

**Background Material**

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Popular Science Interview  
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Questions from Diane Bartosh:

1) We will need numbers on amounts recycled and (re)used

See attached survey

2005 CCP Total Generation = 123 million tons  
Total Utilization = 50 million tons  
Recycling Rate = 40%

2) Numbers on goals

--EPA Strategic Plan goal for 2011: 50% recycling rate, from a baseline of 32% in 2001

--C2P2 Program Goal: Increase use of CCPs as a substitute for cement in concrete to 18 million tons in 2011 from a baseline of 12 million tons in 2001 and 15 million tons in 2005. This action achieves the highest environmental benefit for the use of coal fly ash.

3) What was disposed of then, what's disposed of now

2001 CCP Total Generation = 118 million tons  
Recycling Rate = 31.5%  
Total Disposal = 81 million tons  
2005 CCP Total Disposal = 74 million tons

Between 2001 and 2005, total coal ash generation is up, recycling is up, and disposal is down.

4) Who the C2P2 partners are

Cosponsors are: FHWA, DOE, USDA, USWAG, ACAA, EPRI  
Current total of partners is 148. Please see the attached for a complete list.

## 5) What USDA is doing

The USDA is strongly interested in coal ash and industrial materials recycling. The USDA became a sponsor of C2P2 in 2006 and is going to cosponsor the next Byproduct Summit in Denver in 2008. The USDA is also committed to working with EPA on the increased utilization of flue gas desulfurization materials, including FGD Gypsum, as soil amendments. The USDA is a cosponsor of a C2P2 workshop to address FGD materials and to be held in Atlanta, October 23 – 25.

Following is a list of talking points sent by USDA:

USDA-Agricultural Research Service (ARS) has a priority national research effort relative to beneficial agricultural uses of agricultural, industrial and municipal byproducts.

USDA is interested in low-cost products that can be used by agricultural producers to enhance crop production and to address environmental concerns.

These products can be used to improve crop production, to reclaim and remediate degraded soils, to produce manufactured soils and composts, to promote clean air and water, and to lower energy inputs in agricultural systems.

Research is conducted to determine benefits and risks of the materials, to develop and demonstrate uses of the materials, to develop guidelines for appropriate uses of the materials, and to provide information to regulatory and advisory agencies to allow agricultural and horticultural uses of the materials.

Specific ARS research on beneficial uses of coal combustion products has addressed the following: (1) improving soil conditions to enhance water infiltration into soil to reduce runoff and soil erosion; (2) ameliorating acid soil conditions that limit crop production; (3) sequestering excess phosphorus in manure and soils treated with manure and fertilizer, to protect surface water quality; (4) remediating salt-affected soils; and (5) supplying nutrients for crop production.

## Brief description of the C2P2 awards

See attached description of 2006 awards.

### 7) Write-up of the recent alliance between NRC and C2P2, and significance thereof

A group of industrial byproduct associations, including those representing the coal ash, foundry sands, slag, rubber, and C&D material industries, formed the Industrial Resources Council, or IRC, in 2006. The IRC then became a partner of the National Recycling Coalition, which added industrial material recycling as pillar of its recycling mission. In terms of significance, the relationship between the IRC and NRC led to 2006 C2P2 Awards Ceremony being held at the NRC Congress in Atlanta in October, 2006. More broadly, the relationship between the IRC and NRC is a recognition of the need to bring industrial materials recycling into the mainstream and be a part of the broader recycling movement.

### 8) Data regarding fly ash use and safety in the environment and in products

See attached survey for data on fly ash use in products. The EPA addresses the use of safety in the "Using Coal Ash in Highway Construction: A Guide to Benefits and Impacts." The key message in the booklet is that CCPs may be safely used in a variety of applications with proper engineering. With respect to building construction, EPA believes that CCPs are safe to use in cement, concrete and bricks as encapsulated construction materials.

With respect to damage cases, see the attached table and the following discussion from Rich Kinch:

Do we have a list of damage cases from coal ash land placement? Yes we have a list of damage cases associated with landfills and surface impoundments, including the use of fly ash in sand and gravel pits. As for minefilling we did look but have been unable to identify damage cases -- the NAS also did not identify damage cases associated with minefilling.

Did the analysis only look at disposal scenarios, or did it look at any and all potential damage cases, including beneficial use? As indicated above, we looked at landfills, surface impoundments, sand and gravel pits, and minefilling. Of course we are familiar with the Pines Indiana situation where there was wide spread dumping of fly ash. We have tried see if there is anything on the beneficial use side, but have never seen a damage case (in Pines they just dumped fly ash around -- not sure I would call that beneficial use -- but some people might).

Is there a list, or can we make a list based on previous analysis, of damage cases attributed specifically to beneficial use? I am generally only aware of a limited number of damage cases where ash was used as fill near the water table. Steve Souders has the list of damage cases -- again this is not beneficial use. (Use as fill in the sand and gravel pit situations did produce about 6 damage cases -- some may consider that beneficial use -- there isn't anything further other than the Pines Indiana situation.)

John, be careful how you word anything -- I suggest not trying to interpret the information and just give them the list of all the damage cases we have and mention Pines. Don't try to characterize what is beneficial use.

9) Current state/local regulations regarding use or sample model programs

Wisconsin is often cited as a model for its regulations concerning beneficial use.  
Wisconsin See attaché summary from the DOE web site.

ANYTHING else you think is relevant

**Key messages** regarding the use of coal ash--I would like to see these couched within the larger message of IMR in general. It's IMR we're trying to brand, with C2P2 under that umbrella.

The key message for C2P2 is the FGD material initiative. FGD material production will increase dramatically in coming years as the result of air emissions. I don't know if this is relevant for the article about bricks, however. I am going to give this to you now and do some additional research.