

# State of EV auto recycling in Canada

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Canadian EV/Hybrid Auto Recycling Webinar



# Automotive Recyclers of Canada (ARC)

- \* National association of auto recyclers
  - \* 7 provincial associations
  - \* 350 Direct Members
  - \* Organized in 1997
  - \* All Members are audited to the Canadian Auto Recyclers Environmental Code (CAREC)

# What is Auto Recycling?

- \* End-of-Life Vehicles (ELVs) processed by the Auto Recycling sector - 1.6 million/year in Canada
- \* ELV = total loss vehicles + “scrap” vehicles
- \* \$\$ to acquire
- \* Depollution required
- \* Parts re-use
- \* Materials recovered (copper, lead, aluminum)
- \* Cores for remanufacturing
- \* Hulk = ferrous and non-ferrous metals + ASR

# Two types of Auto Recyclers

- \* Dismantler = parts + material + cores + hulk
  - \* More labour involved
- \* Scrap processor = weight of the vehicle/hulk
  - \* More capital equipment involved
- \* All ELVs end up at a shredder to recover 75% of the vehicle as ferrous and non-ferrous metals

# Canadian Auto Recyclers Environmental Code

- \* At this time advanced vehicle batteries are not included in the CAREC standard or audit protocols (only LABs)
- \* Deployed in 2009 for the National Scrappage Program and updated in 2011 when it became part of the ARC Membership requirements
- \* But all shredders require batteries to be removed before shredding.



# How are EVs Different?

- \* Comparable vehicles are heavier, but average vehicles are lighter (no SUVs or Pickups)
- \* Much of the weight is in the battery
- \* Fewer parts but much more complex
- \* No catalytic converters in EVs (but high value in hybrids)
- \* Drivetrain outside of warranty are expected to last
- \* High value magnets in the engines that should not be shredded
- \* Can EVs be serviced and repaired?
- \* ELV ≠ End of life for the battery

# The Battery

- \* Heavy
- \* Dangerous
- \* Valuable
  - \* Re-use as an auto part
    - \* Same year, make, model
    - \* Electrifying ICE vehicles
  - \* Second life re-purposed for energy storage
    - \* Direct re-use
    - \* Remanufactured by replacing spent cells
    - \* Testing and state of health
  - \* Recycling
- \* Expensive to handle and ultimately recycle
- \* Need industry training for safety, storage, logistics

# The Battery

- \* Bolts, Volts, Leafs – open order to sell every one (\$2k-\$4k)
- \* Older NiMH are inconsistently sold, given away
- \* Questions
  - \* How many are not buying EVs?
  - \* What is the acquisition rate, along with chemistry and health
  - \* How many in stockpiles?
    - \* Range is 0-50 with average at 4/Member
  - \* A host of other questions that other Speakers will address





# Thank You!

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