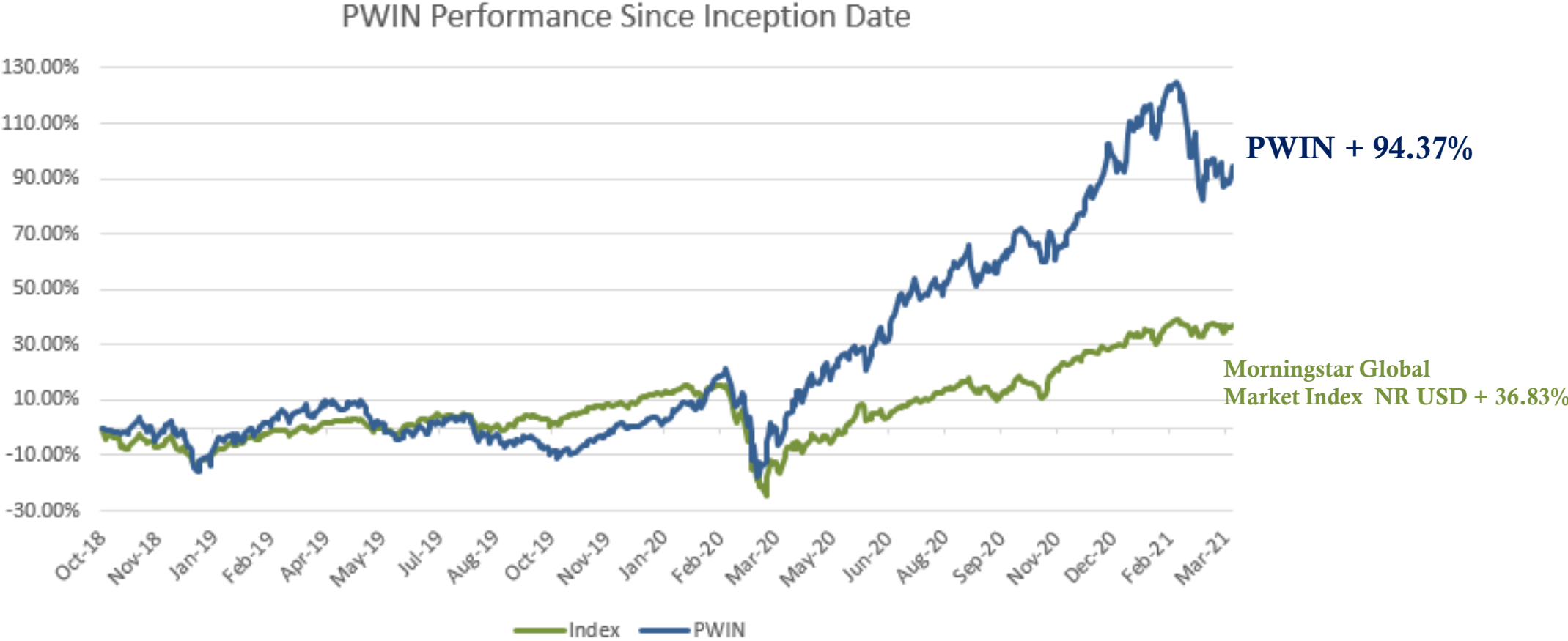


# PWIN Update

Investment News and Top Holdings

April 2021

# PWIN's performance since inception date



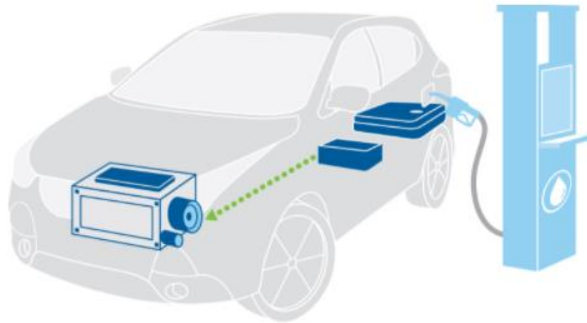
From 8<sup>th</sup> October 2018 (Inception date) to 31<sup>st</sup> March 2021

# Investment news

**Our investment and research team's analysis are being incorporated into PWIN & PWINRMF's investments**

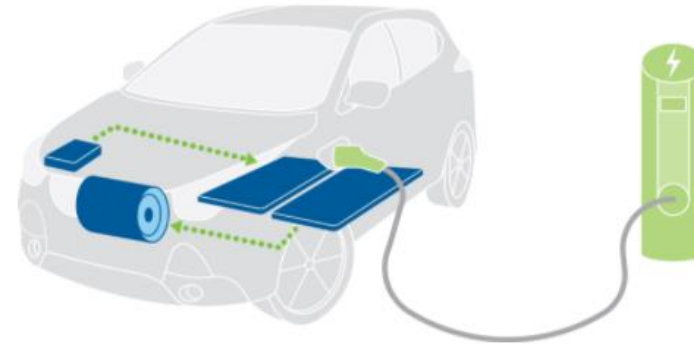
# Electric Vehicle Technology – All need BATTERIES

## Hybrid Electric Vehicle (HEV)



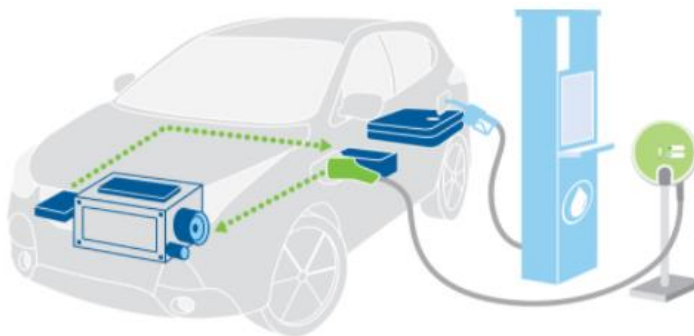
Combustion engine +  
Electric motor and  
batteries  
\*Batteries are not plugged  
in to charge but charged by  
the engine

## Battery Electric Vehicle (BEV)



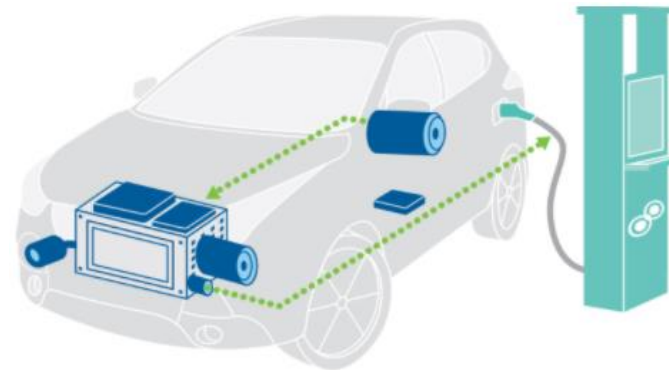
Electric-only –  
larger batteries  
than PHEV

## Plug-in Hybrid Electric Vehicle (PHEV)



Both gas-only  
and electric-only  
(batteries)

## Fuel Cell Electric Vehicle (FCEV)



Battery electric  
+ refueling of  
hydrogen

# The supply chain of EV power unit

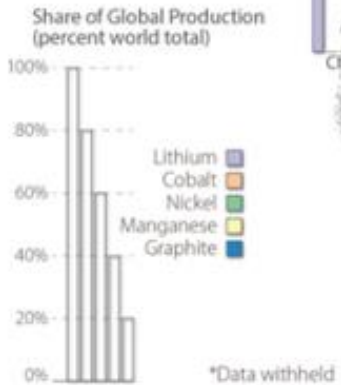


Hundreds of million of new EVs to hit public roads will be *powered by batteries*

- Two key EV batteries commodities – Lithium and Cobalt
- In 2017,
  - 40% of Lithium and 25% of cobalt demand came from consumer electronics
- Expect to see a **3x** increase in demand for Lithium and Cobalt between 2017 and 2025 according to McKinsey

# Cobalt and Lithium Production

Both cobalt and lithium has *high geographic concentration in production & China is one major producer*

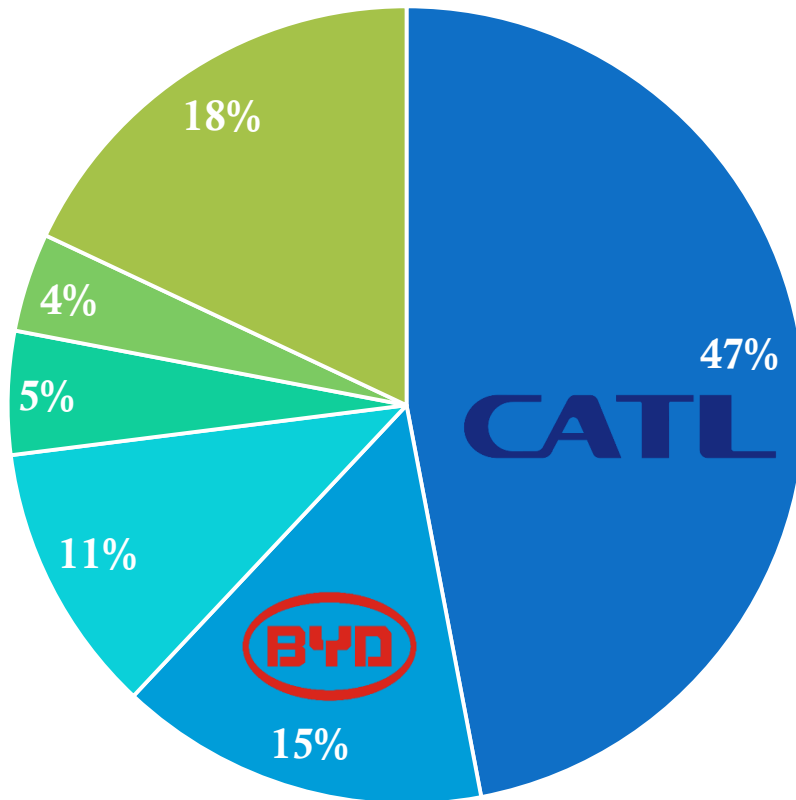


In 2017, 32 countries accounted for all global production of key NMC materials

- **43,000 tons lithium:** 44% Australia 34% Chile, Argentina 13%
- **1.2 million tons natural graphite :** 67% China, 13% India, Brazil 8%
- **2.1 million tons nickel:** 11% Philippines, 10% Canada, 9% Russia, 9% Australia
- **16 million tons manganese:** 33% South Africa, 16% China, 14% Australia
- **110,000 tons cobalt:** 59% Democratic Republic of Congo, 5% Russia, 5% Australia

# China EV batteries market

## China EV batteries market



□ CATL □ BYD □ LG Energy Solution □ CALB □ Gotion □ Other

China's battery shipments accounted for 61.7% of the world in 2019

- CATL, a Chinese company, is the world's no.1 battery company accounting for over **47% market share in China** and over **32% of the global market share**
- Both **PWIN** and **P-CGREEN** invests in CATL and BYD

# Drivers for batteries demand

## Government Policies



- U.S. energy and economic policy core elements include supporting EVs
- Biden \$2.2 trillion infrastructure policy details include **\$174 billion** investment for the EV market
- Point-of-sale rebates, tax incentives for **American-made EVs** and funding for 500,000 charging stations



CHINA PURE ELECTRIC VEHICLE SUBSIDIES 2020-2021 (by vehicle driving range)		
	300-400 km	≥400 km
2021	13,000 yuan	18,000 yuan
2020	16,200 yuan	22,500 yuan

Source: Ministry of Finance of the People's Republic of China, compiled by Fastmarkets

- Subsidies by Chinese government for purchasing **Chinese-made EVs** for two more years to 2022 (the original expiry date: Dec 31, 2020)



*“Since 2017, **China** has grown its public fast-charging network to over **309,000** public fast-charging plugs (about **one** for **every 12 EVs** in the country)*

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### Chinese government aggressive policies

- 1** Permit for all public charging stations to be on **industrial electricity rates** and not the commercial electricity rates which is more expensive
- 2** Offer subsidies as high as **30 percent of the installation costs** for charging stations installed on the provincial and municipal levels



### Results

In **2019**, public charging stations increased at a rate of 17,000 plugs per month.

In **2020**, Total number of public charging stations reached 807,000 (309,000 were fast-charging plugs)

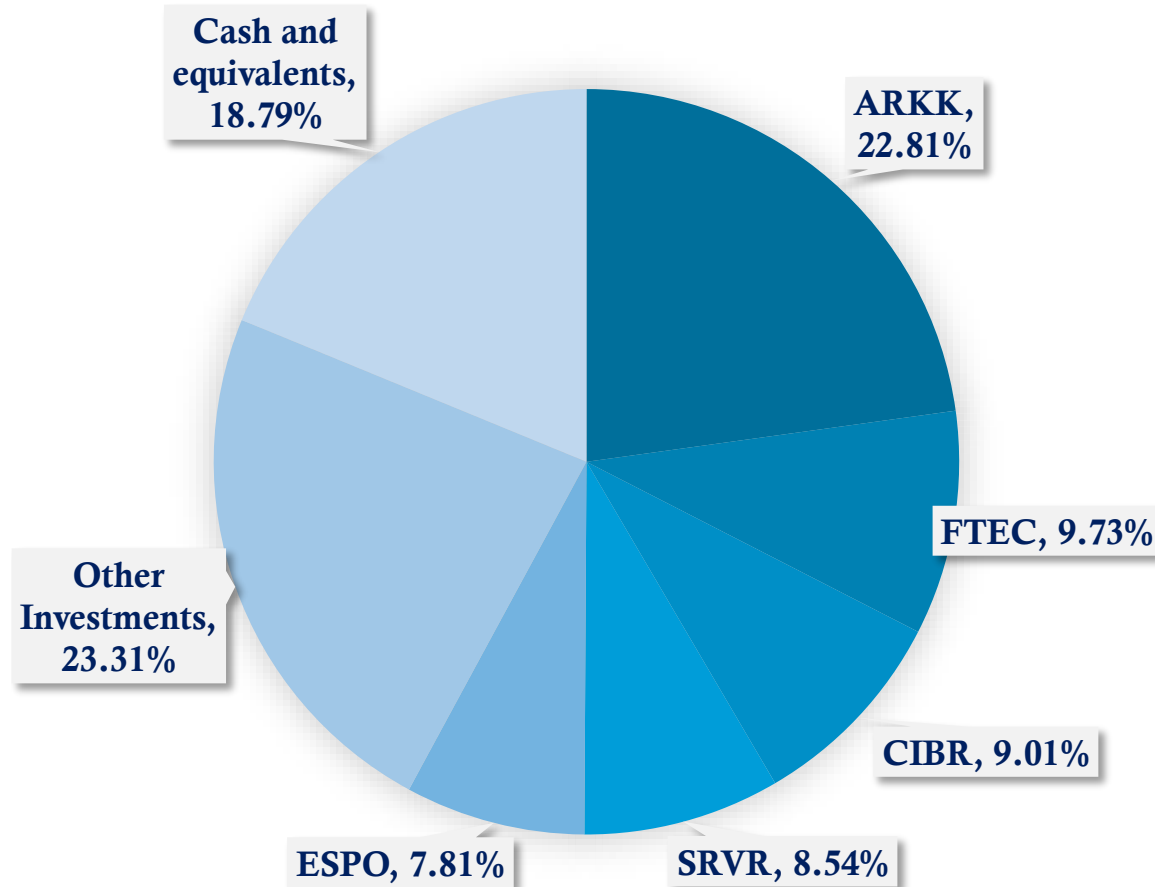


*U.S. long road ahead to install 500,00 new EV charging stations, which is **five times** the size of the national network now*

- AlixPartners estimates \$50 billion investment will be needed to build charging stations large enough to accommodate the growth of EVs by 2030
- Costs for 30–50 kW charging plugs equipment in the U.S. : between \$600,000 to \$1.1 whereas in China the ENTIRE installation cost only approx. \$312,000 before subsidies

# Top Holdings

# PWIN Top holdings



No	Company	Weight(%)
1	TESLA INC	2.77
2	TELADOC HEALTH INC	1.94
3	APPLE INC	1.91
4	SQUARE INC - A	1.69
5	MICROSOFT CORP	1.56
6	NVIDIA CORP	1.42
7	AMERICAN TOWER CORP	1.36
8	CROWN CASTLE INTL CORP	1.36
9	ROKU INC	1.31
10	EQUINIX INC	1.29