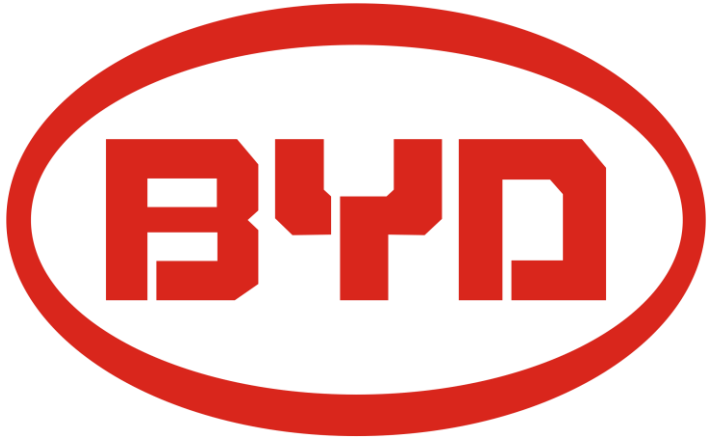
Medium and Heavy-Duty Electric Truck Workshop Series



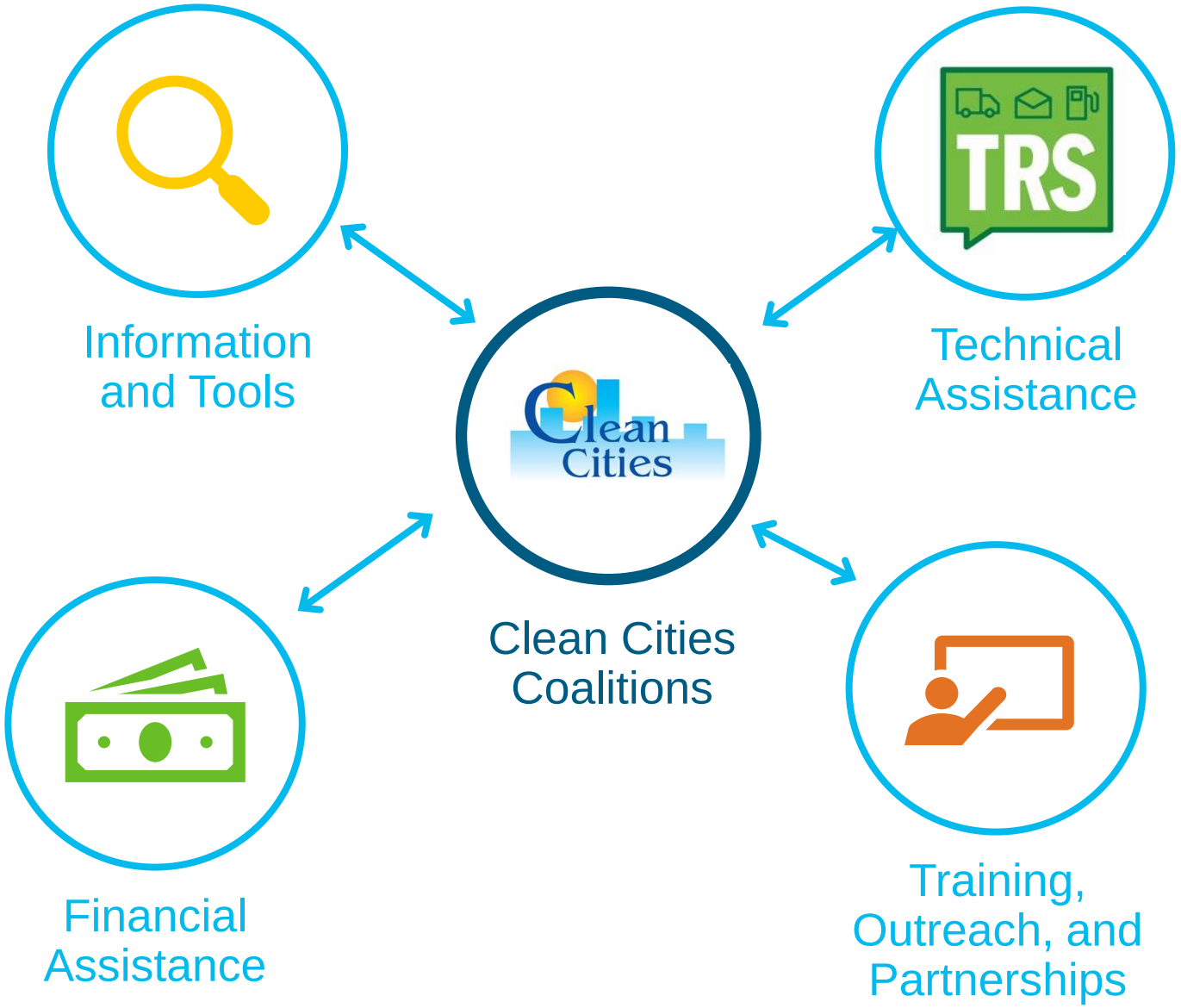
Clean Cities Program

- Serve as forums for local stakeholders to connect and collaborate on saving energy and using affordable alternative fuels
- Provide grassroots support and resources on new transportation technologies and infrastructure development
- Support networks to help their stakeholders identify cost-effective solutions that work locally

CLEAN CITIES COALITION NETWORK

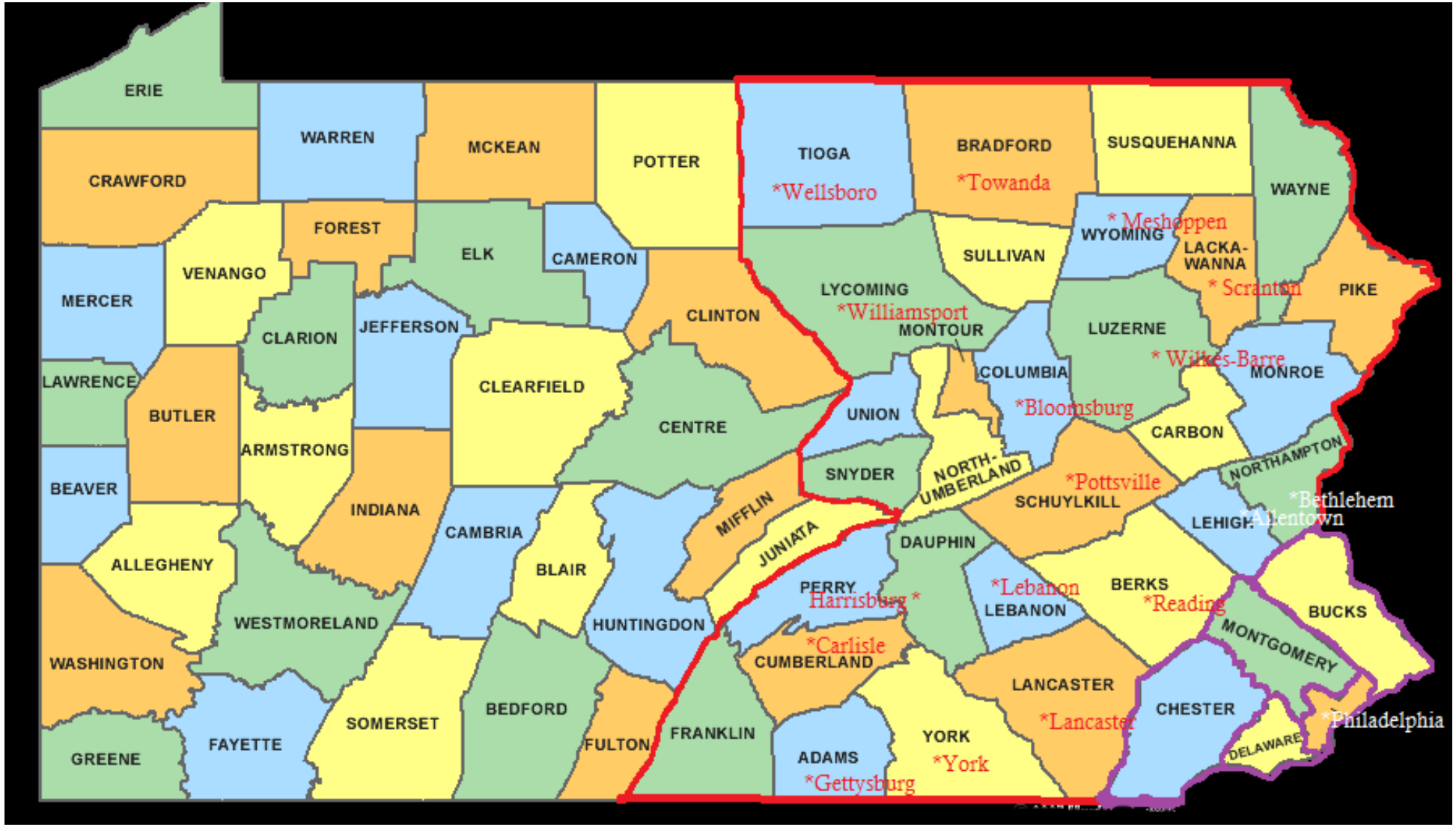
Clean Cities Program

Provides objective/unbiased data and real-world lessons learned that inform future research needs and support local decision-making



Clean Cities Program

Pennsylvania's Clean Cities Program



EP-ACT & PRCC

Mission: To reduce petroleum consumption within the transportation sector using alternatives to gasoline and diesel.

- Part of the Department of Energy's Clean Cities Program since 1993
- 501 (c) Non-profit
- Comprised of Public and Private companies, State and Local Governments, Municipalities and Utilities
- Assist with Grants/incentives/vouchers/rebates
- Received over $35 mm for Stakeholders projects valued over $120 mm
- Technical Assistance
- Project Management
- Education and Outreach

EP-ACT & PRCC Electric Vehicle Projects

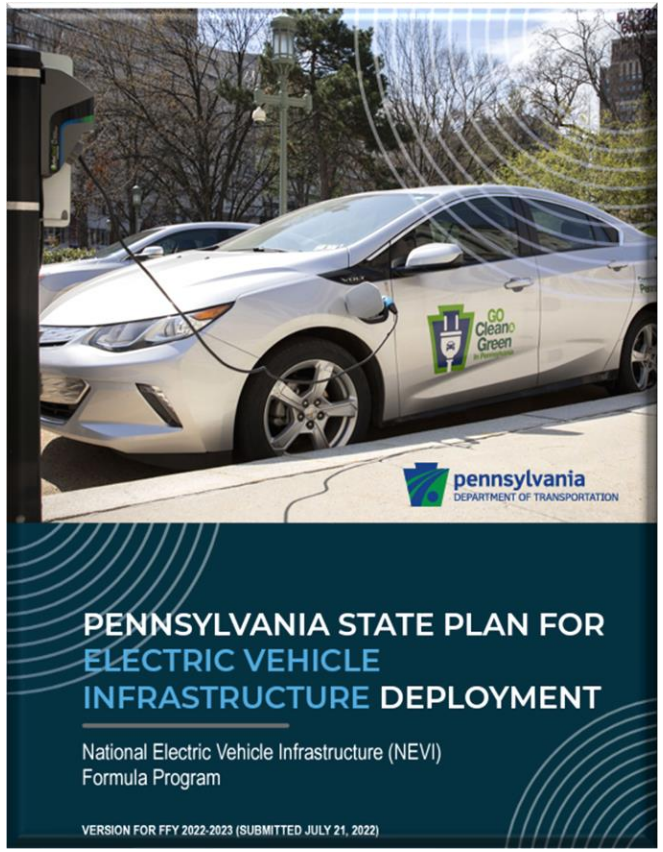
The Drive Electric Pennsylvania Coalition was formed in 2016 to help plan and implement strategies for the adoption of electric vehicles throughout Pennsylvania. The coalition consists of state and local governments, industry, utility, universities, public and private companies who wish to help spur the adoption of Electric Vehicles (EV's) in The Commonwealth of Pennsylvania.

PITTSBURGH REGION CLEAN CITIES

www.driveelectricpa.org

EASTERN PENNSYLVANIA ALLIANCE FOR CLEAN TRANSPORTATION
EP-ACT

EP-ACT & PRCC Electric Vehicle Projects



STATE AGENCY COORDINATION

The NEVI State Plan was developed by PennDOT in coordination with DEP, Clean Cities Coalition, the State Energy Office and the Joint Office. **These partners will continue to inform and support updates to the NEVI State Plan throughout the five-year funding program period.**

The Clean Cities Coalition is a valuable partner to PennDOT in supporting the NEVI program implementation. Clean Cities is a non-profit organization funded by the U.S. Department of Energy that focuses on the implementation of alternative fuels. Clean Cities provides technical assistance, information resources, and provides an extensive network of local stakeholders and public/private relationships that help inform the planning process. Pennsylvania is supported by two local coalitions: Eastern Pennsylvania Alliance for Clean Transportation (EP-ACT) and Pittsburgh Region Clean Cities (PRCC).

EP-ACT
PITTSBURGH REGION CLEAN CITIES

PennDOT has established an EV Senior Advisory Committee (EVSAC) to guide decision-making and to inform the NEVI program processes and procedures. The EVSAC focuses on the following key topic areas.

OUTREACH AND EDUCATION
Support outreach and education with an emphasis on EV technology, jobs and employment, EV charging infrastructure and locations, economic development, and mobility and safety.

PENNDOT FLEET TRANSITION
Identify fleet transition goals and timelines, fleet operator training, EV infrastructure goals and timelines for the fleet, and upgrades to the grid at fleet facilities.

EV & ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) DEPLOYMENT
Address feasibility, evaluation of AFC designations and build-out, other public charging needs, integration of EV at transit facilities, pilot programs as well as business plans/practices and requirements/mandates.

PennDOT also leads an EV Interagency Task Force with other state agencies which helps to inform the development of the NEVI State Plan and application of the funding program. The Task Force helped identify key goals and stakeholder outreach needed to support this plan. These agencies include:

Governor's Office	Department of Environmental Protection	Pennsylvania Department of Education	Department of General Services/ GreenGov	Department of Community and Economic Development
Pennsylvania Utility Commission	Department of Conservation and Natural Resources	Department of Labor and Industry	Pennsylvania State Police	Pennsylvania Emergency Management Agency
	Pennsylvania Infrastructure Investment Authority	Pennsylvania Department of Agriculture	Pennsylvania Turnpike Commission	

Pennsylvania NEVI State Plan | 10

PITTSBURGH REGION CLEAN CITIES

EASTERN PENNSYLVANIA ALLIANCE FOR CLEAN TRANSPORTATION
EP-ACT

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BYD ELECTRIC TRUCKS
— HARD AT WORK—

BYD QUICK FACTS

250,000 Employees Globally
30 industrial campuses on
5 continents

BYD's Lancaster, CA Manufacturing Facility Spans 550,000 Sqft.
Over 750 local workers employed

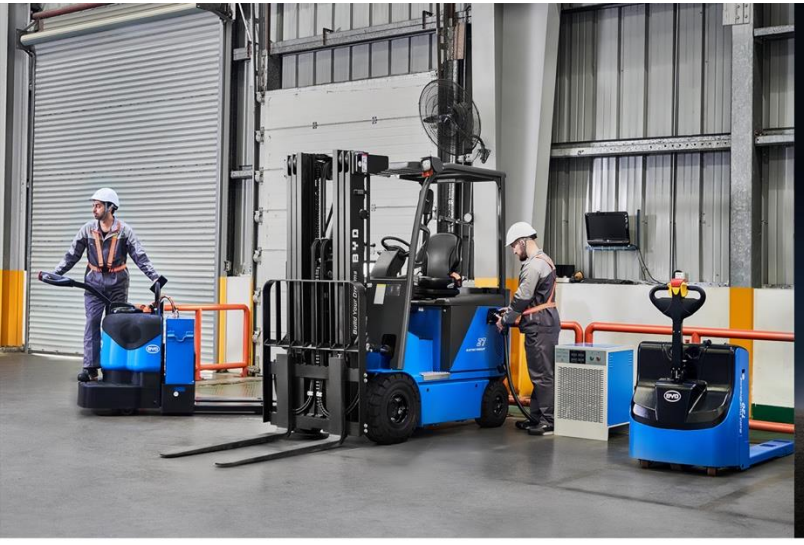
Global leader in Electric Buses
BYD has delivered over 70,000
electric buses worldwide

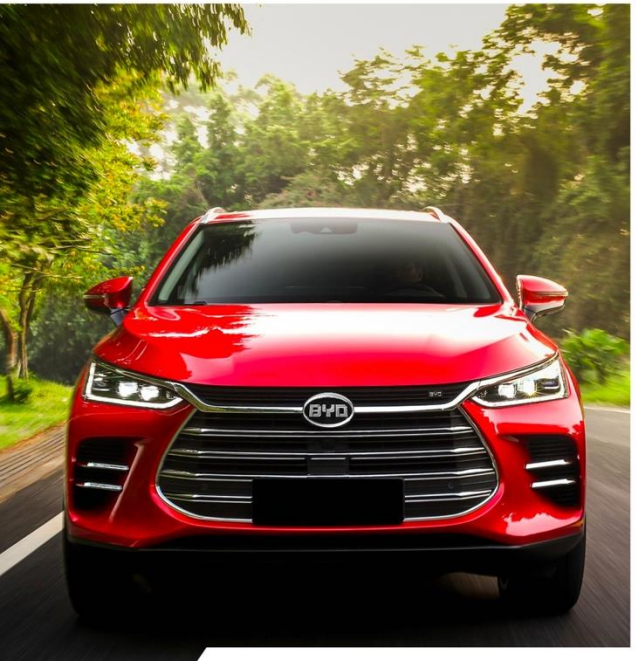
Proprietary motor technologies and batteries

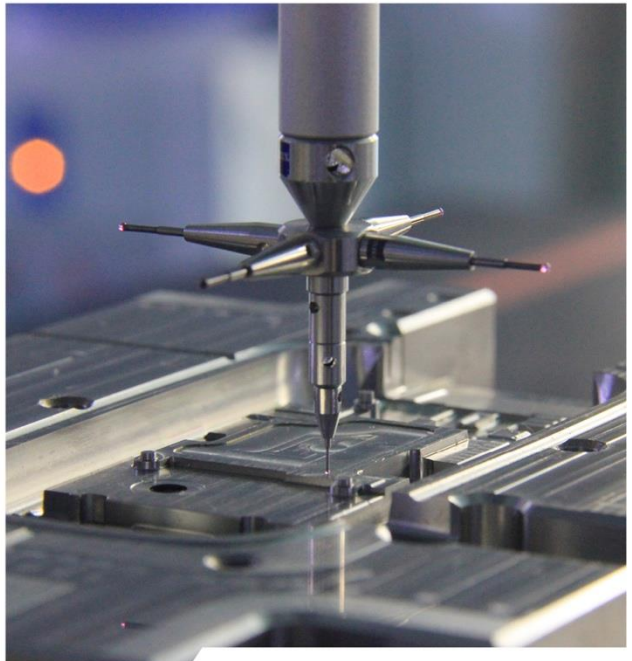
2021 BYD Group Revenue: $34 Billion
60% compounded annual revenue growth
over 11 years

ISO 9001 Certified QMS
BYD's Lancaster, CA manufacturing facility meets the industry's highest standards

BYD Business Divisions







ISO 9001 Certification

ISO 9001 Certified QMS

PERRY JOHNSON REGISTRARS, INC.

UKAS MANAGEMENT SYSTEMS 0105

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

No. C2017-01866

ISO 9001 certification ensures the industry’s highest quality standards.

Nearly 750 Union Manufacturing Jobs

ISO 9001 Certified QMS

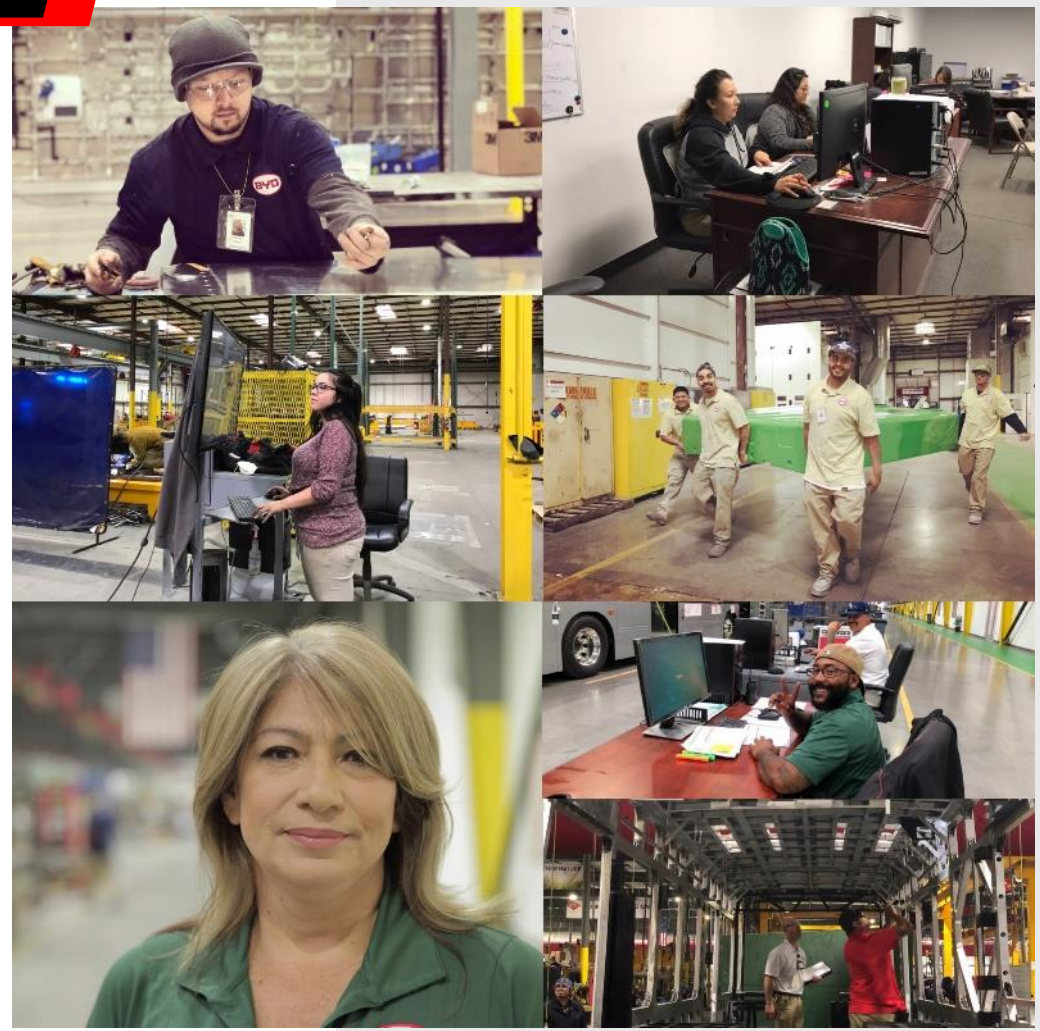
PERRY JOHNSON REGISTRARS, INC.

UKAS MANAGEMENT SYSTEMS 0105

ANAB ACCREDITED ISO/IEC 17021 MANAGEMENT SYSTEMS CERTIFICATION BODY

No. C2017-01866

900+ U.S. Employees In All Locations



JOBS TO MOVE AMERICA

SHEET METAL | AIR | RAIL | TRANSPORTATION SMART

Core Technology

BYD Battery

Warranty:

Standard 8 year warranty

Safety:

Each BYD battery must pass rigorous impact, drop, vibration and external fire testing.

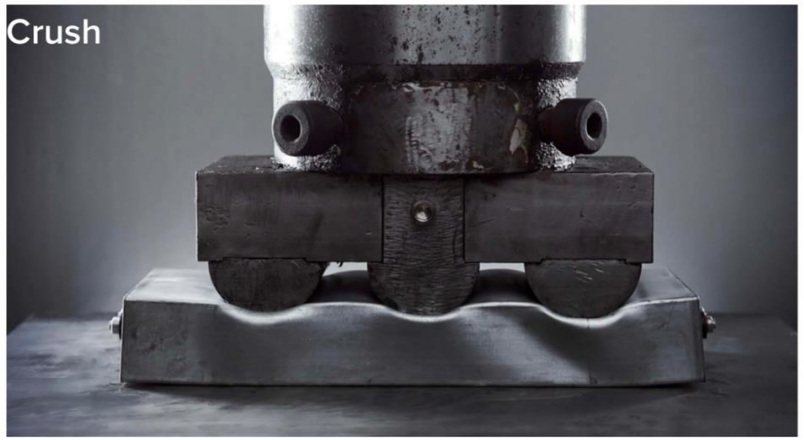
Longevity:

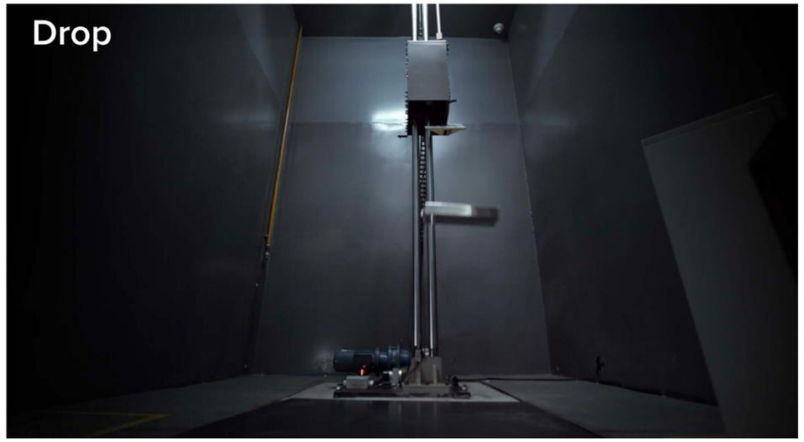
A 10-year track record and millions of on-road miles means BYD batteries are built to last.

Reliability:

BYD's LFP batteries far exceed the cycling capabilities of other chemistries.

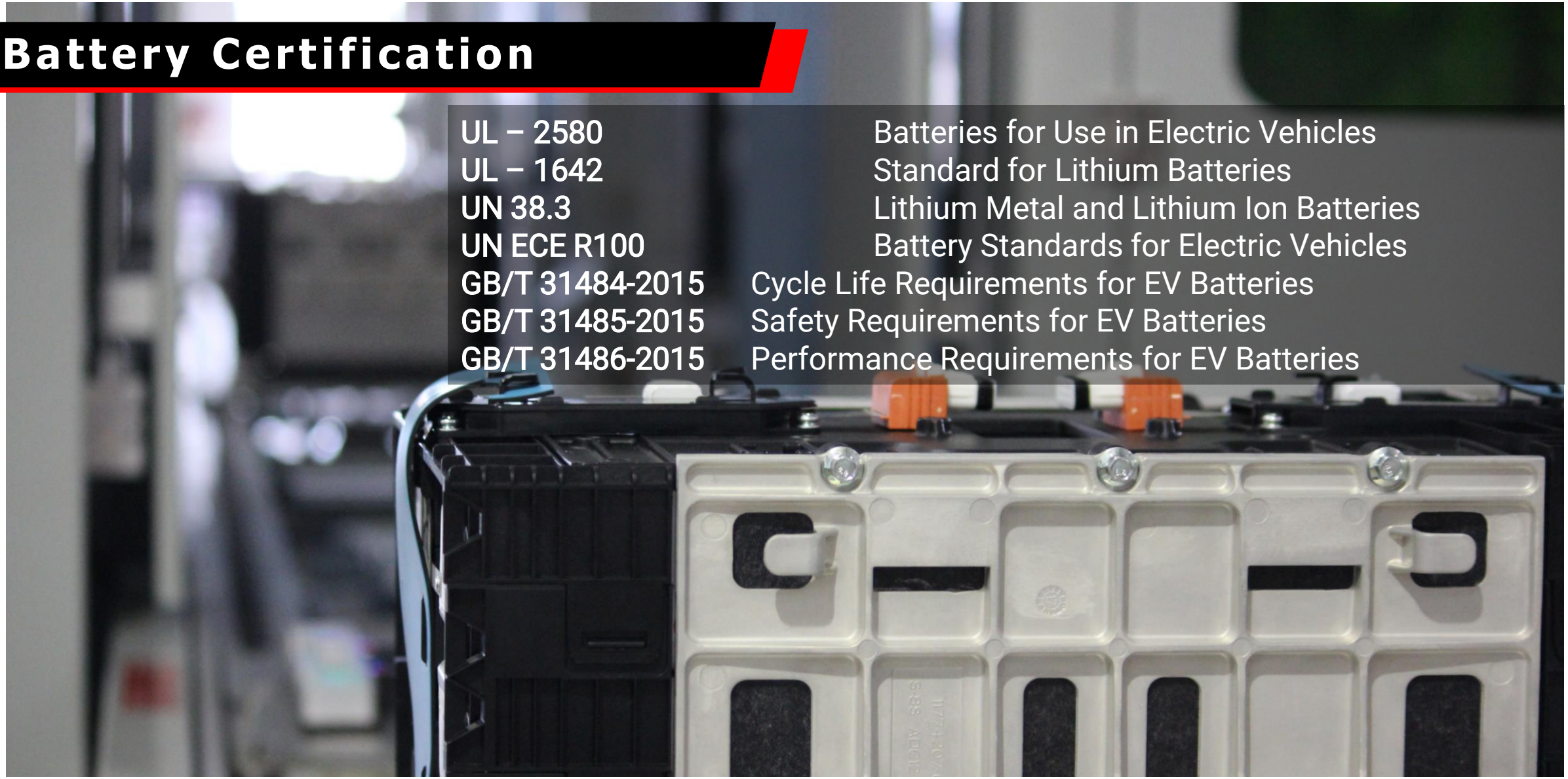
Safety Tested





BYD batteries are rigorously tested and remain stable in even the most extreme conditions.

Battery Certification



UL – 2580	Batteries for Use in Electric Vehicles
UL – 1642	Standard for Lithium Batteries
UN 38.3	Lithium Metal and Lithium Ion Batteries
UN ECE R100	Battery Standards for Electric Vehicles
GB/T 31484-2015	Cycle Life Requirements for EV Batteries
GB/T 31485-2015	Safety Requirements for EV Batteries
GB/T 31486-2015	Performance Requirements for EV Batteries

Reliability Testing

Advanced rough road simulations allow for industry leading testing standards.

These conditions provide >30x regular wear and tear for accelerated durability test result.

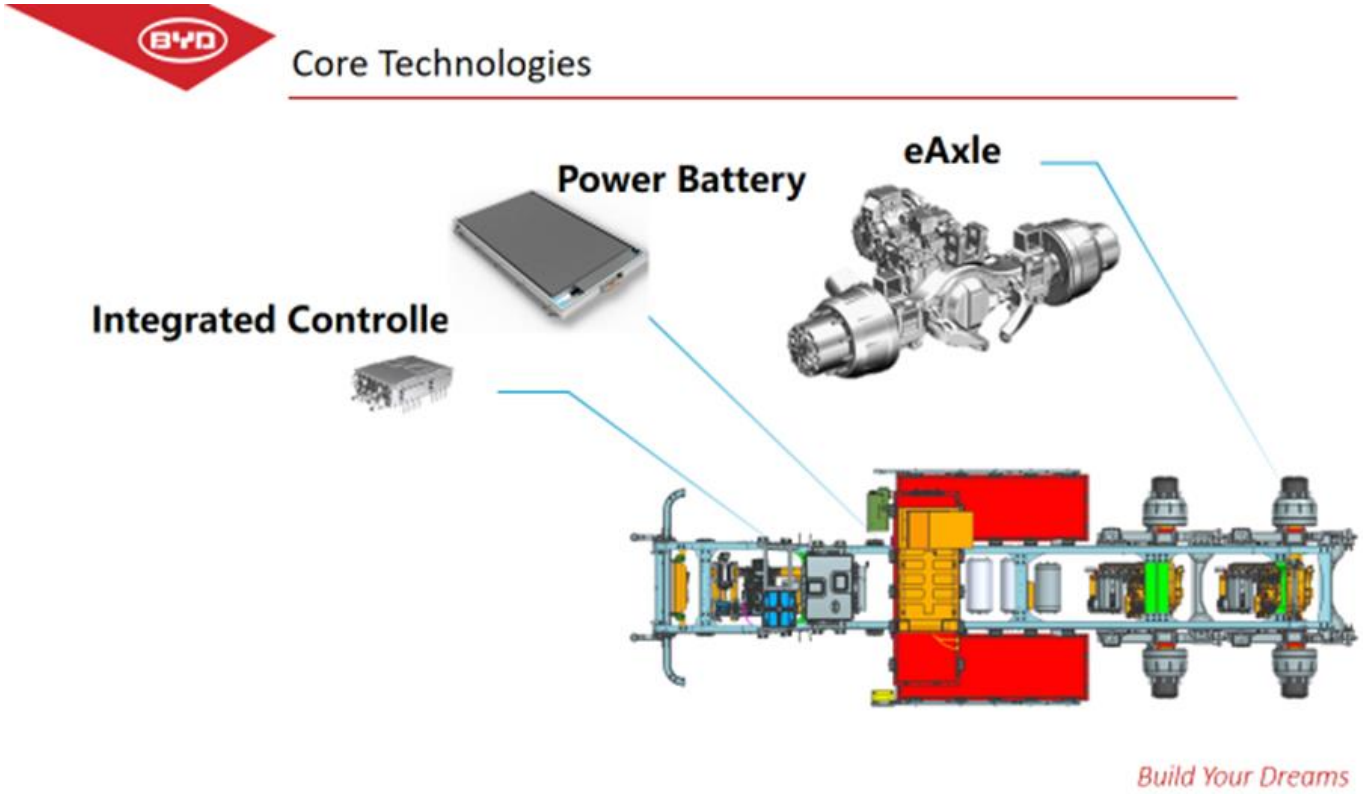
Extreme Weather Testing

Summer & Winter Test

BYD electric trucks complete vehicle winter tests in Harbin with an ambient temperature of **-22°F (-30°C).**

BYD electric trucks complete vehicle summer tests in Turpan with a ground temperature of **190.4 °F (88°C)**

BYD Powertrain



BYD's proprietary motor technologies provide instant torque for superior performance and efficiency in heavy-duty applications. Regenerative braking reduces brake pad wear while charging the batteries.

Transportation Market Solution

Terminal Operations

Refuse Collection

Distribution & Logistics

BYD 6F Straight Truck (Class 6)

Specifications:

GVWR: 26,000 lbs
Range: 120+ / 160+
Battery Capacity: 211 kWh / 281 kWh
Maximum Power: 523 hp
Maximum Torque: 2,325 lb-ft
Charging Power: Up to 150 kW DC (CCS1)

*BYD 6F Straight Truck offered in multiple wheelbase configurations

BYD 6F Straight Truck (Class 6)

Industry Applications

- Logistics
- Delivery
- Food and Beverage
- Fresh & Frozen Goods
- Airport Operations
- Distribution

BYD 8TT Tandem Axle Day Cab (Class 8)

Specifications:

GCWR: 105,000 lbs
Range: 150+ / 200+ mile working range
Battery Capacity: 422 kWh / 563 kWh
Maximum Power: 483 hp
Maximum Torque: 664 lb-ft
Charging Power: Up to 150/250 kW DC (CCS1)

BYD 8TT Tandem Axle Day Cab (Class 8)

Industry Applications

- Drayage
- Food & Beverage
- Transfer Operations
- Distribution
- Logistics

BYD 8Y Yard Truck (Class 8)

Specifications:

GCWR: 102,000 lbs
Range: 16+ hours working range
Battery Capacity: 217
Maximum Power: 241 hp
Maximum Torque: 1,106 lb-ft
Charging Power: 40 kW AC / 150 kW DC (CCS1)

BYD 8Y Yard Truck (Class 8)

Industry Applications:

- Marine Terminal
- Warehouse
- Rail Yard
- Transfer Station
- Distribution Center

BYD 8R Refuse Truck (Class 8)

Specifications:

GCWR: 66,000 lbs
Range: 60+ / 80+ hours working range
Battery Capacity: 281 kWh / 403 kWh
Maximum Power: 402 hp
Maximum Torque: 812 lb-ft
Charging Power: 150 kW DC (CCS1)

BYD 8R Refuse Truck (Class 8)

Available Body Configuration:

- Automated Side Loader
- Rear Loader
- Front Loader
- Roll Off

*Compatible with all major body configurations

BYD 6R Refuse Truck (Class 6)

Specifications:

GCWR: 26,000 lbs
Range: 80+ hours working range
Battery Capacity: 211 kWh
Maximum Power: 390 hp
Maximum Torque: 2,325 lb-ft
Charging Power: 150 kW DC (CCS1)

BYD 6R Refuse Truck (Class 6)

Available Body Configuration:

- Rear Loader
- Bin Wash Truck
- Dump Truck
- Stakebed
- Box Truck

Case Study

Durkee Drayage

Vehicle Type: 2017 BYD 6F Box Truck

Operation Type: 3rd Party Box Logistics & Distribution

Duty Cycle: ~100 miles of urban and highway routing with significant grades returning with >20% SOC

Case Study

BNSF Railway

Vehicle Type: BYD 8y Yard Tractor

Operation Type: Rail Yard Container Operations

Duty Cycle: 10+ hours of operating time hauling heavy loads within intermodal rail yard, returning with 40% SOC

Case Study

GSC Logistics

Vehicle Type: BYD 8TT Tandem Axle Day Cab

Operation Type: Drayage & Container Operations

Duty Cycle: 130+ miles of highway and hills, hauling loaded shipping containers, returning with >20% SOC

"BYD has proven itself to be a great partner, and our drivers really love the electric trucks."

- Brandon Taylor, Director of Transportation, GSC Logistics.

Case Study

J&M Sanitation

Vehicle Type: BYD 8R Refuse Truck

Operation Type: Bulky Item Collection

Duty Cycle: 8+ hours of bulky item collection in Kuna, ID, with automated side-loader, returning with >30%SOC

We’re coming up with new zero-emissions technology that’s revolutionary...

- Patrick Duan, BYD North America.

I see a strong American workforce...

I see a family that cares about the community.

— BYD EMPLOYEE, TRUCK ASSEMBLY

Contact Info

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