

AMERICAN MIDWEST & PLAINS REGIONAL WORKSHOP ON CRITICAL MINERALS SUSTAINABILITY

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CLARIOS

55 MANUFACTURING,
RECYCLING & DISTRIBUTION
CENTERS WORLDWIDE

143M BATTERIES
SOLD IN 2020

\$7.6B REVENUE IN FY20
WITH A HISTORY
OF GROWTH

16,000 TEAM
MEMBERS

SERVING
CUSTOMERS IN

150+ COUNTRIES

16 R&D
PARTNERSHIPS

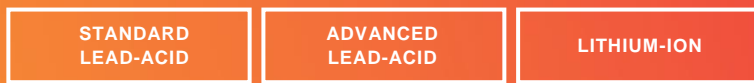
6 R&D
FACILITIES

- GLOBAL HEADQUARTERS
- REGIONAL HEADQUARTERS



130+ YEAR TRADITION
OF INNOVATION AND GROWTH

THE BROADEST
AND MOST
EFFICIENT
PORTFOLIO OF
BATTERIES



BRANDS INCLUDE VARTA®, OPTIMA®, MAC®, DELKOR®, LTH®
AND HELIAR®, AS WELL AS PRIVATE LABEL BATTERIES



1 IN 3
CARS

IN THE WORLD IS POWERED
BY OUR BATTERIES



WORLD'S
BEST
EXAMPLE
OF A
CIRCULAR
ECONOMY

UP TO

99%

OF THE MATERIALS IN
OUR BATTERIES CAN BE
RECOVERED, RECYCLED
AND REMADE

BY USING RECYCLED
RAW MATERIALS

90%

LOWER ENERGY AND
GREENHOUSE GAS EMISSIONS

8K

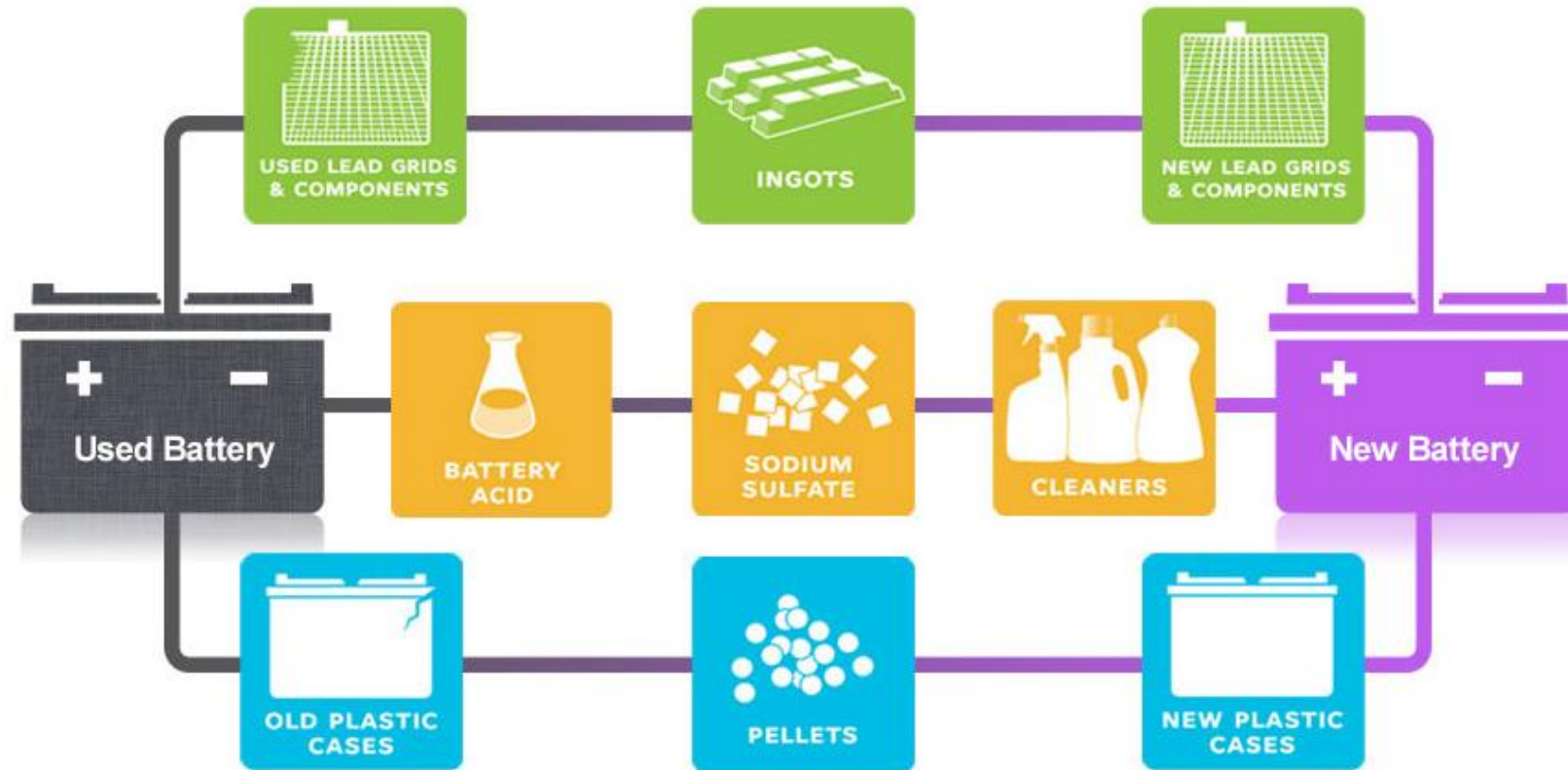
BATTERIES RECYCLED
GLOBALLY, EVERY HOUR,
EVERY DAY IN OUR NETWORK

CLARIOS PRODUCT PORTFOLIO



| BATTERY TYPE | SLI | | EFB | | AGM | LOW VOLTAGE LI-ION | | LI-ION | |
|----------------------------|----------------------------------|--|---|--|-----|--------------------|--|--------------------------------|--|
| VEHICLE TYPE: | CONVENTIONAL | | START-STOP | | | MILD HYBRID 48/12V | PLUG-IN HYBRID (PHEV) | BATTERY ELECTRIC VEHICLE (BEV) | |
| PRIMARY PROPULSION | Internal Combustion Engine (ICE) | | | | | | ICE+ battery-electric motor | Li-Ion battery electric motor | |
| LEAD-ACID BATTERY FUNCTION | Starting, Lighting and Ignition | | Supports start-stop and limited higher electrical loads | | | | Required for safety; supports 12V loads and redundancy for key systems | | |

USED BATTERIES MAKE NEW BATTERIES



BATTERIES RECYCLED THIS YEAR 4,705,864 



THE BIDEN PLAN TO BUILD A MODERN, SUSTAINABLE INFRASTRUCTURE AND AN EQUITABLE CLEAN ENERGY FUTURE

- **Auto Industry:** Create 1 million new jobs in the American auto industry, domestic auto supply chains, and auto infrastructure, from parts to materials to electric vehicle charging stations, positioning American auto workers and manufacturers to win the 21st century; and invest in U.S. auto workers to ensure their jobs are good jobs with a choice to join a union.
- **Innovation:** Drive dramatic cost reductions in critical clean energy technologies, including battery storage, negative emissions technologies, the next generation of building materials, renewable hydrogen, and advanced nuclear – and rapidly commercialize them, ensuring that those new technologies are made in America.

- **Infrastructure:** Create millions of good, union jobs rebuilding America's crumbling infrastructure – from roads and bridges to green spaces and water systems to electricity grids and universal broadband – to lay a new foundation for sustainable growth, compete in the global economy, withstand the impacts of climate change, and improve public health, including access to clean air and clean water.

- **Environmental Justice:** Ensure that environmental justice is a key consideration in where, how, and with whom we build – creating good, union, middle-class jobs in communities left behind, righting wrongs in communities that bear the brunt of pollution, and lifting up the best ideas from across our great nation – rural, urban, and tribal.

- **Power Sector:** Move ambitiously to generate clean, American-made electricity to achieve a carbon pollution-free power sector by 2035. This will enable us to meet the existential threat of climate change while creating millions of jobs with a choice to join a union.

America Needs a Sustainable Energy Storage Ecosystem

US manufacturing, deployment, and recycling of energy storage technologies.

Batteries are fundamental to realizing the goals of vehicle electrification and electric grid decarbonization

The United States is dependent on imports, mostly from China, for batteries, components and battery critical materials.

The US must accelerate deployment of energy storage technology throughout the US economy and protect US capacity, technological superiority, and jobs.

**Green Economy
US Job Creation
Climate Action**

Supply Chain:

- China controls 80% of the battery critical raw material refining globally, 77% of cell manufacturing and 60% of component manufacturing worldwide.
- China has spent billions to subsidize certain technologies and secure critical materials supply chain dominance around globe.
- US is 93% dependent on foreign imports for lithium-based technologies.
- Alternative battery chemistries could optimize use of domestically available materials.

Strategic Innovation:

- DOD risk assessment for cyber and national security risk associated with batteries (transport, stationary, data center back up, emergency system batteries).
- Multi- Chemistry Approach to mitigate reliance on foreign sources, advantage domestic resources.
- Technology Meritocracy - Battery technology should be evaluated across supply-chain risk, human and environmental impacts, domestic manufacturing capacity, and recyclability in addition to performance and cost – for lithium and other battery chemistries.
- Technology should be designed for domestic capacity advantage and sustainability.
- Incentives for taking chances

Scale-Up and Demand:

- Earlier efforts to build an energy storage manufacturing base in US failed because they did not accelerate EV or stationary demand.
- Needed are deliberate government measures to accelerate the transition.(Ex. Transition of all USPS and USG fleet vehicles, Government Purchasing Requirements, EV & ES Tax credits, tax support for reprocessing)
- Pilot programs for rapid commercialization on technology deployment