
CAAF: Carpet As Alternative Fuel

Presentation to CARE Entrepreneur Meeting

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October 27, 2010



Key Messages

- CARE's primary mission is to help the carpet industry find market-driven solutions to divert post-consumer carpet from landfills
 - For the carpet recovery system to be sustainable, all collected fractions must have an outlet; without such, the system will face challenges that could cause it to collapse
 - Not all fiber types and pounds of carpet can be viably recycled today into new products; innovative alternatives must be developed

To Help, We've come up with an Acronym

- Landfills did it: RDF (Refuge Derived Fuel)
- Tires did it: TDF (Tire Derived Fuel)
- Paper did it: PDF (Paper Derived Fuel)
- Carpet is doing it: CAAF

What CAAF is Not....



CAAF \neq WTE

Burning this for energy is WTE



CAAF Definition

- Carpet as Alternative Fuel (CAAF): Carpet Used as Single Source of Fuel that has been source separated and processed to make into fuel;
 - and/or source separated, processed carpet mixed with other single source fuel as an additive but not mixed with Municipal Solid Waste (MSW);
 - and/or combined with other fuel sources (i.e. coal or coal fines, wood waste, etc) to create an engineered fuel – (Kela like)
 - **CAAF is not waste-to-energy (WTE)**
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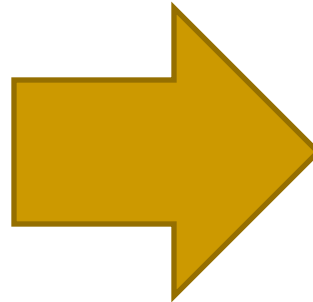
CAAF Defined

- Carpet as Alternative Fuel (CAAF)
 - ❑ Team birthed from CARE conference dialogue
 - ❑ Engineered fuel from post-consumer carpet
 - ❑ Carpet that is source separated (collection center) and not mixed with municipal solid waste (MSW)
 - ❑ Utilizing CAAF is not incineration
 - ❑ Utilizing CAAF is not waste-to-energy
 - ❑ Utilizing CAAF is to utilize the embodied energy of the hydrocarbons, also known as thermal recycling

Guiding Principles of CAAF

- Apply waste hierarchy (Reduce, Reuse, Recycle)
- Always follow the highest and best use
 - Recycle back into carpet or other products when feasible
 - Remove recyclables where and when possible
- Some carpet materials cannot (yet) be feasibly recycled
 - Dirty or wet
 - Some residual waste from recycling efforts
 - Limited options for some fiber types or carpet components
- When waste materials cannot be recycled, it can be more preferable to use CAAF than landfill (EPA/NC State Study, 2009, CAAF study – M. Realff 2010)

CAAF is Engineered Fuel



Benefits of CAAF

- Directly supports CARE's mission
- Comparable BTU value vs. Coal
- Lower emissions than Coal
- Helps reduce our dependence on fossil fuels
- Other benefits
 - Can be cost effective vs. some regional landfill costs
 - Reduction in number of landfills
 - Transportation costs for hauling to other regions
 - Significantly strengthens the overall recycling system
 - Utilizes non-recyclable materials and recycling by-products
 - Enables Broader Collection
 - Enables potential recovery of recyclable components
 - Not limited in geography – can be anywhere there is a need and support

Challenges for CAAF

- Not yet widely utilized in the U.S. due to:
 - ❑ Economic investment
 - ❑ Abundance of landfills (however, this is changing)
 - ❑ Opposition from some states
 - ❑ Negative public perception of WTE, which CAAF is not
- Must move forward with facts, not assumptions
 - ❑ Independent study performed by Dr. Matthew Realff
 - ❑ Will collect data from Shaw's Re2E energy recovery facility

In Conclusion

- CAAF is an essential element of carpet recycling
- CAAF is an industry-driven approach
- CAAF is not waste-to-energy
- CAAF has challenges that still must be addressed
 - ❑ The carpet industry is committed to support
 - ❑ Awareness of the facts is essential
 - ❑ Economics are challenging but should improve

Thank you

