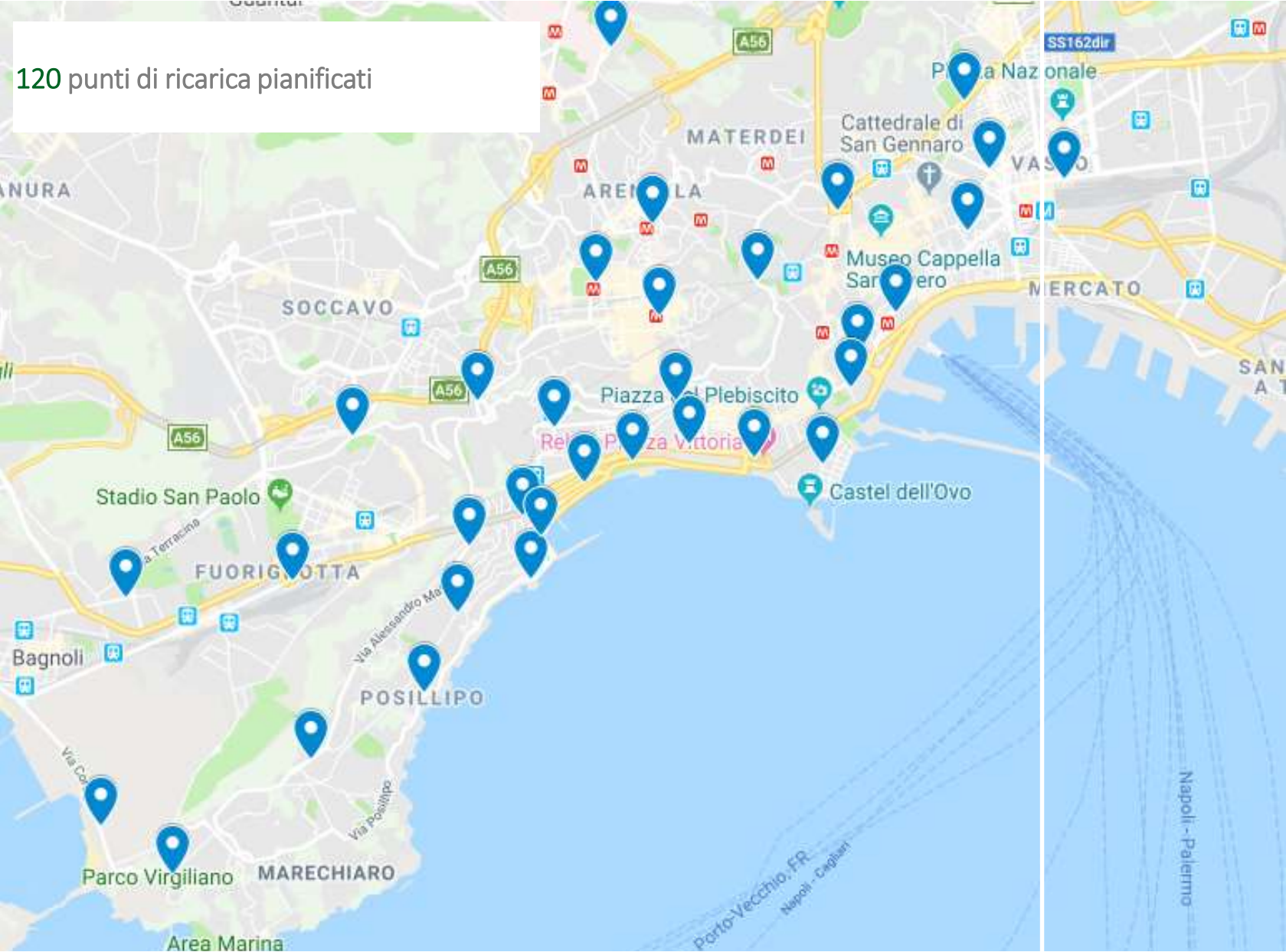
SICILIA – I BORGHI PIÙ BELLI D'ITALIA



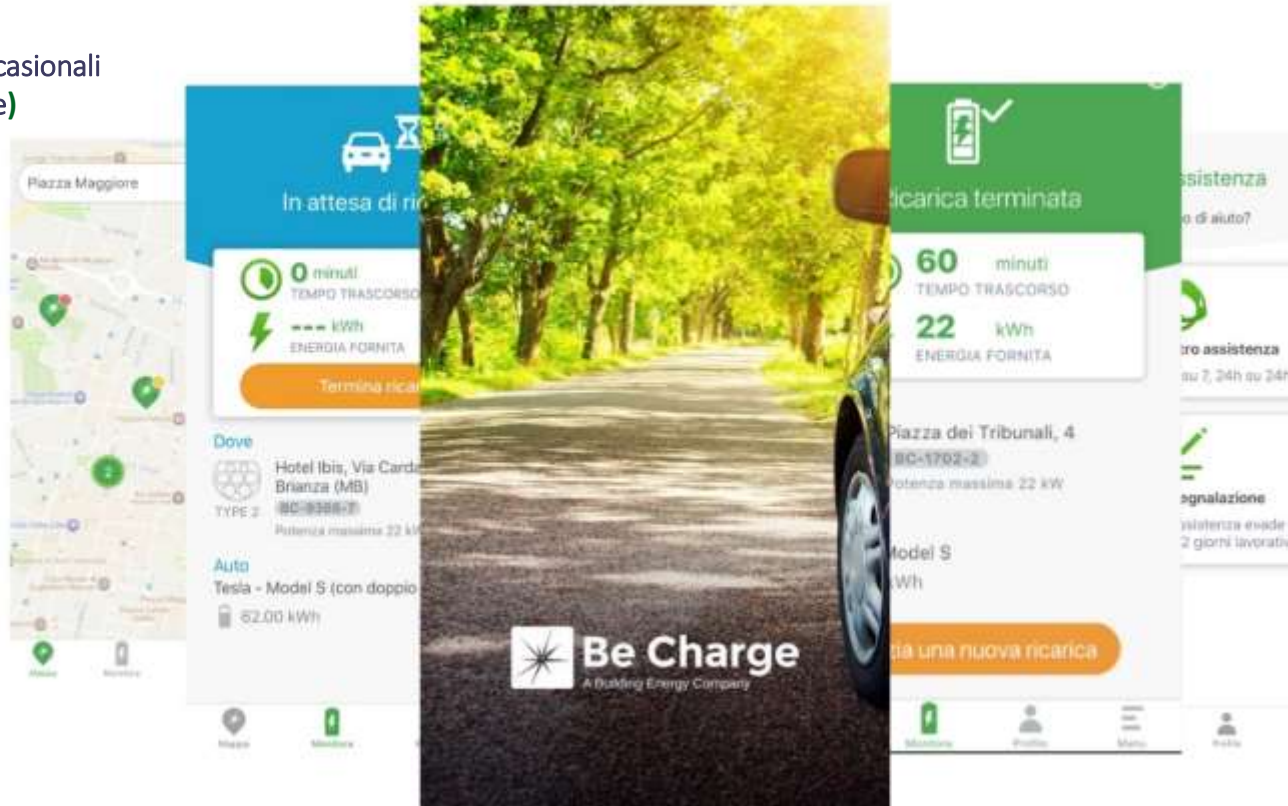
NAPOLI – PARCHEGGI ANM



NAPOLI – PIANO SU SUOLO PUBBLICO



- Registrazione e pagamento per clienti abituali
- Pagamento Smart via Paypal, Carta di credito etc
- Pay As You Go per clienti occasionali senza registrazione (QR Code)



- Lista delle stazioni di ricarica preferite
- Storico delle ricariche
- Profilazione dell'auto del cliente per un servizio più efficace

- Migliaia di colonnine in costruzione e pianificate nei prossimi anni
- Un network internazionale già abilitato ai servizi di roaming

- Il colore del pin indica lo stato della colonnina
- Disponibilità della presa in tempo reale
- Navigatore per raggiungere la colonnina
- Abilitazione funzioni smart charging
- Tempo stimato di ricarica in base alla tipologia di auto e stato della batteria
- Start and Stop della ricarica



ALCUNE DELLE NOSTRE INSTALLAZIONI



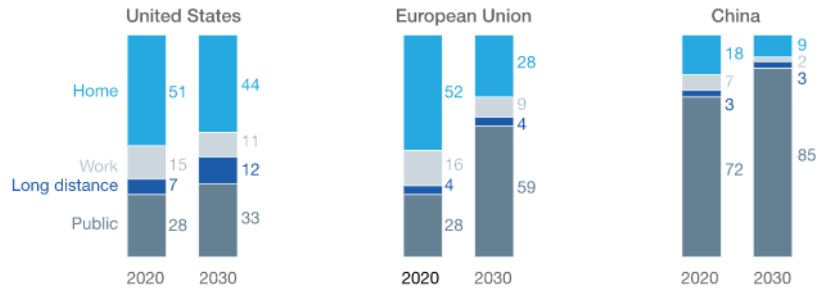


3. IL RUOLO DELL'INFRASTRUTTURA DI RICARICA PUBBLICA

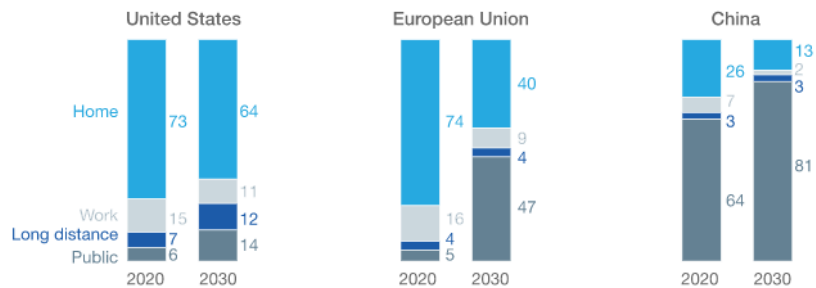


1. Democratizzazione della diffusione dei veicoli elettrici

Energy demand, public-centered scenario, % of kilowatt-hours¹



Energy demand, home-centered scenario, % of kilowatt-hours¹



¹Figures may not sum to 100%, because of rounding.

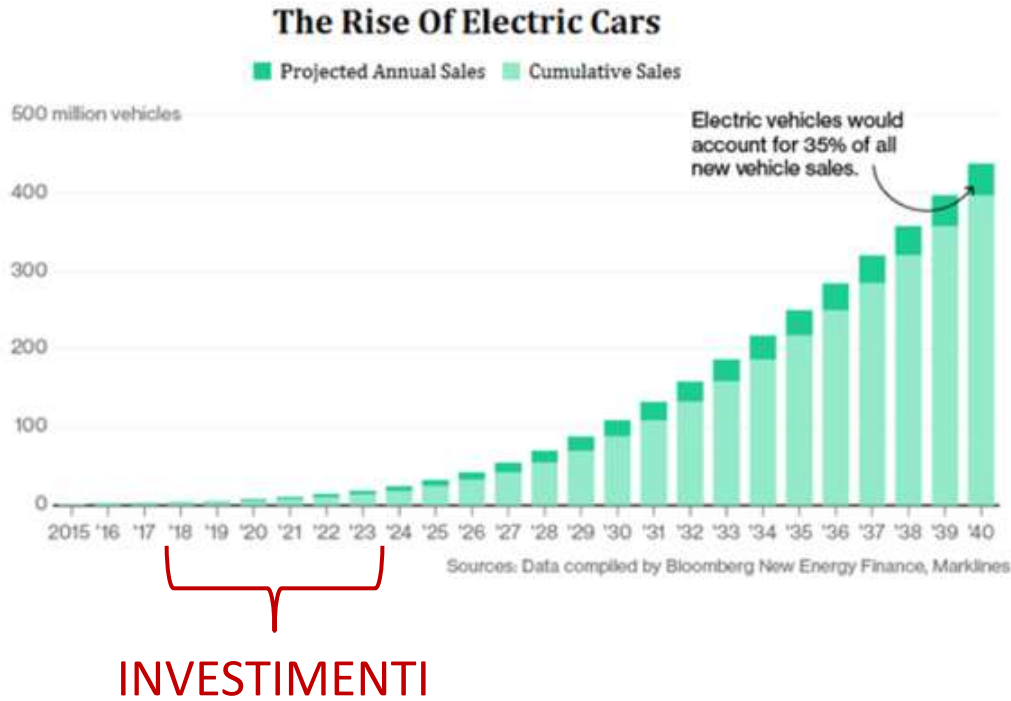
McKinsey&Company



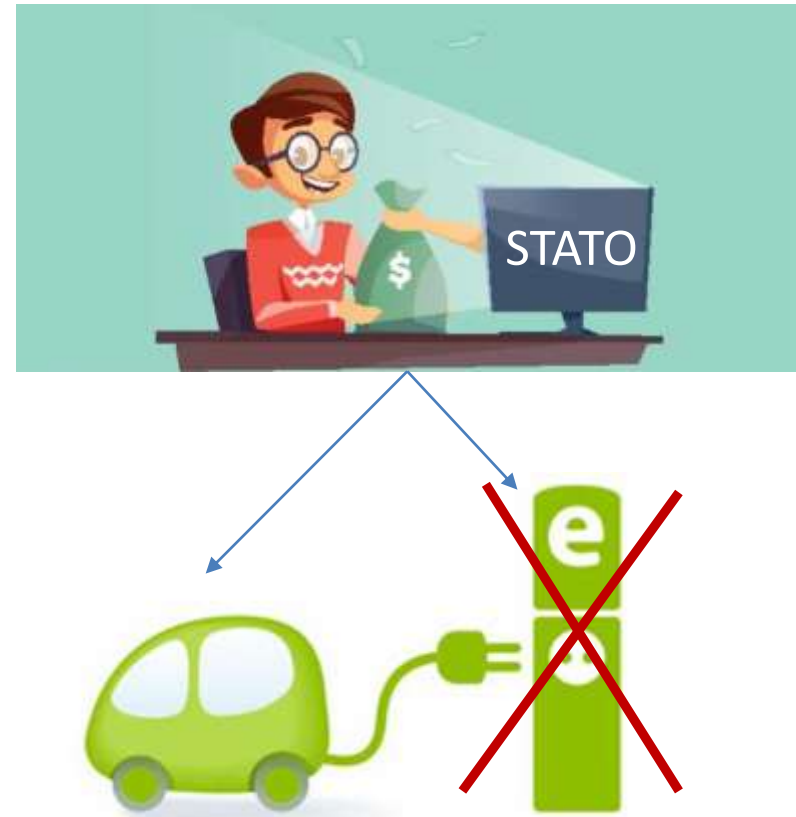
2. Capillarità / riduzione “ansia da ricarica”



3. Resilienza degli investimenti



4. Nuovi investimenti / filiera / no risorse pubbliche



LAST BUT NOT LEAST....

5. Sicurezza e Affidabilità.....



boe