Responsible Battery Coalition™

ResponsibleBatteryCoalition.org

About the RBC

- A coalition of organizations committed to the responsible management of the batteries of today and tomorrow.

- Advance the responsible production, transport, sale, use, reuse, recycling, and recovery of transportation, industrial and stationary batteries and other energy storage devices.

RBC Partners

HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH

WORLD ECONOMIC FORUM

Argonne NATIONAL LABORATORY

LIVING LANDS & WATERS

JCESR | JOINT CENTER FOR ENERGY STORAGE RESEARCH

CENTER FOR SUSTAINABLE SYSTEMS UNIVERSITY OF MICHIGAN

PURE EARTH BLACKSMITH INSTITUTE

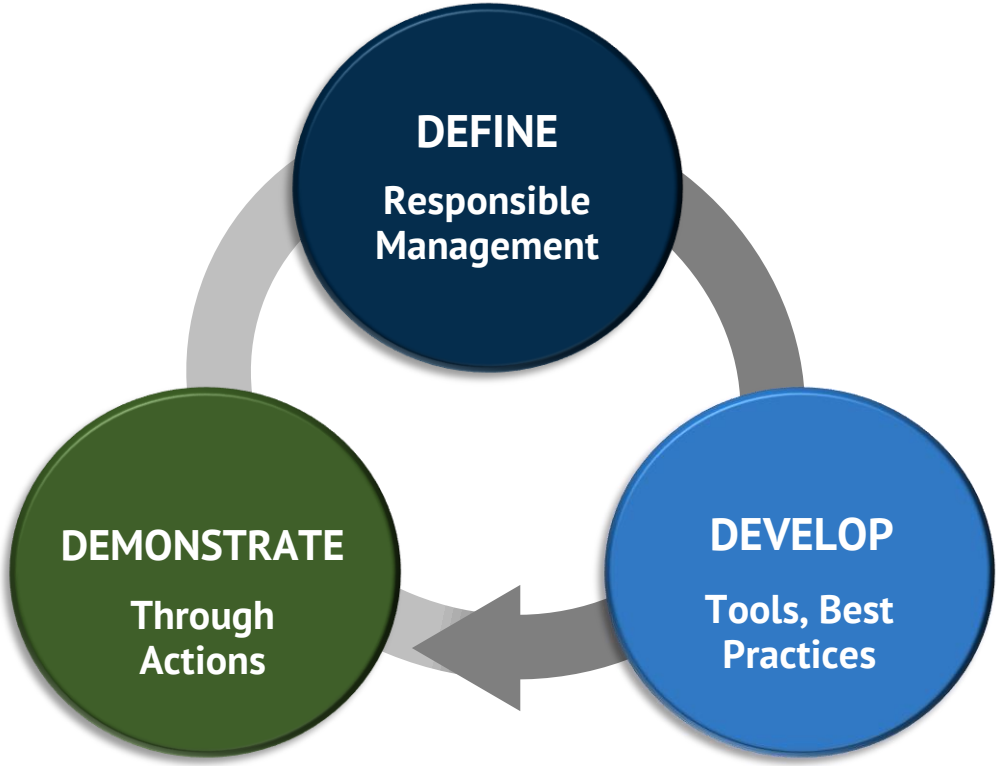
SUPPLIERS PARTNERSHIP FOR THE ENVIRONMENT™

THE SUSTAINABILITY CONSORTIUM™

CBA Canadian Battery Association Representing the Industry Since 1970

USCA Ultimate Street Car Association

RBC focus is centered on three priorities

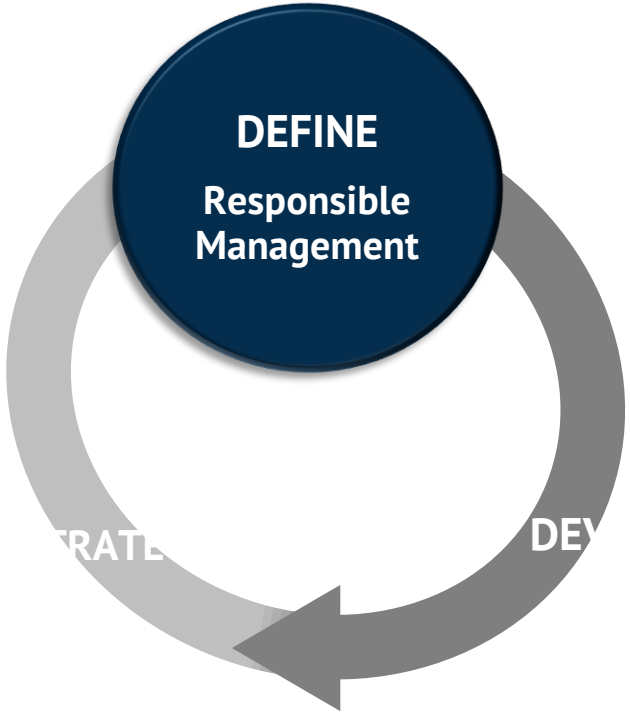


DEFINE responsible management principles, practices, and behaviors

DEVELOP tools and systems to ensure best practices for managing battery components throughout their life-cycle

DEMONSTRATE responsible life-cycle management through pilots, programs, and partnerships

DEFINE: Principles, practices, behaviors



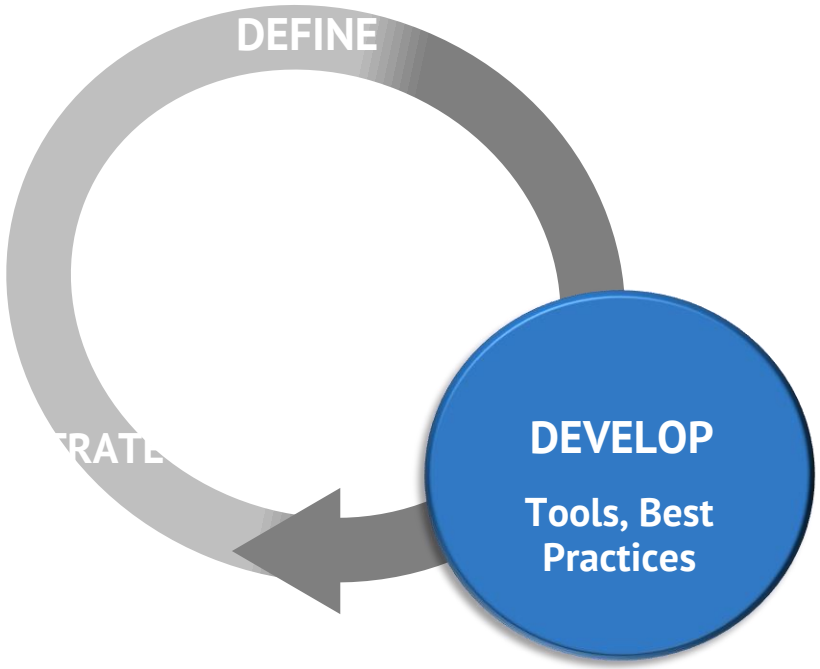
CENTER FOR SUSTAINABLE SYSTEMS
UNIVERSITY OF MICHIGAN

DEFINE responsible management principles, practices, and behaviors

PROJECT: RBC partnership with University of Michigan to develop "Green Principles for Responsible EV Battery Management"

FOCUS: Define Best Practices to minimize environmental impact of EV batteries; examine full lifecycle to maximize performance, ensure recycling; complement existing principles for stationary batteries by addressing mobile applications, including servicing and emissions

DEVELOP: Tools, systems for lifecycle management



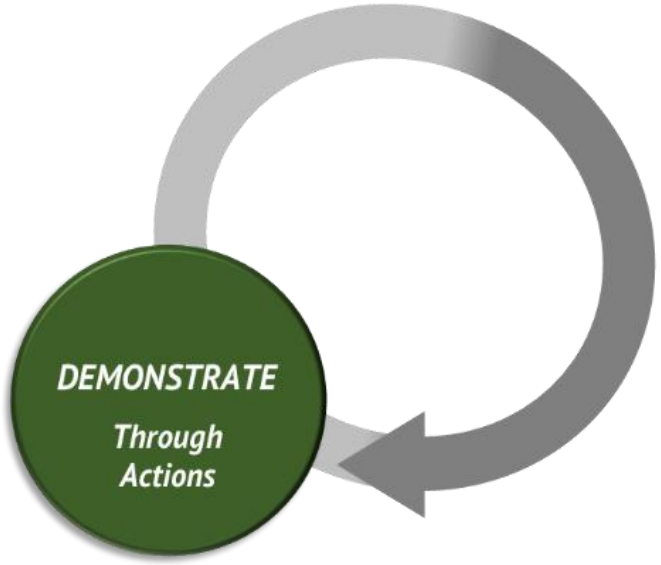
DEVELOP tools and systems to ensure best practices for managing battery components throughout their life-cycle

PROJECT: RBC partnership with Argonne National Laboratory on model design and recycling programs for new battery technologies

FOCUS: Using Argonne's ReCell closed-loop recycling system, model full lifecycle in advance, compare and contrast chemistries, and design new batteries with recycling, circular economy in mind

Argonne NATIONAL LABORATORY

DEMONSTRATE: 2 Million Battery Challenge



Goal:

Make a material impact and make it known

Ongoing Success:

- Impressions: 39 million and counting
- Website Visits: More than 250,000

Selective engagement and targeting:

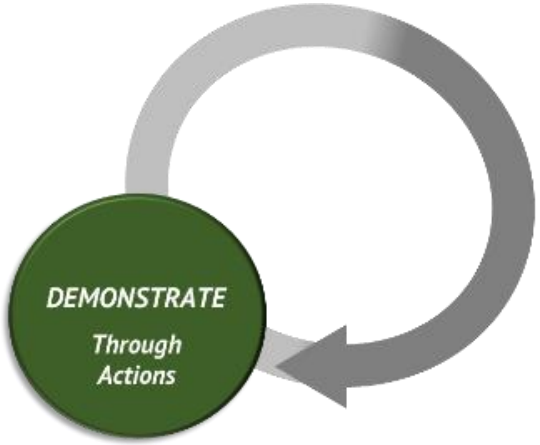
- Canadian Battery Alliance
- Back Haul Alaska

RESPONSIBLE BATTERY COALITION
2 Million Battery Challenge

CLARIOS

Walmart AutoZone O'Reilly AUTO PARTS Advance Auto Parts

DEMONSTRATE: 2MBC/First Nations collaboration



Objective:

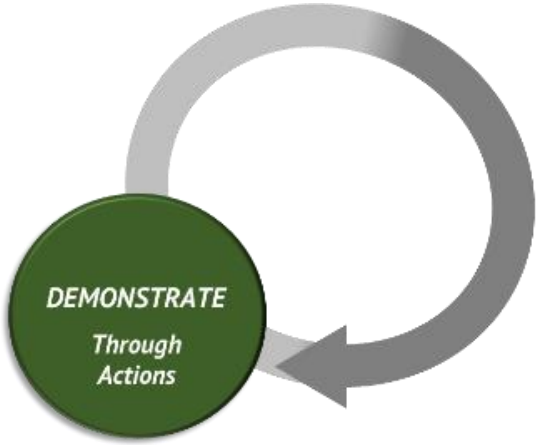
Provide support for recovery of discarded lead-acid battery with First Nations in remote regions of Canada

2019 Actions to Date:

- Signed MOU with CBA, 11 First Nations in February in Manitoba
- More than 10,000 people committed to join the 2MBC
- 2019 CBA battery retrieval effort hampered by very short winter road season - 100 batteries retrieved, but many more identified for 2020 campaign

CBA
Canadian Battery Association
Representing the Industry Since 1970

DEMONSTRATE: 2MBC/First Nations collaboration

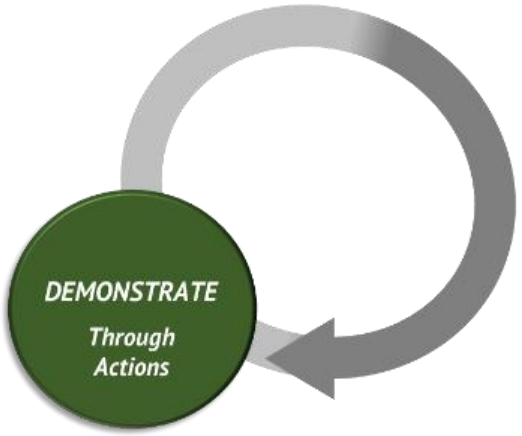


Next Steps:

- Provide ongoing technical, training support for expanded recovery activities with First Nations in 2020
- Conduct evaluation of CBA retrieval efforts by RBC Science Advisory Board
  - Quantify public health and environmental benefit of recovery and recycling in Canada
  - Demonstrate economic and social benefits of the circular economy of vehicle batteries
- Explore opportunities for cross-training, educational outreach with Backhaul Alaska initiatives

CBA
Canadian Battery Association
Representing the Industry Since 1970

DEMONSTRATE: Take 2MBC to remote Alaska



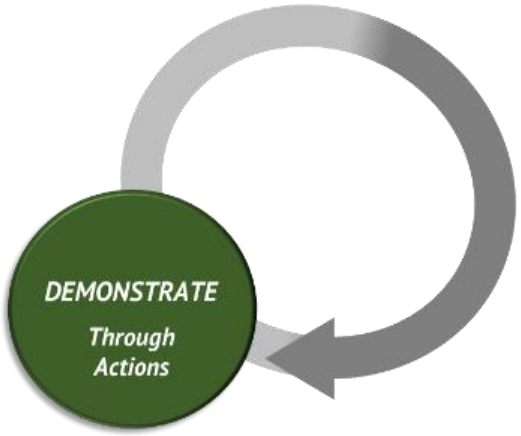
Objective:

Support recovery of more than 240 tons of used lead-acid batteries generated in 135 remote villages.

2019 Actions to Date:

- MOU signed committing to education, recycling support
- RBC endorsed by Sen. Lisa Murkowski, Senate ENR Committee Chair

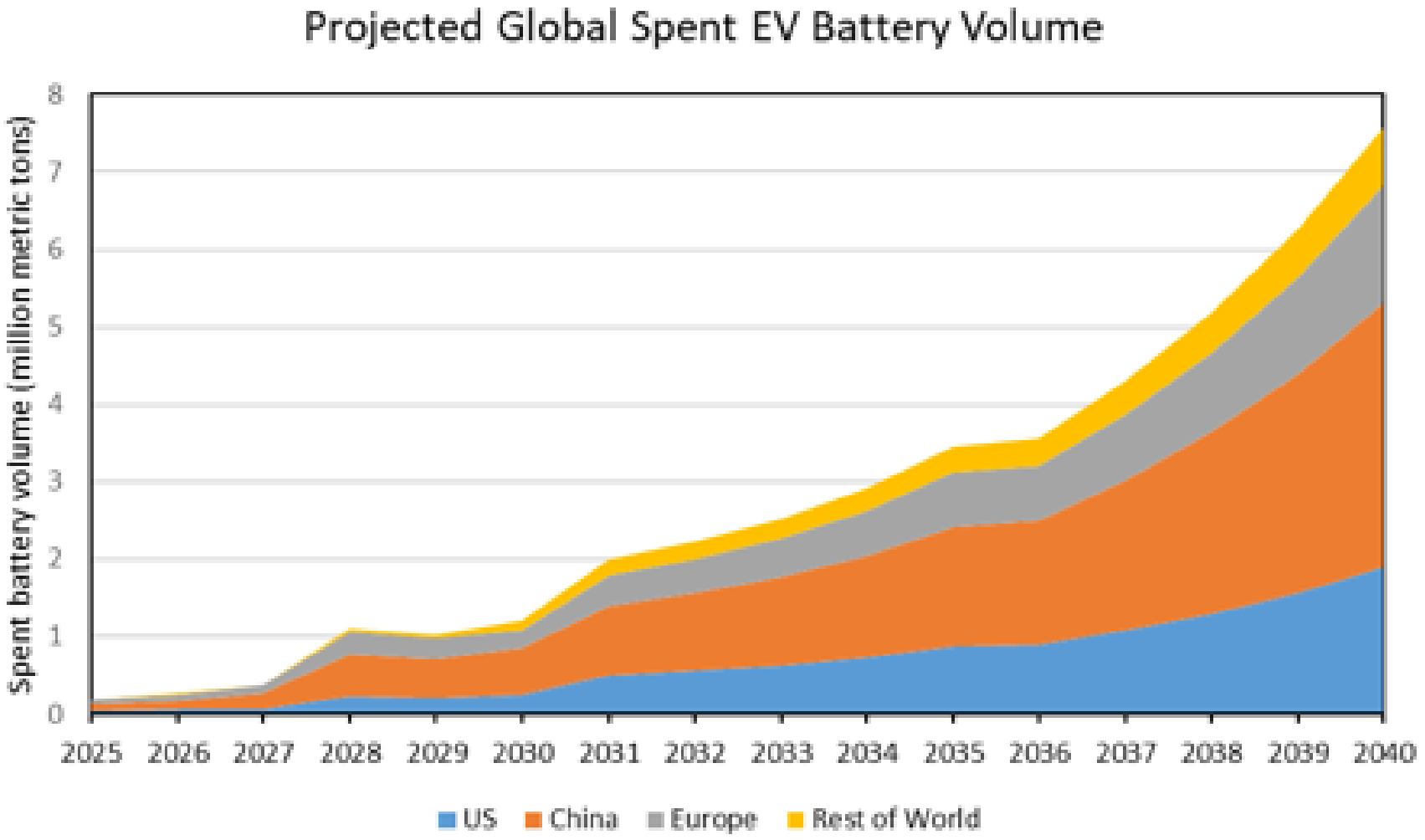
DEMONSTRATE: Take 2MBC to remote Alaska



Next Steps:

- Aggregate collected Back Haul batteries in Seattle for recycling by Clarios
- Develop educational support materials: POS, posters, training support
- Develop transportation system opportunities – take advantage of existing RBC member routes, runs
- Develop ongoing technical, training and logistical support for expanded recovery activities in 2020

LOOKING AHEAD: The Li-ion Battery Challenge



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