

## NAATBatt Recycling Committee for Advanced Automotive Batteries in North America

10Sep19 4:30-5:30pm Meeting Minutes

Ivory Room – Suburban Showcase, Novi, Mi. Prepared by Peter Karlson (Committee Secretary)

### Committee Mission Statement, updated 13Sep17:

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*To identify and promote the best methods for safely and responsibly recycling advanced automotive lithium-ion battery packs in North America in a manner that will extract positive economic value from the batteries and provide a useful template for the recycling of industrial and stationary lithium-ion energy storage systems.*

### Attendees:

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NAATBatt Advanced Battery Recycling Committee Roster				x = In Attendance
Renata	Arsenault	Ford	<a href="mailto:rarsena4@ford.com">rarsena4@ford.com</a>	X
Sharon	Bonesteel	Salt River Project	<a href="mailto:Sharon.Bonesteel@srpnet.com">Sharon.Bonesteel@srpnet.com</a>	X
Joe	Bush	Battery Resourcers	<a href="mailto:jbush@batteryresourcers.com">jbush@batteryresourcers.com</a>	X
Mark	Caffarey	Umicore	<a href="mailto:mark.caffarey@am.umicore.com">mark.caffarey@am.umicore.com</a>	X
Alessandra	Carreon	Ford	<a href="mailto:acarreo2@ford.com">acarreo2@ford.com</a>	
Zheng	Chen	UCSD	<a href="mailto:zhengchen@eng.ucsd.edu">zhengchen@eng.ucsd.edu</a>	
Steve	Christensen	Responsible Battery Coalition	<a href="mailto:Steve@responsiblebattery.org">Steve@responsiblebattery.org</a>	
Caroline	Cloutier	Mercedes-Benz Research and Development	<a href="mailto:caroline.cloutier@daimler.com">caroline.cloutier@daimler.com</a>	
Benoit	Couture	Lithion Recycling	<a href="mailto:b.couture@lithionrecycling.com">b.couture@lithionrecycling.com</a>	
Todd	Coy	KBI/Retriev	<a href="mailto:tcoy@kinsbursky.com">tcoy@kinsbursky.com</a>	X
Jennifer	Diggins	Albemarle	<a href="mailto:jennifer.diggins@albemarle.com">jennifer.diggins@albemarle.com</a>	

Ellington	Ellis	Global Battery Solutions	<a href="mailto:EllingtonEllis@gmail.com">EllingtonEllis@gmail.com</a>	
David	Fauvre	Blue Whale Materials	<a href="mailto:dfauvre@bluewhalematerials.com">dfauvre@bluewhalematerials.com</a>	<u>X</u>
Dan	Fisher	Honda of America Manufacturing Inc	<a href="mailto:Dan_Fisher@ham.honda.com">Dan_Fisher@ham.honda.com</a>	
Samuel	Fournier	Lithion Recycling Inc.	<a href="mailto:s.fournier@lithionrecycling.com">s.fournier@lithionrecycling.com</a>	X
Ryan	Franks	CSA Group	<a href="mailto:ryan.franks@csagroup.org">ryan.franks@csagroup.org</a>	
Toshi	Fukui	Honda	<a href="mailto:toshiya_fukui@hta.honda.com">toshiya_fukui@hta.honda.com</a>	
Kristof	Gabriel	Umicore	<a href="mailto:Kristof.gabriel@umicore.com">Kristof.gabriel@umicore.com</a>	<u>X</u>
Tom	Gage	EV Grid	<a href="mailto:tgage@evgrid.com">tgage@evgrid.com</a>	
Linda	Gaines	Argonne National Laboratory	<a href="mailto:lgaines@anl.gov">lgaines@anl.gov</a>	X
Bob	Galyen	CATL	<a href="mailto:robertgalyen@catlbattery.com">robertgalyen@catlbattery.com</a>	
Srinath	Geedipalli	Novivolt	<a href="mailto:sri@novivolt.com">sri@novivolt.com</a>	
Tobias	Glossmann	Mercedes-Benz Research and Development	<a href="mailto:tobias.glossmann@daimler.com">tobias.glossmann@daimler.com</a>	
Anthony	Grasso	Saint-Gobain	<a href="mailto:Anthony.Grasso@saint-gobain.com">Anthony.Grasso@saint-gobain.com</a>	<u>X</u>
Eric	Gratz	Battery Resourcers	<a href="mailto:egratz@batteryresourcers.com">egratz@batteryresourcers.com</a>	
Jim	Greenberger	NAATBatt	<a href="mailto:jgreenberger@naatbatt.org">jgreenberger@naatbatt.org</a>	X
Steven	Hamaker	Waste Management	<a href="mailto:shamaker@wm.com">shamaker@wm.com</a>	
Carlos	Helou	Borman Specialty Materials	<a href="mailto:Carlos.helou@borman.com">Carlos.helou@borman.com</a>	<u>X</u>
Ken	Hilk	Veolia	<a href="mailto:kenneth.hilk@veolia.com">kenneth.hilk@veolia.com</a>	
Nancy	Homeister	Ford Motor Co.	<a href="mailto:nhomeist@ford.com">nhomeist@ford.com</a>	
John	Howes	Redland Energy Group	<a href="mailto:jahowes@redlandenergy.com">jahowes@redlandenergy.com</a>	
Kris	Hunter	Global Battery Solutions	<a href="mailto:khunter@globalbatterysolutions.com">khunter@globalbatterysolutions.com</a>	<u>X</u>

Cynthia	Jenks	Argonne National Laboratory	<a href="mailto:cjenks@anl.gov">cjenks@anl.gov</a>	
Cathy	Johnson	King County Metro Transit	<a href="mailto:Cathy.Johnson@kingcounty.gov">Cathy.Johnson@kingcounty.gov</a>	
Darnell	Jones	FCA-Chrysler	<a href="mailto:Darnell.jones@fcagroup.com">Darnell.jones@fcagroup.com</a>	X
Peter	Karlson	General Motors	<a href="mailto:peter.karlson@gm.com">peter.karlson@gm.com</a>	X
Don	Karner	Electric Applications Incorporated	<a href="mailto:dkarner@electric-applications.com">dkarner@electric-applications.com</a>	
Jarod	Kelly	Argonne National Laboratory	<a href="mailto:jckelly@anl.gov">jckelly@anl.gov</a>	
George	Kerchner	The Rechargeable Battery Association	<a href="mailto:GKerchner@wileyrein.com">GKerchner@wileyrein.com</a>	
John	Kincaide	WeRecycleBatteries.com	<a href="mailto:john.kincaide@wecyclebatteries.com">john.kincaide@wecyclebatteries.com</a>	X
Ajay	Kochhar	Li-Cycle Corp.	<a href="mailto:ajay.kochhar@li-cycle.com">ajay.kochhar@li-cycle.com</a>	
Bernie	Kotlier	NECA-IBEW	<a href="mailto:lmccenergy@gmail.com">lmccenergy@gmail.com</a>	X
Diane	Lade	Honda	<a href="mailto:Diane_Lade@ahm.honda.com">Diane_Lade@ahm.honda.com</a>	
Maureen	LaHote	USCAR	<a href="mailto:mlahote@uscar.org">mlahote@uscar.org</a>	X
First Name	Last Name	<b>Company</b>	<b>E-Mail Address</b>	
Michael	Lew	Clearer Horizons	<a href="mailto:mlew@naatbatt.org">mlew@naatbatt.org</a>	
Scott	Lindsay	CSA Group	<a href="mailto:scott.lindsay@csagroup.org">scott.lindsay@csagroup.org</a>	
Keith	Loch	General Motors	<a href="mailto:keith.a.loch@gm.com">keith.a.loch@gm.com</a>	X
Joe	LoGrasso	FCA	<a href="mailto:joseph.lograsso@fcagroup.com">joseph.lograsso@fcagroup.com</a>	
David	Longtin	Lithion Recycling	<a href="mailto:d.longtin@lithionrecycling.com">d.longtin@lithionrecycling.com</a>	
Kely	Markley	General Motors	<a href="mailto:kely.markley@gm.com">kely.markley@gm.com</a>	
Jacob	Mathews	Ford	<a href="mailto:jmathew1@ford.com">jmathew1@ford.com</a>	
David	Mauer	Renewance	<a href="mailto:david.mauer@renewance.net">david.mauer@renewance.net</a>	X

Suzanne	Minute	Freudenberg-NOK	<a href="mailto:suzanne.minute@fnst.com">suzanne.minute@fnst.com</a>	
Brad	Moore	Beckett Energy Systems	<a href="mailto:bmoore@beckettcorp.com">bmoore@beckettcorp.com</a>	
Adam	Muellerweiss	Johnson Controls	<a href="mailto:adam.muellerweiss@jci.com">adam.muellerweiss@jci.com</a>	
Bill	Muston	Oncor	<a href="mailto:bill.muston@oncor.com">bill.muston@oncor.com</a>	
Mike	O'Kronley	A123 Systems	<a href="mailto:mokronley@a123systems.com">mokronley@a123systems.com</a>	X
Margaret	O'Riley	Duke Energy	<a href="mailto:Margaret.O'Riley@duke-energy.com">Margaret.O'Riley@duke-energy.com</a>	X
Teague	Ostrander	Recycling Coordinators	<a href="mailto:teague.ostrander@rci-int.com">teague.ostrander@rci-int.com</a>	
Michael	Paszti	Terrapure Environmental	<a href="mailto:mpaszti@terrapureenv.com">mpaszti@terrapureenv.com</a>	X
Anita	Pendry	Heritage-Crystal Clean, LLC	<a href="mailto:anita.pendry@crystal-clean.com">anita.pendry@crystal-clean.com</a>	
Kunal	Phalpher	Li-Cycle	<a href="mailto:Kunal.phalpher@li-cycle.com">Kunal.phalpher@li-cycle.com</a>	X
John	Platt	Snell & Wilmer	<a href="mailto:jplatt@swlaw.com">jplatt@swlaw.com</a>	X
Lauren	Roman	Everledger	<a href="mailto:lauren@everledger.io">lauren@everledger.io</a>	X
Ingrid	Rousseau	GM	<a href="mailto:Ingrid.rousseau@gm.com">Ingrid.rousseau@gm.com</a>	X
Bryan	Schultz	Spiers New Technologies	<a href="mailto:Bryan.Schultz@Spiersnt.com">Bryan.Schultz@Spiersnt.com</a>	
Jen	Sierra	Global Battery Solutions	<a href="mailto:jennifer@sybesmas.com">jennifer@sybesmas.com</a>	
Steve	Sloop	OnTo Technologies	<a href="mailto:ssloop@onto-technology.com">ssloop@onto-technology.com</a>	X
Novis	Smith	American Hyperform	<a href="mailto:Novis.smith@verizon.net">Novis.smith@verizon.net</a>	X
Jeff	Spangenberger	Argonne National Laboratory	<a href="mailto:jspangenberger@anl.gov">jspangenberger@anl.gov</a>	X
Dirk	Spiers	Spiers New Technologies	<a href="mailto:dirk@spiers.com">dirk@spiers.com</a>	
Luke	Spinolo	Ford	<a href="mailto:pspinolo@ford.com">pspinolo@ford.com</a>	
Talon	Swanson	King County Metro Transit	<a href="mailto:talon.swanson@kingcounty.gov">talon.swanson@kingcounty.gov</a>	

Hank	Sybesma	Global Battery Solutions	<a href="mailto:hank@sybesmas.com">hank@sybesmas.com</a>	
Joel	Sylvester	Dukosi	<a href="mailto:joel@dukosi.com">joel@dukosi.com</a>	
Shane	Thompson	Battery Solutions	<a href="mailto:shane@batterysolutions.com">shane@batterysolutions.com</a>	
Charles-Alexandre	Tremblay	Prevost Car (Nova Bus-Volvo)	<a href="mailto:anita.pendry@crystal-clean.com">anita.pendry@crystal-clean.com</a>	
Pablo	Valencia	General Motors	<a href="mailto:pablo.valencia@gm.com">pablo.valencia@gm.com</a>	X
Ghislain	Van Damme	Umicore	<a href="mailto:Ghislain.VanDamme@umicore.com">Ghislain.VanDamme@umicore.com</a>	X
Laura	Wagner	Ford Motor Co.	<a href="mailto:lwagner2@ford.com">lwagner2@ford.com</a>	X
John	Warner	Warner Consulting	<a href="mailto:John.t.warner@comcast.net">John.t.warner@comcast.net</a>	
Michael	Worry	Nuvation	<a href="mailto:michael.worry@nuvation.com">michael.worry@nuvation.com</a>	
Andrei	Wygowski	Nova Bus/Volvo Bus	<a href="mailto:andrei.wygowski@volvo.com">andrei.wygowski@volvo.com</a>	

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## Meeting Minutes

- Welcome
  - Jim Greenberger – what actions can be take that will be of use to NAATBatt members and the industry for recycling of lithium ion batteries
  - Invitations were sent for people to join one of three subcommittees. After presentation people will break into subcommittees and determine what deliverables it will provide and nominate the chair of each subcommittee.
- Introductions
  - See attendance list
- Novis Smith Talk
  - Present LiB recycling is expensive.
  - Cobalt content in cells is dropping, may end up down even to 10%, so value in the cells is dropping
  - Value recovered is based on LME prices, but when purchased as a finished cathode material there is a factor of 3 between raw materials and cathode material prices
  - Currently, recovered value is greater than processing cost and so the recyclers have to charge for their services
  - No way currently to recover cathode materials without at least partially dissolving and then precipitating

- Only way to break out of tippage fees is to recover the cathode material whole
  - How do we change this to positive value?
    - DOE had broken this down into 5 areas to improve this:
      - Improvement in collection and infrastructure
      - Separation and sorting
      - Battery transportation/logistics
      - Expensive, many safety regulations
      - Recycling technology
    - Different recycling processes that have been developed and continue to be developed
- Description of subcommittees and their objectives
  - Regulations - Transport and packaging
  - Tracking of batteries, including a potential for an exchange program
  - Advocacy and education, including best practices for recycling and shipping and public outreach
  - Over next 20-25 minutes:
  - Subcommittees to elect subcommittee chairs and co-chairs
  - Mission statement for the subcommittees
  - Deliverables from the subcommittees that will be of use to the industry
- Initial Subcommittee meetings
  - Held in room
- Reconvene and subcommittee reports
  - Regulatory subcommittee
    - Keith Loch subcommittee chair
    - Members in room: Keith Loch, Margaret O'Riley, Michael O'Kronley, Kunal Phalpher, Jeff Spangenberger, Mark Caffarey
    - Mission statement:
      - Overview of US regulations, but if anything sticks out outside the US we can note that
      - E.g. if some startup in the US wants to get into the business where do they start looking
    - Deliverable:
      - Reference guide that a startup could use
  - Battery Tracking and Exchange
    - Lauren Roman subcommittee chair
    - Members in room: Laura Wagner, Darnell Jones, John Platt, Lauren Roman, John Kincaide, Kris Hunter, Joe Bush, Pablo Valencia, Kristof Gabriel
    - Mission statement

- Identify and trace batteries and their history to maximize efficiency and safety for cost effective and sustainable repurposing and recycling
  - Advocacy and education
    - Sharon Bonesteel subcommittee chair
    - Members in room: Sharon Bonesteel, Novis Smith, Peter Karlson, Ghislain Van Damme, Renata Arsenault
    - Mission Statement
      - Define the essential elements in a sustainable recycling ecosystem
      - Some examples of elements:
        - Timing and lifecycle
        - Tracking and statistics to set goals and see if progress was made
        - Website with information on best practices to help with implementation
  - Next full meeting will be immediately before the annual meeting
  - Prior to then, subcommittees to have telephone meetings to progress on deliverables
  - Members not in room at meeting to be contacted by subcommittee chairs based on previous survey feedback indicating interest in being part of a subcommittee. Any other members are encouraged to contact chairs if they have interest in being part of one.
  - Meeting adjourned
-