



Henry McMaster
Governor

SOUTH CAROLINA
DEPARTMENT OF COMMERCE

Harry Lightsey
Secretary

Recycling Market Development Advisory Council (RMDAC) Meeting
Tuesday, January 17, 2023
12:00 PM – 1:00 PM

RMDAC

Wes Westbrook, BMW
Tina Green, Mumford Industries
Norman Chandler, Republic Services
Dr. Andy Spicer, USC Darla Moore School of Business
Chris Fisher, The Upcycling Company
Carol James-Gilchrist, Sonoco Recycling
Elizabeth Morgan, City of Rock Hill
Michelle LaRocco, Georgetown County
Angel Lara, Mid-Carolina Steel
Chad Prescott, Mid Carolina Steel
Jay Spears, Continental Tire
Adam Padgett, Green Energy Biofuels

ABSENT

Kristen Brown, WasteZero
Brad Dutton, Dutton Polymers

GUESTS

Lt. Governor Pamela Evette
Secretary Harry Lightsey, SC Department of Commerce
Saluda Zemp, Office of the Governor
Amy Thomson, SC Department of Commerce
Emily Eckert, SC Department of Commerce
Alex Zhou, PRET Advanced Materials
Christian Fisher, CMC Steel
Mark Frederickson, CMC Steel
Greg Brandon, CMC Steel
Brett Kunce, CMC Steel
Cheryl Coleman, ISRI
Glenn Odom, Retired
Leslie Rodgers, Atlas Organics

STAFF

Anna DeLage, SC Department of Commerce
Allyson Barbier, SC Department of Commerce
Ashley Jenkins, SC Department of Commerce



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CALL MEETING TO ORDER

Wes Westbrooks (Chair) motioned to call the meeting to order at 11:59 PM.

MINUTES

The November 17th RMDAC meeting minutes were approved.

WELCOME

Chair welcomes the Lt. Governor and Secretary Lightsey

Lt Governor welcomes RMDAC and guests and talks about the importance of trade schools and blue-collar work.

- bring advanced manufacturing to the forefront
- tech schools are not second tier options for students
- the importance of working to instill fiscal responsibility
- need to bump up labor market

Secretary Lightsey welcomes RMDAC

- Commerce trends:
 - embrace the future
 - green energy
 - recycling- Redwood Materials coming to SC, looking at SC recycling tax credit statute
 - population growth- looking at ways to increase labor market

RMDAC and other guests introduce themselves.

REVIEW OF ECONOMIC IMPACT STUDY

Anna reviews the 2022 SC Recycling Industry Economic Impact Study

- The Recycling Market Development Advisory Council (RMDAC) supports the economic growth of South Carolina's recycling industry through building recycling markets, increasing material recovery and promoting the recycling value chain.
- This 14 member, Governor-appointed council advises on building the growth of the state's recycling industry and makes recycling market program recommendations to the Governor and General Assembly each year.
- The S.C. Department of Commerce, S.C. Department of Health and



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- Environmental Control and the Council on Competitiveness commissioned a 2022 update of the 2014 and 2006 economic impact studies.
- The 2022 SC Recycling Industry Economic Impact Study was conducted by economist Dr. Frank Hefner of the College of Charleston. In the 2014 study, Dr. Hefner concluded, “That recycling is beneficial for the environment is a virtually uncontested proposition. What is becoming increasingly more obvious is that recycling contributes to the economic health of a state’s ecosystem.”
- South Carolina’s recycling industry continues to generate new investment and job creation, in industry sectors from aerospace, automotive, agribusiness, logistics and others contributing to this demand.
- The economic impact of the recycling industry is \$13.6 billion.
- 16,188 jobs in SC in the recycling industry.
- The recycling industry has the ability to scale up employment at a higher rate than the average South Carolina industry with an employment multiplier of 2.6 - this means for every 10 jobs in recycling, there are 16 others created in the SC economy.
- We know SC is great at making things, but we are also great at remaking things.
- The state has strong processing capacity to make recycled materials into finished goods. The story is transformative. Recycling creates jobs in SC.

ROUNDTABLE DISCUSSION

What are some things the Council needs to be thinking about as it relates to Li-ion battery recycling? Who bares the cost to recycle? How do we address safety?

Chair: Before Redwood Materials, Li-Cycle was BMW’s only option for EV battery recycling. Li-Cycle is in New York and shipping fees are high.

Cheryl Coleman: This is a great opportunity for all of us- we need to understand the infrastructure better.

Angel Lara: Training employees to distinguish between hybrid and Li-ion and through more prominent labeling. First responders need to be trained.

Christian Fisher: traditional recycling method for cars does not work for EVs- huge safety concern. EVs don’t have value once they have broken down for a scrap recycler.

Chair: BMW is trying to figure out how to handle the recycling of the entire EV.

Lt. Governor: What is the average lifespan of an EV?

Christian Fisher: 12 years

Angel Lara: You cannot store EV batteries in same location of the processing facility because of issues with combustibility. All state and federal governments should mandate that all



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manufacturers standardize charging plugs/outlets just like with combustion engines and smart chargers that change the charging rate automatically. This should allow for charging stations to become more widespread faster and allow municipalities and the general public to change car manufacturers since you won't incur the high cost of changing your charging stations if you decide to change the make of your car.

Cheryl Coleman: Batteries not just in EVs are a problem but they are in so many household items. Education is a big component.

Carol Gilchrist- Sonoco battles w/ Li-ion battery safety concerns at the MRF.

With the transition to electric vehicles, we know that electric vehicles are significantly heavier, that means more wear and tear on tires leading to more scrap tires. Right now, the SC Scrap Tire Sustainability Coalition has been meeting to discuss end of life tires. What do you see as potential markets for tires and what is the biggest barrier to entry for recycled tires?

Jay Spears: EV adds 40% more to weight. May go through more tires, but better for fuel efficiency. In SC, we go through 5 to 6 million tires per year (one tire per person). Current markets include Tire Derived Fuel and Rubber Modified Asphalt (RMA). Department of Transportation has a mandate that they must go lowest cost. RMA is cheaper over time but not upfront costs. California had an RMA mandate of 40% which is now 100%. Right now, over half of tires are burned. TDF is used for cement kilns.

Lt. Governor: Asks for updated recycling stats to be sent to her office.

Anna DeLage: This Council is here as a resource to support recycling across the state. Please call on RMDAC if they can be of assistance.

ADJOURN

Meeting adjourned at 1:02 PM.