

## Lithium-Ion Car Battery Recycling Advisory Group

### Meeting Minutes for 11.2.2021

#### 1. **Call to Order, Roll Call, and Establishment of Quorum** – Caroline Godkin, Deputy Secretary for Environmental Policy and Emergency Response, CalEPA

- Advisory Member roll call:
  - Ana-Maria Stoian-Chu (AS)
  - Mohammed Omer (MO)
  - Hannon Rasool (HR)
  - Terry Adams (TA)
  - Dan Bowerson (DB)
  - Mark Caffarey (MC)
  - Todd Coy (TC)
  - Toshiya Fukui (TF)
  - Perry Gottesfeld (PG)
  - George Kerchner (GK)
  - Steve Henderson (SH)
  - Bernie Kotlier (BK)
  - Nick Lapis (NL)
  - Alison Linder (AL)
  - Nathan Nye (NN) for Teija Mortvedt (TM)
  - Geoff Niswander (GN)
  - Les Schwizer (LS)
  
- Absent for roll call
  - Jennifer Krill (JK)
  - Lou Ramondetta (LR)

\*Quorum met with 17 members

#### 2. **Administrative items** – Mohammed Omer, Engineer at DTSC

- Meeting is being video recorded and livestreamed
- Public can ask questions and comment via chat or [calepa.workshops@calepa.ca.gov](mailto:calepa.workshops@calepa.ca.gov)
- Normally we would approve the draft minutes, but we will do that at the next meeting on December 7<sup>th</sup>, 2021

#### 3. **Revisiting policy recommendations, Dr. Alissa Kendall**

- We are going to review the changes and then have the advisory group members vote on this
  - We are not modifying the policies at this meeting, we are just going to accept clarifying questions

Meg Slattery: The changes in the draft report includes an introduction paragraph to the defining end-of-life policy. In addition, the core exchange and vehicle backstop, physical labeling, and expanding

eligibility for incentive programs, and develop strategic collection and sorting infrastructure. Hopefully that captures what everyone discussed last meeting. Any comments or questions?

TA: Can you pull up the language in 5.1? Is your plan to go through this? I have questions not in the highlighted sections.

AK: I want to remind everyone that we are voting on the policy recommendations, and this is not a policy recommendation.

TA: I am worried about the words disposal and would prefer the word manage when talking about recycling.

AK: The voting process:

- Members can vote yes or not, or can abstain. Members can also recuse themselves if they do not want to vote at all. This is because state agencies don't want to put the thumb on the scale.
- Any member can abstain, but if you do, you are still counted as a voting members.

NL: Several may have a concern that there will be consensus for small parts that don't solve the problem. Any thoughts to make sure that we characterize this?

AK: What we are hoping for is that all members have a responsibility to write supporting and dissenting text. This is an option for you all. None of these policies will solve 100% of the problem.

MO: Great point and I think the key is that we are all very clear eyed that there is not one single policy that will solve the problem. Which one do we feel is part of the solutions? I hope this doesn't make people feel they shouldn't vote on something

PG: I noticed in the draft report that in the November 2<sup>nd</sup> meeting it said that there was going to be an opportunity to approve or to recommend another approach. Why didn't this happen?

AK: Well we need to move forward. We did talk about this last weekend but didn't open the floor explicitly. What is another approach.

PG: One way would to have pros and cons. Why are we having a vote if the draft references the survey. Which ranks higher?

AK: Well I hope it was clear last meeting that we are going to vote and the survey was a place to start. We are attempting not to use the survey.

PG: The report says that the vehicle backstop is the recommended policy.

AK: That was an attempt to get a draft together

MS: The intention is to go through the policies written down in the report and vote to see what stays in and what goes out so the survey wont be used. We are also going through the recommended policies to express your opinion. The text now is a placeholder.

MO: I was going to respond a little about the process. As far as pros and cons; in the report itself, when we talk about the policies, there are pros and cons in there. Going back to the survey, I don't want to

harp on this too much. The survey was meant has a guide to have something to work off of. Now we are going on the record.

LS: I apologize if this has been discussed. What we are voting on is the policy and not the text. The text is now editable.

AK: The text on the report is editable but only grammar or clarity can be changed in the policy recommendations.

LS: Is this a time for substantive

AK: We are running quickly out of time. If there are small changes than that might be something. Everyone has had a chance to familiarize and provide edits. The goal is not to reopen changes to the content. We are trying to

LS: Prop 65 for labeling does not specify it is a non-delegable requirement.

DB: didn't we change the text to say it would follow ARB Clean Cars 2. This might be okay.

LS: This is still a concern. Just because the OEM is responsible, does not mean it isn't a non-delegable.

MS: does anyone object?

SH: I object. If a supplier doesn't do it, than the dealer would have to.

LS: We have heard that before and have seen an issue.

SH: We don't delegate certification.

LS: I guess I will just use my vote to shoot this down.

MS: you can write some text and put text in verbatim.

AL: We had our survey vetted and I am wondering how things differ from the survey?

AK: There have been minor changes, but my recommendation would be to vote what you did on the survey.

PG: I have expressed this in terms of the survey. I don't find it conducive to achieving consensus when there are 6 overlapping policies. It doesn't seem like this is a good way to reach consensus and develop public policy. I would like to bow out of the voting a recusing myself.

AK: Thanks Perry. We will now go through the test and describe the changes in detail.

MS: The core exchange and vehicle backstop policy changes are the highlighted text

DB: In the

TC: Quick questions. Are we going to be assigning definitions? I am curious what an alteration means? OR refurbished and repurposed?

AK: Yes

Audrey Depault: I want to make sure that this doesn't preclude the OEM from taking back the battery and not just the rest of the car.

Dan Chai: I think we would like text that doesn't preclude OEMs from taking back just the battery under mutually agreeable circumstances.

MS: I don't think this is something we can put in the text but I think it would be something that could be written in dissenting views.

AK: We are going to take a vote recognizing that PG will not be voting.

MO: We will go through the list, but not government folks.

That concludes our policies on more comprehensive end of life management. Our first policy is a physical labeling requirement.

DB: I recommend removing the sentence about what information is required under CARB's standard since it is still under development and recommending the standards are aligned.

AL: How will this change what is already happening if CARB is developing a standard?

MO: This will provide support and recommend that if the legislature adopts a labeling requirement it should align with CARB's.

- TA yes
- DB yes
- MC yes
- TC yes
- TF yes
- SH yes
- GK yes
- BK yes
- NL yes
- AL abstain
- NN yes
- GN yes
- LS yes

AK: The next policy is the electronic information exchange.

- LS abstain
- GN yes
- NN yes
- AL abstain
- NL yes
- BK yes
- GK yes
- SH yes

- TF yes
- TC yes
- MC yes
- DB yes
- TA yes

AK: The next policy is the universal diagnostic system. This is a bit longer so I will give you a moment to refresh your memory.

- TA yes
- DB oppose
- MC abstain
- TC yes
- TF oppose
- SH oppose
- GK oppose
- BK yes
- NL yes
- AL yes
- NN abstain
- GN yes
- LS abstain

Economic incentive package for recycling

- LS yes
- GN yes
- NN yes
- AL abstain
- NL abstain
- BK yes
- GK yes
- SH abstain
- TF yes
- TC yes
- MC yes
- DB yes
- TA oppose

Economic incentive package for disassembly

- TA oppose
- DB oppose
- MC abstain
- TC oppose
- TF abstain

- SH abstain
- GK oppose
- BK yes
- NL abstain
- AL abstain
- NN abstain
- GN abstain
- LS abstain

#### Hazardous waste processing permit timeline

- LS yes
- GN yes
- NN yes
- AL abstain
- NL abstain
- BK yes
- GK yes
- SH abstain
- TF yes
- TC yes
- MC abstain
- DB abstain
- TA yes

#### Expand eligibility for relevant incentive programs to include reused and repurposed batteries

- TA yes
- DB abstain
- MC yes
- TC yes
- TF abstain
- SH abstain
- GK yes
- BK yes
- NL yes
- AL yes
- NN oppose
- GN yes
- LS abstain

#### Minimum material recovery

- LS abstain
- GN yes

- NN oppose
- AL yes
- NL yes
- BK yes
- GK abstain
- SH yes
- TF oppose
- TC oppose
- MC yes
- DB oppose
- TA oppose

#### Design for reuse, repurposing, recycling

- TA oppose
- DB oppose
- MC abstain
- TC abstain
- TF oppose
- SH oppose
- GK oppose
- BK yes
- NL yes
- AL abstain
- NN oppose
- GN yes
- LS abstain

#### Third-party verification

- LS abstain
- GN yes
- NN oppose
- AL yes
- NL yes
- BK yes
- GK oppose
- SH oppose
- TF oppose
- TC oppose
- MC yes
- DB abstain
- TA oppose

#### Support enforcement of unlicensed dismantling laws

- TA yes
- DB yes
- MC yes
- TC yes
- TF yes
- SH yes
- GK yes
- BK yes
- NL abstain
- AL yes
- NN yes
- GN yes
- LS yes

#### Develop training materials

- LS yes
- GN yes
- NN yes
- AL abstain
- NL yes
- BK yes
- GK yes
- SH yes
- TF yes
- TC yes
- MC yes
- DB yes
- TA yes

#### Identify strategies to reduce burden of transportation

- TA yes
- DB yes
- MC yes
- TC yes
- TF yes
- SH yes
- GK yes
- BK yes
- NL yes
- AL yes
- NN yes
- GN yes
- LS yes

### Strategic collection and sorting infrastructure

- LS yes
- GN yes
- NN yes
- AL yes
- NL yes
- BK yes
- GK yes
- SH yes
- TF yes
- TC yes
- MC yes
- DB yes
- TA yes

### Universal waste interpretation

- TA yes
- DB yes
- MC yes
- TC yes
- TF yes
- SH yes
- GK yes
- BK yes
- NL yes
- AL yes
- NN yes
- GN yes
- LS yes

### Recycled content standard

- LS abstain
- GN yes
- NN oppose
- AL yes
- NL yes
- BK yes
- GK oppose
- SH oppose
- TF oppose
- TC yes
- MC yes

- DB oppose
- TA oppose

Develop a reporting system for EV batteries retired from use

- TA abstain
- DB oppose
- MC abstain
- TC oppose
- TF oppose
- SH yes
- GK oppose
- BK abstain
- NL yes
- AL yes
- NN oppose
- GN yes
- LS abstain

Develop a reporting system for LIB recycling recovery rates

- LS abstain
- GN yes
- NN oppose
- AL abstain
- NL yes
- BK yes
- GK abstain
- SH oppose
- TF oppose
- TC oppose
- MC abstain
- DB abstain
- TA oppose

Require pre-approval to bid at auctions

- TA yes
- DB yes
- MC yes
- TC yes
- TF yes
- SH yes
- GK yes
- BK yes

- NL abstain
- AL abstain
- NN oppose
- GN abstain
- LS yes

The next meeting is December 7<sup>th</sup>. The UC Davis team needs feedback on the report by November 9<sup>th</sup> to be able to incorporate changes and provide a new draft for review by December 1<sup>st</sup>.

TA: There was new language in the report that we haven't discussed. It wasn't clear to me that liability transfers once the battery has been moved to the next party and that is important to clarify.

NL: I would like to suggest using a word other than disposal, that has specific connotation in policy and does not capture reuse or repurposing.

TA: Disposition could be another option. On the black mass issue, sending batteries to a recycling facility that generates black mass should be an acceptable option and we should not be discouraging that. That should be step one in any recycling process. Once you send a battery to a recycling facility that produces black mass or whatever they produce that should check the box here for what we are trying to accomplish and whether there is producer responsibility or whatever the case may be, you send it to a facility that meets all the requirements and that should be the end of that party's responsibility. The entity producing black mass and maybe moving that to a different facility, that should be held to whatever standard exists in the jurisdiction.

AK: Changed to "the policies outlined in this report address the disposition of EOL batteries, and not the product of a recycling process."

DB: I think if you replace the red text with "pathway" that gets at what we are saying.

SH: I don't think this is necessarily a problem but it's something I noticed. The first paragraph does a nice job of articulating the problem statement but the next paragraphs apply to distinct issues. Everything that falls below applies to all batteries, not just orphaned batteries.

Stewart Skomra: I would prefer that recycling be designed into the total product concept. Everything is recycled, and I would prefer that my product development team take the entire cradle to cradle of an asset into account. If you can mandate recycling, I would prefer that design for recycling be mandated as well. That way you don't end up with a bunch of grey areas. I'd rather build the motivation into the policy.

GK: Should we clarify that the issue is exporting to an unlicensed facility? I know we are not opposed to exports.

BK: I would like to support the previous comment that policies motivate design for recycling and optimize that process.

AK: Even though we didn't have majority support for design-for-recycling this is a good opportunity to

PG: I want to clarify on the first paragraph about the word exported. We are not talking about exporting vehicles, we are talking about exporting batteries. We have discussed multiple times that these are

hazardous waste. Globally the export of hazardous waste is governed by the Basel convention and that restricts the export of hazardous waste like batteries. I don't think we should put in new language about unlicensed recycling. These are in fact hazardous and should not be exported.

TA: Retrieval has been properly exporting batteries to Canada since 1993 so I suggest we take the word exported out and if you want to make a broad statement you can say they "improperly managed." There is nothing wrong with exporting batteries to a facility that has the permits to receive it.

NL: I would strongly prefer to keep the language of exported to an unlicensed facility. We have seen dangerous exports of waste to fly-by-night facilities.

TA: I just don't understand why we are trying to carve out exports. The reason I'm not supportive of funding programs is that they should be used for governing only orphaned batteries and not the general flow of batteries. There is no reason to specify exports.

NL: We could say improperly managed domestically or abroad.

Dan Chia: Two suggestions. The second line depends on the profitability, I would suggest replacing that with cost-effectiveness. The term profitability is a bit loaded and not necessarily something all businesses strive for in order to operate. Also, I'd add feasibility, so it says "cost effectiveness and feasibility of reuse and recycling."

PG: I am not comfortable taking exports out, they should be in there as they were in the draft. Even countries like Canada and Mexico have different recycling standards than we do. Lead recycling facilities in Mexico emit about 10x more than facilities in the US. In terms of profitability, I think it's key that we are talking about the economic feasibility.

DC: Why couldn't a recycling entity strive for breaking even? We may be thinking in different terms but I think cost-effectiveness better captures the universe of cost issues. It could mean profitability to one entity and not another. I think it better captures different use cases and thresholds.

TA: I agree with the way it is written.

PG: But we also know it depends on a financial subsidy or the battery will be orphaned.

TA: That's not the case. We've been recycling batteries for years and we may charge a customer or not depending on the price of cobalt, but the batteries are not orphaned. I suggest we draw the line at facilities with proper export permits and import permits.

PG: I thought we've spent a lot of time talking about transportation and now you're saying that doesn't cost anything? You told us earlier that the profit from selling car parts.

AL: I just have a quick comment between cost-effectiveness and profitability because profitability is clearer to me.

BK: I'd like to make a comment on exports. Both sides have made good points. I agree that we don't want to discourage sending batteries to licensed facilities in Canada but other places do not have a strong track record of properly managing waste. Maybe we can recommend further study.

GN: I agree, and the US did not ratify the Basel convention. If we generated the waste it should be our problem.

MO: whether we have state authority to prevent currently legal export is another question. The export question is outside the scope of our group and requires further study.

PG: I agree that the state does not control this. This sentence is just a statement of fact.

NL: I just wanted to mention that the Governor just signed AB 881 which reclassified the export of plastic under the Basel Convention.

AK: I am recording these comments so we can be sure to incorporate them into the report. Mohammed, do we have more to go over during this meeting?

MO: We will talk about where we are and what we need to get accomplished in the next six weeks. We should talk about where to send comments, how to send comments, and how to submit supporting and dissenting opinions. We are hoping for comments on the current draft by November 12. Alissa, it is in your wheelhouse where folks might expect to see those.

AK: We will send out a new version of the report with the revised policy section today. We can also send out the revised version tomorrow that includes the reordering and revisions we discussed today. We will not have time to edit text, it will be the updated policy section with the reordered policies in the old report. Comments that have already been provided will not show up in other sections of the report. Our vision was to have supporting and dissenting comments be provided alongside the proposed policies. So we will present the policy, and then have a section for verbatim comments. We can add prompt areas if that would help people see where it will show up in the report. If folks don't want to see them right there we are happy to take comments but that was our plan.

NL: This might already be the case but it would be helpful if we referred to them as proposals that did not have majority support as opposed to policies that we collectively decided not to recommend.

MO: I agree that it makes more sense to refer to the levels of support.

DB: Is there going to be an opportunity following the December 7<sup>th</sup> meeting to provide additional comments? I'm thinking after seeing the full non-redlined report there may be further opinion.

MO: Caroline might back me up on this but the idea was to have a public draft by December 15<sup>th</sup>. We have our meeting on December 7<sup>th</sup> which would give us a week in between those two dates so we may want another draft report to be sent out a week before the December 7<sup>th</sup> to provide another week for feedback. Once this goes out to the public we will have a chance to continually provide updates ourselves as well, it just means it will be opened up to more people. For section 5, can we mirror the language about policies with majority support. Normally now we would schedule another meeting, do folks want to schedule another meeting for December?

CG: My suggestion is to wait until January.

MO: When we reconvene on the 7<sup>th</sup> we can schedule our meeting for January. Did anyone have anything else they wanted to share and did we get any other public comments?

MO: I will go over dates one more time. By tomorrow Alissa Jess and Meg will get us a revised version. The due date for feedback is November 12. Alissa and the team will collate the feedback and revise the draft to provide a new version December 1<sup>st</sup>. If there are no other questions we can move towards adjourning our meeting, we accomplished a great deal today.

CG: Thank you Mohammed and thank you to the UC Davis team, I appreciate this group's work and the constructive conversations we have had. I hope you will all join me in congratulating Mohammed, he has received a well-deserved promotion. Thanks everyone and I hope everyone has a happy Thanksgiving.