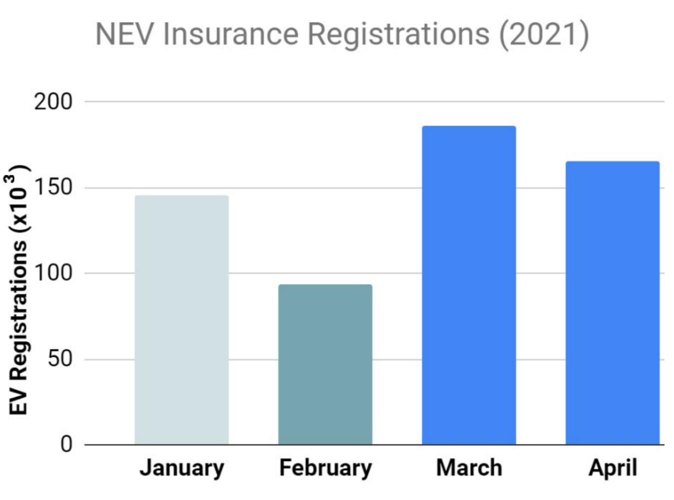
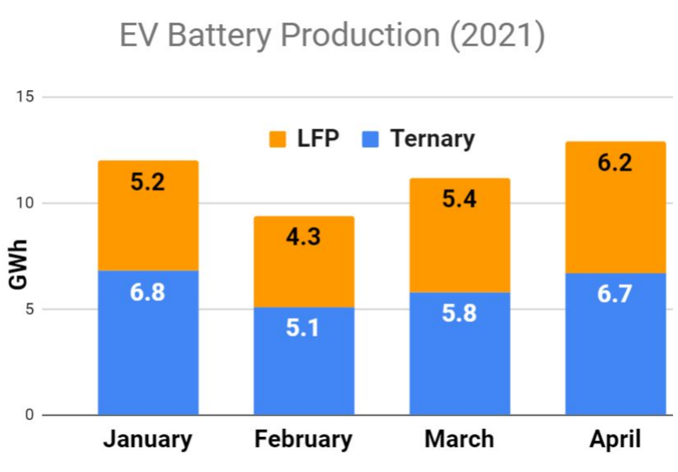
# China EV, Battery and Energy Storage headlines May 2021




## Raw Materials & Battery Chemicals

Lithium battery raw materials Ave-spot prices
*99.5% $Li_2CO_3$* *May 21 (89.5 RMB/ton)*
*56.5% $LiOH.H_2O$* *May 21 (97.5k RMB/ton)*
$LiPF_6$ *320k RMB/ton*
$LiFePO_4$ (EV) *50k RMB/ton*
$LiFePO_4$ (ESS) *42k RMB/ton*
**Graphite (Natural/Synthetic)** *55.5/67.5 RMB/ton*

Rongbay secure NIckel & Cobalt supply with agreement with maolin tech

To increase **LCE** production from **45-110 kt/yr** in the **near term**

Begin construction on phase 1 of Yichun **$Li_2CO_3$ & LiOH** chemical plant

$2B Indonesian **JV Laterite** Weda Bay project 120kt/yr Ni & 15kt/yr Co

HUAYOU acquire **38.6%** of cathode manufacturer **Tianjin B&M** for $210M

2nd phase of Huizhou increases **graphite** capacity to **40kt/yr**. Separately Tianjin BTR expand graphite production to **40kt/yr** (2022)

Sign **50kt** Hi-Nickel cathode material **JV**

**World's largest cathode supplier- Shanshan/BASF** take 51% in **Shanshan** subsidiary (*Shanshan energy*)

Construct 35kt li-ion precursor plant in Ningxiang

**CNNC** invest RMB 7 billion in **$LiFePO_4$** production capacity

Agree to supply CATL **15kt of $LiPF_6$**
**Tinci** delivered 73kt of electrolyte in 2020

Invest RMB 10 billion to increase annual **wet/coated separator** capacity 3 Billion $m^2$

Cangzhou Mingzhu invest RMB 620 million to build wet separator plant (200 million $m^2$)

To complete 5th **wet/coated separato**r plant by 2022 (600 million $m^2$)

Invest RMB 3.75 billion in **wet separator** capacity (1.04 billion $m^2$)

LG secure copper foil supply by taking stake in Chinese copper foil company Defu Tech

## Cell Manufacturing

China's TeraWatt Era by 2025

**CATL:** Lithium battery capacity to reach 600 GWh
**BYD:** 100 GWh of Battery production by 2022
**AVIC:** 300 GWh of planned capacity (200GWh by 2022)
**Farasis:** 100 GWh of capacity in 2025
**SVOLT:** 200 GWh in 2025
**REPT:** 200 GWh production capacity in 2025

Global battery installed capacity doubled **Q1**
*26.8 GWh (2020) to 65.9 GWh (2021)* (SNE)

Top 10: Global Installed capacity Q1 2021

| Rank | Manufacturer | Volume (GWh) | Market share (%) |
|---|---|---|---|
| 1 | CATL | 21.4 | 32.1 |
| 2 | LG CHEM ES | 14.2 | 21.3 |
| 3 | PANASONIC | 9.7 | 14.6 |
| 4 | BYD | 4.5 | 6.8 |
| 5 | Samsung SDI | 3.5 | 5.3 |
| 6 | SKI | 3.4 | 5.1 |
| 7 | AVIC | 2.2 | 3.3 |
| 8 | Guoxuan Hi-Tech | 1.6 | 2.4 |
| 9 | AESC | 1.3 | 2 |
| 10 | PEVE | 0.8 | 1.2 |

On April 28, CATL and ATL from JV to enter the e-mobility sector

Invest 10 billion RMB in **20 GWh** Wuhan plant & expand **30 GWh Xiamen** plant

(Nanning) Announce **20GWh l**ithium battery plant

Adds 8th battery plant with **10 billion** RMB in Changchun

Sign JV to construct **20 GWh** battery plant based on Farasis cell technology

(Ganzhou) Begin phase 1 **(12GWh)** Battery plant (42 GWh upon completion)

(Nanjing ) **LG New Energy** complete 2nd battery plant **(24GWh)** - US$1.3 billion

## Battery Technology

to introduce sodium ion batteries in July

Invest in waste $LiFePO_4$ battery recycling

Following March's introduction of the ternary "Magazine battery" , GAC Aion revealed the impressive safety features of the **$LiFePO_4$** version.

Set to introduce their Sodium-ion batteries this July. *but why now?*
Is it to offset the looming raw material and li-ion battery shortages.
Have CATL found a way to increase Na-ion energy density (*100-150Wh/kg*)
Can Na-ion be used in both EV & ESS applications
Na-ion combined with CTP technology can be used in micro-EV's

## Electric Vehicle

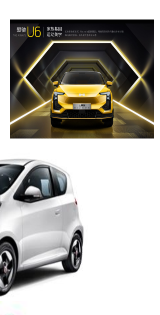

BYD's 1 millionth new energy vehicle rolls off the assembly line

SAIC-GM to build **Ultium** EV platform in Wuhan.

@ $4.5KHong guang MINI EV " sits on the **throne of China**'s of EV industry

Recall of 6,636 Chinese iX3 EV due to software problem with the battery control unit (BCU).

Huawei ship the Cyrus SF5 **smart car** as scheduled in May.



Airways release the U6 (**650km + / CTP battery**)

SUNWODA Selected to supply **142Ah $LiFePO_4$** cell to Roewe E50 EV

All Chinese public sector vehicles will be fully electrified **by 2035**

Guoxuan to supply **LFP cells** to Leap Motors

**CATL** will supply lithium-ion battery packs to **Daimler** trucks starting 2024

## RECALLS

The Chinese Ministry of Ecology and Environment updated "Regulations on the Management of Motor Vehicle Emissions Recalls", extending product recalls from **safety recalls** to **emissions recalls.**