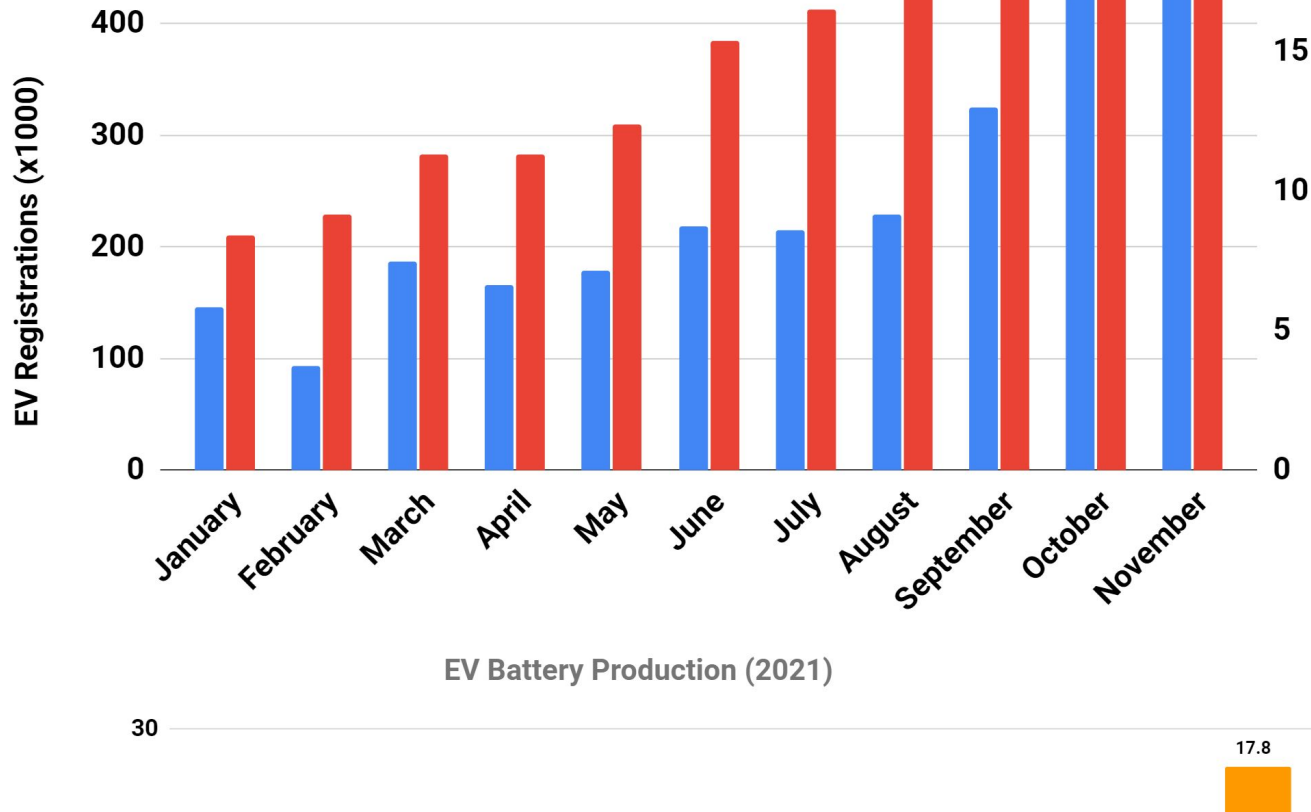
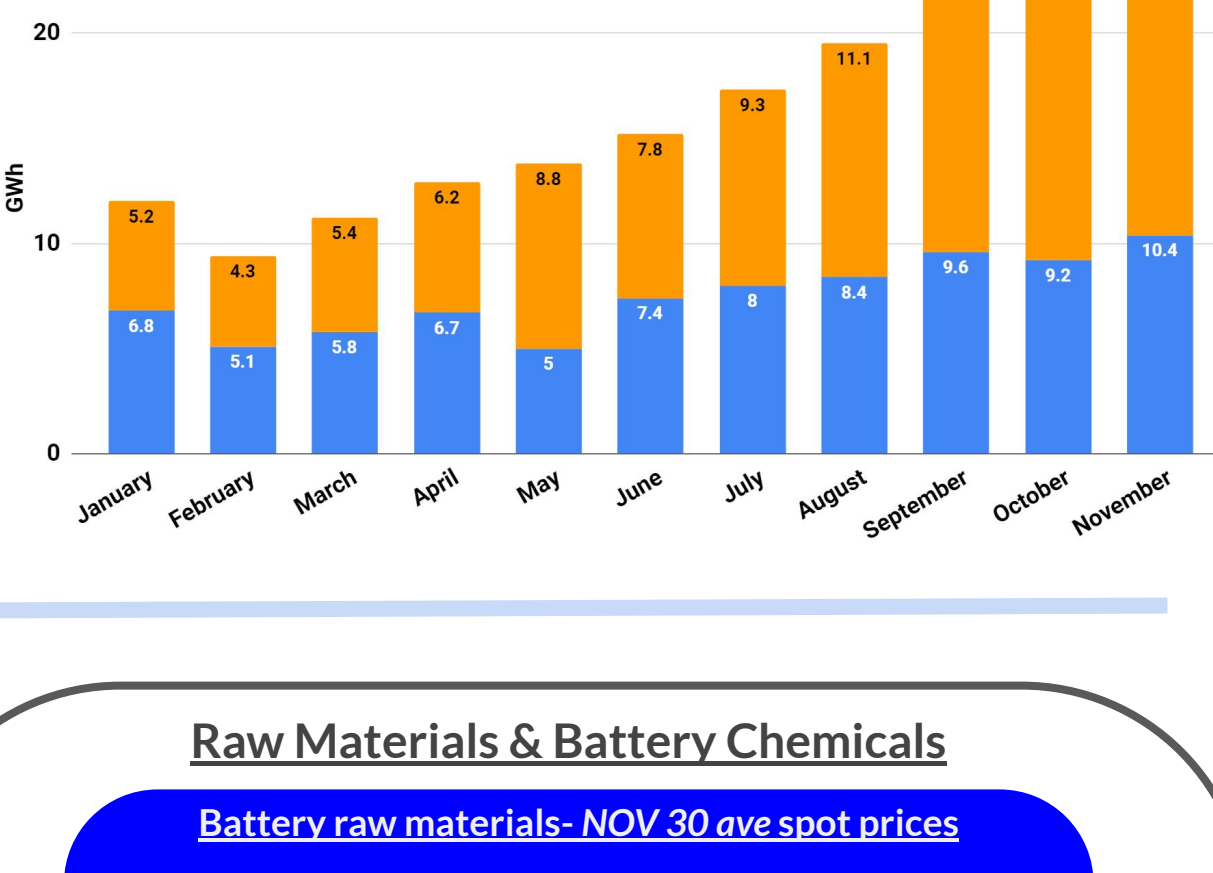


China EV Battery Headlines November 2021

NEV Insurance Registrations (2021)



EV Battery Production (2021)



Raw Materials & Battery Chemicals

Battery raw materials- NOV 30 ave spot prices

99.5% Li ₂ CO ₃	205k RMB/ton
56.5% LiOH.H ₂ O	198k RMB/ton
Spodumene 6% CIF China	1900 USD/ton
Precursors (523,622,811)	131, 136, 146.5k RMB/ton
CAM (523,622,811)	222, 237.5, 263k RMB/ton
LiFePO ₄ (EV)	89k RMB/ton
LiFePO ₄ (ESS)	83k RMB/ton
Graphite (Natural/Synthetic)	57/71.5k RMB/ton
LiPF ₆	530k RMB/ton
PVDF- Battery Grade	420-550k RMB/ton

Raw Materials

Ganfeng Lithium Sign 3 year battery-grade lithium products supply agreement

嘉元科技 Plans to invest 4.9 billion yuan to expand the production of lithium battery copper foil (20 kt/yr)

西藏珠峰 Agrees to invest 1.7 billion USD in two brine projects in Argentina

eramet (Centenario-Ratonos Salt Lake, Argentina) Eramet & Tsingshan (\$375million/49.9%) agree to construct LCE plant (Q2 2022) and commission it in early 2024 (24 kt/yr)

WEIMING Invest US\$400 million in the construction of a nickel matte Indonesian project (40 kt/yr)

Anode Materials

posco Posco Chemical acquire 15% stake in China's Sinuo New Materials Technology

深圳斯诺

EVE Invest 2.5 billion RMB in a 100kt graphite production base.

硅宝 (Sichuan) to build 10 kt/yr of silicon carbon plant

YENENG (Pingdingshan City) intends to develop two anode projects

Cathode Materials

XTC (Hajjing) In addition to the planned 40 kt of NMC CAM XTC new Energy plans a 3rd phase high nickel CAM to start in Oct 2021 (20 kt/yr)

FINNISH MINERALS GROUP (Finland) to produce 100 kt/yr of high-nickel CAM (2024)

SK (EU, USA, SK) agree to jointly build cathode capacity in all major EV markets.

Lithium Iron Phosphate

云天化集团 (Yunnan) Announced 500 kt LiFePO₄ & precursor plant. 1st phase completed June 2022

CHANHEN 川恒 Plan the construction of a LiFePO₄ cathode plant (100 kt/yr)

VISION Plans to expand production of LiFePO₄ precursors (100 kt/yr)

Dynanonic Raise 3.2 Billion RMB to build NEW PHOSPHATE based cathode an upgraded version of nano-lithium iron phosphate, with better product performance (110 kt/yr)

Lopal Intends to jointly build a LiFePO₄ project in Indonesia 1.5 Billion RMB (100 kt/yr)

华友钴业 (Hubei) Develop entire LiFePO₄ supply chain including phosphate mining, phosphoric acid, iron phosphate & LiFePO₄ (500 kt/yr)

芭田 (Guizhou) Invests in the construction of new battery-grade FePO₄ project (300 kt/yr)

龙蟒大地 (Sichuan) Invests in the construction of FePO₄ (100 kt/yr) & LiFePO₄ (100 kt/yr) plants October 2023

中银钴业 (Guizhou) Invest 2 billion RMB to build LiFePO₄ CAM plant (80 kt/yr)

Electrolyte

DFD (Shanxi) 20kt LiPF₆ & additives scheduled to operational by Dec 2022.

- Announce 5.5 billion RMB raise for the construction 80kt-LiPF₆ & 10kt-LITFSI & 10kt- LiPO2F2
- Agree to supply **BYD** 56 kt LiPF₆ 2022 to 2025

山东石大胜华化工集团 (Shandong) Plan to invest RMB 1 billion to build an battery electrolytes base. (220 kt carbonates)

- 120 kt : Ethylene carbonate
- 50 kt: Dimethyl carbonate
- 45 kt: Ethyl methyl carbonate
- 5 kt: Diethyl carbonate.
- 100 kt: lithium salts

新宙邦 (Tennessee) signed an approximately US\$367 million electrolyte contract

万盛股份 (Shanxi) 95 kt/yr Invest 450 million RMB in electrolyte additive plants including (15 kinds of additives)

瑞联 Invest 100 million RMB in solvent & additive plant primarily vinylene carbonate (VC) and fluoroethylene carbonate (FEC).

Separators

SEMCORP (Yunnan) Invest 8 billion RMB Wet and dry lithium battery separator project JV

CATL

中国建材 (Inner Mongolia) 320 million m² wet separator production line The construction period will be 18 months.

Cell Manufacturing

January to November battery output totaled 159.8 GWh

EVE (Jingmen) 30.5 billion RMB investment, 153GWh. Three new factories ready for mass production of 14 GWh LiFePO₄, Factory Q8- 8GWh Prismatic, Q9 -3GWh Cylindrical Q10- Prismatic 3GWh

SUNWODA (Zhejiang) Officially opened 5.2 billion RMB battery plant

Innovation SK (Yancheng) To build 4th & largest factory in China, (10GWh)

Battery Technology

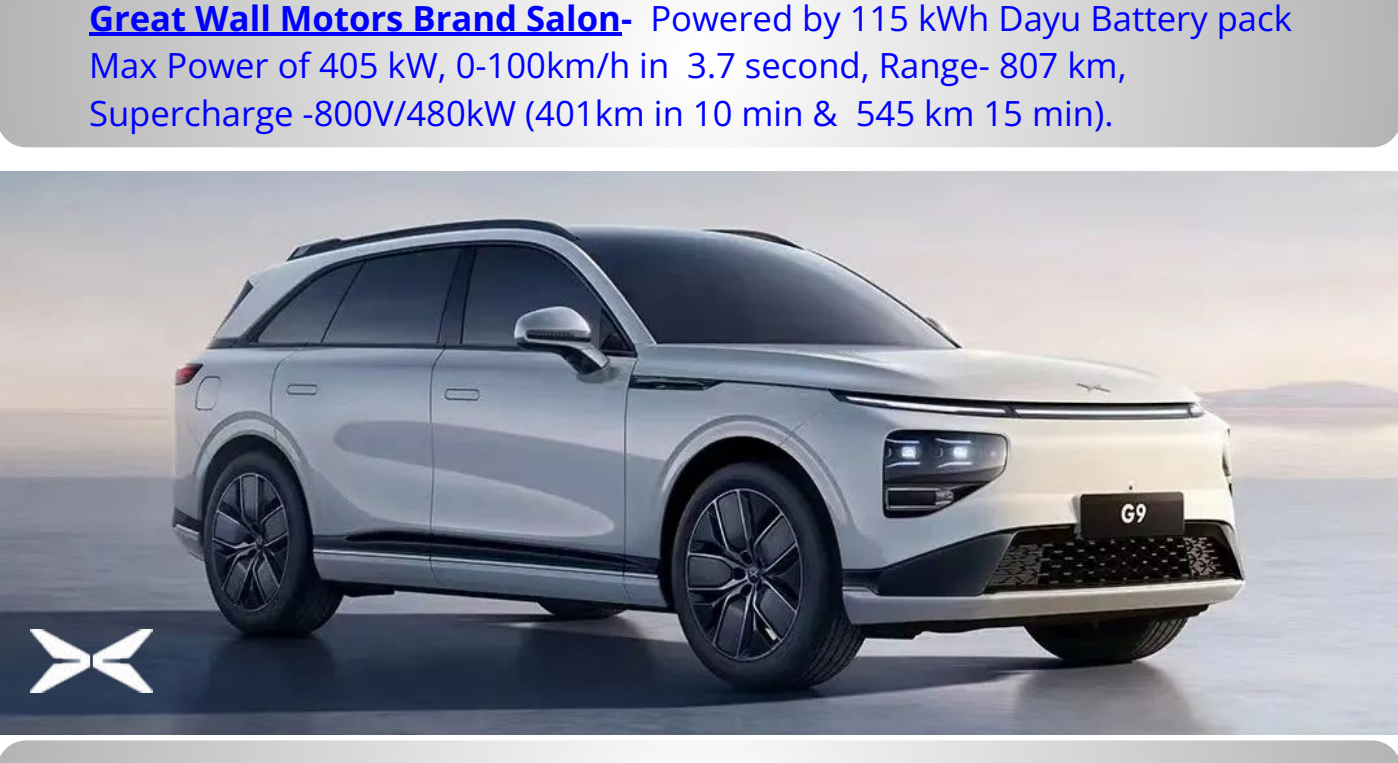
国轩高科 Announce 1st generation semi-solid batteries achieve over 1000 km range cruising range in high end EV's.

Guangzhou Auto Show

高性能机甲战跑 机甲龙



Great Wall Motors Brand Salon- Powered by 115 kWh Dayu Battery pack Max Power of 405 kW, 0-100km/h in 3.7 second, Range- 807 km, Supercharge -800V/480kW (401km in 10 min & 545 km 15 min).



Xpeng G9- Powered by 100 kWh Battery pack Range- 600-650 km, Supercharge -800V/480kW (200 km in 5 min)



Weltmeister M7- Range- 700 km, 14kWh/100km