Overview

• Structure of the University Ash Consortium
• Goals of the University Ash Consortium
• Ash reuse in construction materials (SUNY)
• Ash reuse for remedial applications (Temple)
• Ash characterization and comparison to coal ash (Columbia)
Why Focus on Ash Management?

- About 34 million tons MSW combusted
- About 7 million tons of ash generated
- At $25 disposal cost: $175,000,000
- Fate of contaminants?
- Air pollution control systems (MACT)
- Contaminants mostly in APC residues

Why Focus on Ash Management?

- 85% bottom ash, 15% fly ash
- Combining the ashes?
- Less than 10% ash reuse in the U.S.
- Germany: >50%, Netherlands/Denmark: >80%
- Environmentally: Ash management greatest challenge!
Structure of the UAC

Construction Materials
- Aggregate
- Asphalt
- Cement blocks

Asphalt

Concrete

WTE ash Processing

SUNY

Columbia

Asphalt

Concrete

Cement blocks

WTE ash

Processing

Ash Characterization

Comparison to Coal Ash

Environmental Remediation

Abandoned Mines

Brownfields

WTERT Coordination

Recommendations for ash and reuse standard specifications

Temple

Coordination of UAC

Earth Engineering Center at Columbia
www.columbia.edu/cu/earth

Focus on industrial ecology, integrated waste management, WTE processes, and environmental performance of materials/products

WTERT
www.columbia.edu/cu/wtert

Sponsored by IWSA, US EPA, ASME, SWANA, MWMA

Collaboration with ash recycling companies, WTE facilities, governmental Agencies

Recommendations for ash and reuse standard specifications
Members of the UAC (2003)

- WTE Research & Technology Council
- Earth Engineering Center, Columbia
- Marine Sciences Research Center, SUNY
- Department of Civil and Environmental Engineering, Temple
- Dept. of Applied Earth Sciences, TU Delft
- Sheffield University Waste Incineration Centre

Goals of the UAC

- To bring together academia, industry, state and federal authorities, and other organizations
- To develop and improve beneficial uses of WTE ash as construction material and for remedial purposes
- To provide an economically competitive solutions, considering environmental and social benefits
- To identify potential scenarios for ash reuse
- To advance ash management (public acceptance/marketability)