

THE LOGISTICS BEHIND SUCCESSFUL ASH MARKETING

Grant Quasha, CEO of Eco Material Technologies, on the challenges of ash.

Investopedia defines a commodity as a “basic good used in commerce that is interchangeable with other commodities of the same type.” Oil fits this definition, as the market treats each barrel as equivalent regardless of who produced it. Many agricultural crops, and even certain standardised manufactured items, are considered commodities for the same reason, including generic pharmaceuticals, electricity, and cement.

Fly ash, however—frequently used as a partial substitute for cement in concrete—is not a commodity. Unlike the aforementioned goods, it is not manufactured to a specification, but instead is a recovered by-product of the coal combustion process. Its physical and chemical characteristics can vary widely based on the variety of coal used, where it was sourced from, and even the size and age of the power plant that produces it. Fly ash produced at one power plant frequently performs differently to fly ash produced at another.

For this reason among others, marketing ash is significantly more complicated than sell-

ing a manufactured product such as cement. Because electric utilities are in the business of generating electricity, and not ash, the management of these materials is generally contracted to third-party marketers, who must overcome an array of challenges to provide a reliable, high-quality supply of fly ash to concrete producers and other end users, including:

- **The distance from ash producer to ash consumer:** Electric utilities are generally situated some distance from the urban construction markets that consume most fly ash. As such, ash marketers must grapple with the logistics of transporting ash and, ultimately, with whether moving ash by truck or rail will add sufficiently to its price to render it uneconomical for use.

- **Seasonal differences between ash generation and highest usage:** While coal utilities produce ash year-round, demand for fly ash typically spikes during the summer, frequently necessitating marketers' use of storage facilities to stockpile ash over the winter.

- **Quality assurance of delivered ash:** Marketers must have the ability to test and analyse materials and, where required, employ benefi-

ciation technologies to ensure the delivery of concrete-grade ash.

- **The role of specifiers in determining fly ash use in concrete:** While concrete producers are major purchasers and users of ash, specifiers such as architects, design engineers, and federal and state agencies wield significant influence over the type and volumes of fly ash used.

Developing the capabilities to meet these challenges requires significant investment in infrastructure: laboratories, transportation, terminals. Beyond that, market intelligence/awareness is required to manage the ash supply/demand balance. Marketers must provide end users with sufficient distribution capacity to ensure their customers' confidence in the continuing availability of ash supply without over-investing in any one location and jeopardising their capacity to invest elsewhere.

As an integrated services provider, Eco Material Technologies manages all operations following the production of ash—its collection, testing/analysis, storage, distribution, and marketing—to ensure the delivery of specification-grade fly ash to concrete producers

and other end users. Our AASHTO-accredited Materials Testing and Research Facility (MTRF) processes more than 3,500 samples of fly ash (as well as pozzolans and building products) each year to assess these materials' effects on slump, set time, finishability, and workability in fresh concrete. Hardened concrete is tested for compressive strength, permeability, alkali-aggregate reactivity, resistance to sulfate attack, and other performance characteristics. MTRF works closely with concrete producers, preparing trial batches to ensure customers' satisfaction with its quality.

Substantial investments undertaken in storage and transportation infrastructure mean that Eco's fly ash and other SCMs are typically available in local markets at costs that are significantly lower than the portland cement they replace in concrete mixtures. The only U.S.-owned SCM company with a national footprint, our logistics network includes 58 free-standing terminals, approximately 4,000 railcars, and more than 400 trucks—providing unparalleled capabilities for bringing large volumes of ash to market quickly. Due to the volumes of fly ash and other SCMs that the company moves—over 10 million tons annually—Eco Material is able to negotiate on behalf of its customers favourable rail rates on a national basis and enjoys similar purchasing power with trucking contractors where their services are required.

Eco Material's portfolio of SCMs—fly ash, bottom ash, natural pozzolan, and green cement—allows our technical sales representatives to tailor solutions for customers based on the specific performance and environmental objectives of a given concrete project. Combined with Eco's coast-to-coast logistics network, this permits the shipment of SCMs for a wider range of applications and clients. Our customer base, comprising more than 6,000 unique locations served from 100+ sites across 46 U.S. states and Canada, attests to Eco's mastery of “the logistics behind successful ash marketing.” ●



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