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Information Quality Guidelines Staff  
Mail Code 2811R  
U.S. Environmental Protection Agency  
1200 Pennsylvania Ave., NW  
Washington, DC 20460

**Re: Information Quality Complaint; False Greenhouse Gas Emission Reduction Claims Related to Coal Combustion Waste Recycling**

Dear Sir or Madam:

Public Employees for Environmental Responsibility (PEER) hereby submits this Information Quality Complaint (“Complaint”) pursuant to the Data Quality Act of 2000 [Section 515 of the Fiscal Year 2001 Treasury and General Government Appropriations Act, Pub.L. 106-554], the Office of Management and Budget (“OMB”) *Guidelines for Ensuring and Maximizing the Quality, Utility, and Integrity of Information disseminated by Federal Agencies* (“OMB Guidelines”)<sup>1</sup>, and the U.S. Environmental Protection Agency *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency* (“EPA Guidelines”)<sup>2</sup>. PEER respectfully requests that the United States Environmental Protection Agency (EPA) rescind and correct online and printed information regarding alleged greenhouse gas emissions reductions resulting from “beneficial use” of coal combustion waste products.

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<sup>1</sup> Office of Mgmt. & Budget Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8452 (Feb. 22, 2002).

<sup>2</sup> U.S. ENVTL. PROT. AGENCY, EPA/260R-02-008, GUIDELINES FOR ENSURING AND MAXIMIZING THE QUALITY, OBJECTIVITY, UTILITY, AND INTEGRITY, OF INFORMATION DISSEMINATED BY THE ENVIRONMENTAL PROTECTION AGENCY (2002).

**A. DESCRIPTION OF CHALLENGED INFORMATION THAT NEEDS TO BE CORRECTED TO COMPLY WITH OMB AND EPA INFORMATION QUALITY GUIDELINES**

- The EPA Coal Combustion Products Partnerships (“C2P2”) “Results” webpage asserts greenhouse gas reduction claims under the heading “Greenhouse Gas Reduction”:
  - In addition, C2P2 established a goal to reduce greenhouse gas emissions from concrete production by approximately 5.6 million metric tons of carbon dioxide equivalent by 2011, compared to a 2001 baseline. Each ton of fly ash that replaces cement in the production of concrete reduces greenhouse gases emissions by a little less than a ton of carbon dioxide equivalents. In 2008, the total use of fly ash in concrete reduced greenhouse gas emissions by about 11.4 million tons of carbon dioxide equivalents.<sup>3</sup>
- The EPA C2P2 “Case Studies” webpage introduces a series of downloadable documents with this statement:
  - The following case studies ... are intended to be illustrations of coal combustion product applications that the Agency believes can be beneficial to the environment. Case Study 05: Carbon Burn-Out for Fly Ash Beneficiation, is linked from the website with no disclaimer. The case study displays the EPA logo in the top left corner, and the body of the document cites savings of “CO<sub>2</sub> releases from the production of Portland cement of the order of 8/10ths of one ton of CO<sub>2</sub> saved for every ton of fly ash used.”<sup>4</sup>
- EPA C2P2 “CCP Benefits and Risks” Webpage states:
  - Under the heading, “Environmental Benefits”:
    - Greenhouse Gas and Energy Benefits. The reuse of CCPs reduces the emission of GHGs in many ways. The primary way CCP use reduces GHG emissions is through coal fly ash for it takes the equivalent of 55 gallons of oil to produce a single ton of cement. In addition, chemical reactions that occur during the production of Portland cement also produce GHGs. The pozzolanic properties of coal fly ash make it a useful replacement for a portion of the Portland cement used in making concrete. Fly ash can typically replace between 15 to 30 percent of the cement in concrete with even higher percentages used for mass concrete placements. As an added benefit, it makes the concrete stronger and more durable than concrete made with only Portland cement as the binder. Another way that using CCPs in place of virgin materials reduces GHG emissions is by reducing the energy-intensive mining operations needed to generate virgin materials. Reduction in mining energy use leads to reduction in GHG emissions.<sup>5</sup>

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<sup>3</sup> EPA C2P2 Results, <http://www.epa.gov/wastes/partnerships/c2p2/results.htm> (last accessed on June 23, 2010).

<sup>4</sup> CASE STUDY 05: CARBON BURN-OUT FOR FLY ASH BENEFICIATION, *available at* <http://www.epa.gov/epawaste/partnerships/c2p2/cases/05-burnout.pdf>.

<sup>5</sup> EPA C2P2 CCP Benefits and Risks, <http://www.epa.gov/wastes/partnerships/c2p2/use/benefits.htm> (last accessed on June 23, 2010).

- *Using Coal Ash in Highway Construction: A Guide to Benefits and Impacts*<sup>6</sup> contains the following statements:
  - The increased use of these materials, which would otherwise be discarded as waste, can reduce greenhouse gases in the atmosphere, reduce energy consumption, and conserve natural resources.<sup>7</sup>
  - Specifically, using coal combustion products in lieu of other materials, such as Portland cement, reduces energy use and greenhouse gas emissions and conserves natural resources.<sup>8</sup>
  - This energy-intensive process typically emits nearly one ton of greenhouse gases for each ton of cement created and requires the equivalent of a barrel of oil per ton. Using fly ash—which would otherwise be disposed of—in concrete has the potential to significantly reduce the quantity of greenhouse gases emitted and the amount of fuel used. Typically, between 15 to 30 percent of Portland cement in concrete can be replaced with fly ash.<sup>9</sup>
  - In 2002, the American Coal Ash Association estimated that 12.6 million tons of fly ash were used as a substitute for Portland cement in the United States. The industry set a goal to increase its use to 20 million tons by 2010. EPA estimates that this would reduce the future generation of greenhouse gasses by more than 6.5 million tons a year.\* (\*The footnote to this sentence states, “Estimated using EPA’s Waste Reduction Model, Solid Waste Management and Greenhouse Gases, Second Edition, EPA 530-R-02-006, Office of Solid Waste, June 2002.”)<sup>10</sup>
  - One ton of fly ash used as a replacement for cement ... reduces the equivalent of two months of an automobile’s carbon dioxide emissions.<sup>11</sup>
- EPA Wastes Speeches contains text of speeches with the following statements:
  - “Substituting just 12.6 million tons of fly ash for Portland cement would save 350 million cubic feet of landfill space, reduce greenhouse gas emissions by 11 million tons, and conserve crude oil valued at over 140 million dollars.”<sup>12</sup>

**B. THE CHALLENGED STATEMENTS ARE COVERED BY EPA GUIDELINES BECAUSE THEY CONSTITUTE “INFORMATION” THAT EPA “DISSEMINATES” TO THE PUBLIC**

EPA’s Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency (“EPA Guidelines”) state that EPA has as a goal that “all parts of society – including communities, individuals, businesses, State and local governments, Tribal governments – have access to

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<sup>6</sup> U.S. ENVTL. PROT. AGENCY, EPA-530-K-05-002, USING COAL ASH IN HIGHWAY CONSTRUCTION: A GUIDE TO BENEFITS AND IMPACTS (2005), *available at* [www.epa.gov/osw/partnerships/c2p2/pubs/greenbk508.pdf](http://www.epa.gov/osw/partnerships/c2p2/pubs/greenbk508.pdf).

<sup>7</sup> *Id.*

<sup>8</sup> *Id.* at 16.

<sup>9</sup> *Id.* at 16-17.

<sup>10</sup> *Id.* at 17.

<sup>11</sup> *Id.* at 17.

<sup>12</sup> Tom Dunne, Acting Assistant Administrator, EPA Office of Solid Waste & Emergency Response, Remarks at the Beneficial Reuse Summit, November 8, 2004, *available at* <http://www.epa.gov/wastes/inforesources/news/speeches/bene-use.htm>.

accurate information sufficient to effectively participate in managing human health and environmental risks.<sup>13</sup>

EPA's Guidelines apply to "information" that EPA disseminates to the public. The Guidelines define "information" as "any communication or representation of knowledge such as facts or data, in any medium or form."<sup>14</sup> EPA is considered to be "disseminating information to the public" when EPA initiates distribution of information "if EPA prepares the information and distributes it to support or represent EPA's viewpoint, or to formulate or support a regulation, guidance, or other Agency decision or position."<sup>15</sup>

The EPA publications and web content listed above are communications that have been prepared by EPA and disseminated in print or online. The text of the speech discussed above is "information" covered by the guidelines because the speech was given by an EPA official in support of an EPA position. The text of the speeches exist on EPA's website and represent EPA's views to the public without disclaimer warning of potentially historic and outdated content.

**C. THE CHALLENGED STATEMENTS ARE "INFLUENTIAL INFORMATION" SUBJECT TO HIGHER STANDARDS OF QUALITY**

EPA's Guidelines define "influential" as meaning that EPA can reasonably determine that dissemination of the information will have or does have a clear and substantial impact on important public policies or private sector decisions.<sup>16</sup> EPA also recognizes that "influential scientific, financial, or statistical information should be subject to a higher degree of quality (for example, transparency about data and methods) than information that may not have a clear and

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<sup>13</sup> U.S. ENVTL. PROT. AGENCY, EPA/260R-02-008, GUIDELINES FOR ENSURING AND MAXIMIZING THE QUALITY, OBJECTIVITY, UTILITY, AND INTEGRITY, OF INFORMATION DISSEMINATED BY THE ENVIRONMENTAL PROTECTION AGENCY 3 (2002).

<sup>14</sup> *Id.* at 15.

<sup>15</sup> *Id.*

<sup>16</sup> *Id.* at 19.

substantial impact on important public policies or private sector decisions.”<sup>17</sup> Finally, EPA also notes that it is “important that analytic results for influential information have a higher degree of transparency regarding (1) the source of the data used, (2) the various assumptions employed, (3) the analytic methods applied, and (4) the statistical procedures employed ... and that all factors be presented and discussed.”<sup>18</sup>

In explaining the purpose behind requiring agencies to be transparent about how analytic results are generated, OMB guidelines explain that the “more important benefit of transparency is that the public will be able to assess how much an agency’s analytic result hinges on the specific analytic choices made by the agency.”<sup>19</sup> EPA’s Guidelines also state that “[i]t is important that analytic results for influential information have a higher degree of transparency regarding ... the various assumptions employed... [i]t is also important ... and that all factors be presented and discussed.”<sup>20</sup>

The challenged information is “influential” because the EPA can reasonably determine that dissemination of the information will have or does have a clear and substantial impact on important public policies or important private sector decisions. Public policy-makers and agency staff may rely on EPA’s representation of greenhouse gas emission reduction benefits when making decisions about procuring concrete with fly ash content and in decisions to allocate carbon credits in carbon emissions trading schemes. For example, this information is used to support top agency actions such as the EPA Region 8 Climate Change Strategic Plan, which includes activities such as achieving climate change results through pursuit of voluntary

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<sup>17</sup> *Id.* at 20.

<sup>18</sup> *Id.* at 21.

<sup>19</sup> Office of Management and Budget: Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by Federal Agencies, 67 Fed. Reg. 8452, 8456 (Feb. 22, 2002).

<sup>20</sup> U.S. ENVTL. PROT. AGENCY, EPA/260R-02-008, GUIDELINES FOR ENSURING AND MAXIMIZING THE QUALITY, OBJECTIVITY, UTILITY, AND INTEGRITY, OF INFORMATION DISSEMINATED BY THE ENVIRONMENTAL PROTECTION AGENCY 21 (2002).

programs such as the Coal Combustion Products Partnership.<sup>21</sup> EPA Region 8's decision to highlight participation in the Coal Combustion Products Partnership as an activity it is undertaking to support the Regional climate change strategy shows how the EPA C2P2 program greenhouse gas claims have clearly and substantially impacted high level agency activities.

The information also clearly and substantially influences public and private sector decisions beyond the federal sector. One example is the July 21, 2009, decision by the Massachusetts Department of Environmental Protection (MassDEP) to approve an Application for Certification of Greenhouse Gas Credits to a private project processing coal ash for use in place of Portland cement.<sup>22</sup> The Final Approval letter explains that the estimate of the number of greenhouse gas credits was calculated based on an emission reduction figure—0.71 tons CO<sub>2</sub> equivalent reduced per ton fly ash used as cement replacement—provided in two EPA reports.<sup>23</sup> In the Response to Comments on another greenhouse gas credit application, MassDEP noted that although various methods are available to estimate tons of greenhouse gas emissions avoided by fly ash cement projects, support for the selected model was obtained from EPA's C2P2 website.<sup>24</sup> EPA can therefore reasonably determine that dissemination of greenhouse gas reduction information posted on EPA's C2P2 website can have a clear and substantial impact on public and private sector decisions. These express references to C2P2 in public policy determinations illustrate the influential nature of the assertions that are the subject of this Complaint.

**D. THE CHALLENGED INFORMATION DOES NOT COMPLY WITH THE GUIDELINES BECAUSE IT DOES NOT REPRESENT THE QUALITY,**

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<sup>21</sup> EPA Climate Change Activities in Region 8, <http://www.epa.gov/region8/climatechange/activities.html> (last accessed June 30, 2010).

<sup>22</sup> Massachusetts Department of Environmental Protection, Executive Office of Energy & Environmental Affairs, Final Approval of Applications for Certification and Verifications of GHG Credits, July 21, 2009, *available at* <http://www.mass.gov/dep/air/climate/ghgpmi.pdf>.

<sup>23</sup> *Id.* at 4.

<sup>24</sup> MassDEP Bureau of Waste Prevention, Response to Comments On: Application for Certification of GHG Credits at 2, June 10, 2009, *available at* <http://www.mass.gov/dep/air/climate/brayrtc.pdf>.

## **INCLUDING THE OBJECTIVITY AND UTILITY, REQUIRED BY OMB AND EPA INFORMATION QUALITY GUIDELINES**

### **1. The Challenged Information Fails to Meet EPA Guideline Requirements for Objectivity Because the Information Is Not Presented in an Accurate, Complete, or Unbiased Manner.**

EPA's Guidelines state that "objectivity" requirements are intended to ensure that disseminated information is presented in an "accurate, clear, complete, and unbiased manner," and that information "is accurate, reliable, and unbiased."<sup>25</sup>

#### ***i. The Challenged Information Is Inaccurate***

EPA's claims about greenhouse gas benefits from coal combustion waste reuse are inaccurate because they rely on faulty lifecycle assessments that fail to take into account whole system boundaries. EPA's Office of Research and Development National Risk Management Research Laboratory's *Lifecycle Assessment: Principles and Practice* describes the system boundaries that should be included when conducting life cycle assessments:

"In defining system boundaries, it is important to include every step that could affect the overall interpretation or ability of the analysis to address the issues for which it is being performed. Only in well-defined instances can life-cycle elements such as raw materials acquisition or waste management be excluded. In general, only when a step is exactly the same in process, materials, and quantity in all alternatives considered, can that step be excluded from the system. In addition, the framework for the comparison must be recognized as relative because the total system values exclude certain contributions. This rule is especially critical for LCAs used in public forums rather than for internal company decision making."<sup>26</sup>

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<sup>25</sup> U.S. ENVTL. PROT. AGENCY, EPA/260R-02-008, GUIDELINES FOR ENSURING AND MAXIMIZING THE QUALITY, OBJECTIVITY, UTILITY, AND INTEGRITY, OF INFORMATION DISSEMINATED BY THE ENVIRONMENTAL PROTECTION AGENCY 15 (2002).

<sup>26</sup> U.S. ENVTL. PROT. AGENCY, NAT'L RISK MGMT. RESEARCH LAB., EPA/600/R-06/060, LIFE CYCLE ASSESSMENT: PRINCIPLES AND PRACTICE 16 (2006).

The EPA National Risk Management Research Laboratory publication notes that co-products (outputs from the process that are “not treated as wastes”) that are marketed to other manufacturers should be treated as co-products and quantified.<sup>27</sup> “In performing co-product allocation, some means must be found to objectively assign the resource use, energy consumption, and emissions among the co-products.”<sup>28</sup> This process is contrasted to waste materials that are reused within the same process and therefore part of an “internal recycling loop” and thus not included in the inventory (since [materials in an internal recycling loop] do not cross boundaries of the subsystem”).<sup>29</sup>

EPA’s Coal Combustion Product Partnership website and publication claims about greenhouse gas emission reductions associated with using “coal combustion products” are inaccurate because the analysis ignores significant upstream greenhouse gas emissions associated with the processes that generate coal combustion waste “co-products.” EPA’s *Using Coal Ash in Highway Construction: A Guide to Benefits and Impacts* contains multiple statements about greenhouse gas emission reductions associated with using coal combustion products in place of other materials. EPA provides a source for only one of the greenhouse gas reduction claims—that meeting an industry goal of increasing fly ash substitution for Portland cement from 12.6 million tons to 20 million tons “would reduce the future generation of greenhouse gasses by more than 6.5 million tons a year.”<sup>30</sup> However, as EPA points out in a footnote, this emissions reduction figure is based on EPA’s Waste Reduction Model (“WARM”).

This is problematic because the WARM model is designed to assist waste managers in quantifying the greenhouse gas benefits of various waste management practices, and it assumes

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<sup>27</sup> *Id.* at 21.

<sup>28</sup> *Id.*

<sup>29</sup> *Id.* at 22.

<sup>30</sup> U.S. ENVTL. PROT. AGENCY, EPA-530-K-05-002, USING COAL ASH IN HIGHWAY CONSTRUCTION: A GUIDE TO BENEFITS AND IMPACTS 16 (2005).



coal combustion fly ash starts off as a greenhouse gas neutral material.<sup>31</sup> With coal-fired electricity, in particular, this assumption can lead to grossly inaccurate lifecycle greenhouse gas emission estimates, and faulty cost-benefit conclusions when comparing materials. Electricity generation is the largest single source—contributing around 40%—of total CO<sub>2</sub> emissions in the United States,<sup>32</sup> and electricity generators use coal—a fuel source with relatively high CO<sub>2</sub> emissions—for over half of their total energy requirements.<sup>33</sup>

EPA also makes overly broad assertions that are inaccurate and lack supporting documentation. In one publication, EPA states, “using coal combustion products in lieu of other materials, such as Portland cement, reduces energy use and greenhouse gas emissions and conserves natural resources.”<sup>34</sup> However, while EPA may have conducted some supporting analysis for fly ash in cement – flawed as it is – EPA fails to identify the source for the broad claim that reuse of all categories of coal combustion wastes produced nationwide leads to net reductions in greenhouse gas emissions. EPA’s WARM model analysis of coal combustion wastes is limited to fly ash.<sup>35</sup> In another example, EPA asserts on its C2P2 “CCP Benefits and Risks” website that “reuse of CCPs reduces the emission of GHGs [greenhouse gases] in many ways ... [t]he primary way CCP use reduces GHG emissions is through coal fly ash for it takes the equivalent of 55 gallons of oil to produce a single ton of cement.” While there is no footnote on the webpage to indicate a source for this claimed greenhouse gas benefit of coal combustion product reuse, another C2P2 webpage entitled “C2P2 Key Resources” contains provides a link to

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<sup>31</sup> U.S. ENVTL. PROT. AGENCY, EPA530-R-03-016, BACKGROUND DOCUMENT FOR LIFE-CYCLE GREENHOUSE GAS EMISSION FACTORS FOR FLY ASH USED AS A CEMENT REPLACEMENT IN CONCRETE 3 (2003) (“As a coal combustion product (CCP), fly ash is unlike other materials for which EPA has developed emission factors ... its production results from the industrial combustion of coal; therefore, there are no manufacturing emissions associated with the first generation product ... [and] it cannot be recycled in a closed loop.”)

<sup>32</sup> U.S. ENVTL. PROT. AGENCY, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990 – 2008 at 3-10 (2010).

<sup>33</sup> *Id.* at ES-8 (2010).

<sup>34</sup> U.S. ENVTL. PROT. AGENCY, EPA-530-K-05-002, USING COAL ASH IN HIGHWAY CONSTRUCTION: A GUIDE TO BENEFITS AND IMPACTS 16 (2005).

<sup>35</sup> WASTE REDUCTION MODEL: MATERIAL TYPES RECOGNIZED BY WARM, [http://epa.gov/climatechange/wycd/waste/calculators/Warm\\_home.html](http://epa.gov/climatechange/wycd/waste/calculators/Warm_home.html) (last accessed June 30, 2010).

EPA's *Waste and Materials-Flow Benchmark Sector Report: Beneficial Use of Secondary Materials – Coal Combustion Products* under the heading, "General Use Guidelines and Information."<sup>36</sup> This publication is newer than EPA's background document for the WARM model fly ash analysis and examines both using fly ash as a replacement for finished Portland cement and using flu gas desulfurization (FGD) gypsum in wallboard manufacturing. However, the document also notes that "this analysis only examines the beneficial impacts of substituting fly ash for finished Portland cement in concrete and substituting FGD gypsum for virgin gypsum in wallboard manufacturing ... [t]hese two processes represent less than 50% of the total beneficial uses of CCPs."<sup>37</sup> There is no apparent documented support for the assertions that reusing coal combustion waste products in general leads to net reductions in greenhouse gas emissions. This statement is inaccurate and unsupported and when made by EPA implies to the public and private sector decision-makers that increased reuse of all coal combustion wastes is an effective strategy to reduce greenhouse gas emissions.

ii. *The Challenged Information Is Incomplete*

Another example is EPA's selective use of underlying methodologies to support its coal combustion waste "beneficial reuse" greenhouse gas emission reduction claims; EPA excludes underlying assumptions and variables in its reporting of the final numbers. For example, in the EPA Office of Solid Waste report, "Waste and Materials-Flow Benchmark Sector Report: Beneficial Use of Secondary Materials – Coal Combustion Products Final Report," EPA states that the BEES model "may over- or underestimate the national impacts of using fly ash in concrete construction projects because site-specific environmental conditions and proximity to

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<sup>36</sup> EPA C2P2 Key Resources, <http://www.epa.gov/wastes/partnerships/c2p2/resources.htm> (last accessed June 30, 2010).

<sup>37</sup> U.S. ENVTL. PROT. AGENCY, OFFICE OF SOLID WASTE: ECONOMICS, METHODS, AND RISK ANALYSIS DIVISION, WASTE AND MATERIALS-FLOW BENCHMARK SECTOR REPORT: BENEFICIAL USE OF SECONDARY MATERIALS – COAL COMBUSTION PRODUCTS FINAL REPORT 5-9 (2008), *available at* <http://www.epa.gov/epawaste/partnerships/c2p2/pubs/benuse07.pdf>.

sources of fly ash may affect the resulting benefits and influence the net effect of choosing fly ash over Portland cement.”<sup>38</sup>

EPA’s highlighted greenhouse gas reduction claims fail to provide a transparent accounting for regional differences in cement plant emissions or transportation factors. For example, the California Department of Transportation website notes that the cement industry in California is among the most energy efficient, and—according to the California Cement Industry—the energy efficiency of California cement plants is 15 percent better than the average U.S. value.<sup>39</sup> At the same time, California is a relatively small producer of coal fly ash and thus transportation-related impacts from moving coal ash from utilities to cement markets may be greater than the national averages underlying EPA claims.

EPA’s coal combustion waste greenhouse gas claims also fail to adequately include impacts associated with processing ash for use in cement. Occasionally, additional processing is used to transform fly ash—such as high carbon fly ash that can result from activated carbon injection for mercury control—to meet project specifications. It is unclear from EPA’s public greenhouse gas claims whether, and to what extent, any additional processing impacts are taken into account by EPA’s models. If EPA greenhouse gas assertions do not include clear notes about underlying assumptions (i.e. the assumption that fly ash is always produced in a ready-to-use form), then decisions about whether and how many greenhouse gas “credits” to award for fly ash use in cement may be based on incomplete EPA ash lifecycle estimates.

Factors such as these can change the greenhouse gas reduction benefit ratios and should be noted explicitly along with any numeric greenhouse gas emission reduction claims. EPA’s

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<sup>38</sup> U.S. ENVTL. PROT. AGENCY, OFFICE OF SOLID WASTE: ECONOMICS, METHODS, AND RISK ANALYSIS DIVISION, WASTE AND MATERIALS-FLOW BENCHMARK SECTOR REPORT: BENEFICIAL USE OF SECONDARY MATERIALS – COAL COMBUSTION PRODUCTS FINAL REPORT 4- 10 (2008), *available at* <http://www.epa.gov/epawaste/partnerships/c2p2/pubs/benuse07.pdf>.

<sup>39</sup> California Department of Transportation Climate Action Team Cement Production Efficiency Improvements, <http://www.dot.ca.gov/hq/esc/Translab/ClimateActionTeam/production-efficiency-measures.html> (last visited June 30, 2010).

claims of coal combustion waste greenhouse gas benefits are used to support public decisions, but the challenged website statements and publications fail to meet EPA Guideline requirements for a high degree of transparency as to source of data used and assumptions employed. Without explicit reference to the underlying assumptions and presentation and discussion of all factors in the analysis, the challenged information is incomplete.

iii. *The Challenged Information Is Biased*

EPA’s statements, without caveats and clear explanations of assumptions used in the models, are misleading and inaccurate. For example, in contrast to multiple statements PEER found on EPA websites and publications promoting the benefits of recycling coal combustion wastes, only a single statement contained a qualifier to the utility of relying on coal combustion waste reuse to actually achieve greenhouse gas emission reductions. Buried in Appendix E—on the very last page of EPA’s Benchmark Report—is a statement that “allocated emissions from primary production (i.e., coal combustion) may occasionally be greater than the documented benefits of beneficial use for some metrics” and “the beneficial use of CCPs may not be an efficient method for reducing overall emissions of CO<sub>2</sub> and SO<sub>2</sub> to the environment.”<sup>40</sup> This is an important caveat to all the statements by EPA that reuse of coal combustion wastes results in greenhouse gas benefits. EPA’s unequivocal greenhouse gas benefit claims can mislead public decision-makers as to the actual efficacy of pursuing greenhouse gas reductions through increasing use of coal combustion wastes. This lack of complete transparency also misleads the public that trusts EPA to make unbiased assessments of health and environmental risks and benefits.

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<sup>40</sup> U.S. ENVTL. PROT. AGENCY, OFFICE OF SOLID WASTE: ECONOMICS, METHODS, AND RISK ANALYSIS DIVISION, WASTE AND MATERIALS-FLOW BENCHMARK SECTOR REPORT: BENEFICIAL USE OF SECONDARY MATERIALS – COAL COMBUSTION PRODUCTS FINAL REPORT at E-3(2008), *available at* <http://www.epa.gov/epawaste/partnerships/c2p2/pubs/benuse07.pdf>.

Taken together, these inaccurate and incomplete statements skew the public debate on the merits of recycling coal combustion wastes. EPA's biased promotion of coal combustion waste recycling may contribute to EPA's own performance goal to increase recycling of coal combustion wastes, but when the challenged information is disseminated without qualification, EPA risks misleading decision-makers interested in legitimate strategies to reduce greenhouse gas emissions. EPA's continued reliance on greenhouse gas reduction claims lacks reliable and transparent supporting documentation and thus appears to have been perpetuated by EPA to buttress a politically-motivated decision by the agency to continue to promote coal combustion waste materials in support of its internal waste management performance goals rather than a scientifically justifiable strategy to reduce greenhouse gas emissions.

2. **The Lack of Quality of the Challenged Information Means that the Information Has Insufficient Utility to the Intended Audience.**

“Utility refers to the usefulness of the information to the intended users.”<sup>41</sup> EPA's coal combustion waste recycling greenhouse gas emission reduction claims vary in quantity of reductions claimed, unit of measurement, and supporting documentation (when it is available). The EPA C2P2 “Results” webpage states, “**Each ton of fly ash that replaces cement in the production of concrete reduces greenhouse gases emissions by a little less than a ton of carbon dioxide equivalents.**”<sup>42</sup> Another EPA C2P2 webpage contains links to “Case Studies” that are “intended to be [illustrative] of coal combustion product applications that the Agency believes can be beneficial to the environment”; *Case Study 05* bears the EPA logo and states, “**CO2 releases from the production of Portland cement of the order of 8/10ths of one ton of**

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<sup>41</sup> U.S. ENVTL. PROT. AGENCY, EPA/260R-02-008, GUIDELINES FOR ENSURING AND MAXIMIZING THE QUALITY, OBJECTIVITY, UTILITY, AND INTEGRITY, OF INFORMATION DISSEMINATED BY THE ENVIRONMENTAL PROTECTION AGENCY 15 (2002).

<sup>42</sup> EPA C2P2 Results, <http://www.epa.gov/wastes/partnerships/c2p2/results.htm> (last accessed on June 23, 2010).

**CO2 saved for every ton of fly ash used.”<sup>43</sup> EPA’s Benchmark Report cites avoidances of 636,170 grams CO2 and 539 grams methane that result from using one ton of fly ash as cement substitute in concrete.<sup>44</sup> If the discrepancies are due to modeling uncertainties, then EPA should include a citation to the source of the data and exact units for each claim. If discrepancies are due to changing or updating emissions and lifecycle models, then EPA should still include citations to data and methods used to support claims. Without citations, these assertions vary so much as to be of limited practical utility to regulators, the public, or the private sector.**

In addition, EPA uses inconsistent units without citing to conversion calculators. For example, in once instance EPA cites benefits as equivalent to “two months of an automobile’s carbon dioxide emissions,”<sup>45</sup> while in another instance, EPA cites benefits in terms of gallons of oil saved.<sup>46</sup> This practice makes it difficult to use the information to directly compare benefits from using fly ash in place of other materials. This pattern of vague and unsupported claims can lead to a loss of confidence in EPA’s choice of strategies. Additionally, public policy-makers implementing strategies to account for greenhouse gas emissions will make policy and procurement decisions based on misinformation and inaccurate greenhouse gas emissions account.

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<sup>43</sup> CASE STUDY 05: CARBON BURN-OUT FOR FLY ASH BENEFICIATION, *available at* <http://www.epa.gov/epawaste/partnerships/c2p2/cases/05-burnout.pdf>.

<sup>44</sup> U.S. ENVTL. PROT. AGENCY, OFFICE OF SOLID WASTE: ECONOMICS, METHODS, AND RISK ANALYSIS DIVISION, WASTE AND MATERIALS-FLOW BENCHMARK SECTOR REPORT: BENEFICIAL USE OF SECONDARY MATERIALS – COAL COMBUSTION PRODUCTS FINAL REPORT at ES-4 (2008), *available at* <http://www.epa.gov/epawaste/partnerships/c2p2/pubs/benuse07.pdf>, last accessed on June 23, 2010) (See also Exhibit ES-3 on page ES-6 which estimates total avoided impacts at 13.2 million tons CO2 equivalent if EPA meets its 18.6 million tons of fly ash recycling goal. Dividing the 13.2 million tons CO2 equivalent by EPA’s extrapolated fly ash goal of 18.6 million tons fly ash yields a resulting figure of 0.71 tons CO2 equivalent avoided per ton of fly ash in concrete.).

<sup>45</sup> U.S. ENVTL. PROT. AGENCY, EPA-530-K-05-002, USING COAL ASH IN HIGHWAY CONSTRUCTION: A GUIDE TO BENEFITS AND IMPACTS 17 (2005).

<sup>46</sup> C2P2 CCP Benefits and Risks, *available at* <http://www.epa.gov/wastes/partnerships/c2p2/use/benefits.htm>.

**E. PEER IS AFFECTED BY THE INFORMATION ERROR**

PEER is a non-profit organization chartered in the District of Columbia with the mission to hold government agencies accountable for enforcing environmental laws, maintaining scientific integrity, and upholding professional ethics in the workplace. PEER is an “affected person” in that PEER has thousands of employee and citizen members nationwide, including employees both within EPA and in other public agencies whose work is hampered by reliance upon inaccurate, incomplete and poor quality information that is the subject of this complaint.

Further, PEER has been investigating EPA promotion of recycling, or “beneficial use,” of coal combustion wastes since 2009. PEER has issued news releases and supported media investigation of EPA’s apparently biased and inconsistent promotion of coal combustion waste reuse benefits, including varying claims of greenhouse gas avoidances through increased use of coal combustion waste materials. PEER is concerned that federal and state public employees, as well as the interested public, may be making procurement decisions and reporting environmental benefits based on inaccurate information.

**F. RECOMMENDATIONS FOR CORRECTION OF THE INFORMATION CHALLENGED BY THIS COMPLAINT**

Accordingly, PEER demands that the U.S. Environmental Protection Agency take the following steps to comply with the Data Quality Act:

1. Remove the misleading greenhouse gas reduction claims from the EPA website. Remove *Using Coal Ash in Highway Construction: A Guide to Benefits and Impacts* from official publication and cease further distribution.
2. Issue a public statement, posted on official websites, that the claims for greenhouse gas savings from reuse of coal combustion waste products have been withdrawn from publication due to violations of the Data Quality Act.

3. Undertake a new externally peer-reviewed assessment concerning the lifecycle greenhouse gas emissions resulting from production of coal combustion waste electricity co-products and subsequent reuse applications.
4. Make underlying assumptions, regional variations, and unknown variables clear in any future claims to coal combustion waste benefits. Underlying data and methodologies should be transparent and reproducible, in accordance with OMB Guidelines.

### **CONCLUSION**

Based on the foregoing information, PEER respectfully requests that the EPA rescind and correct its online and printed information regarding alleged greenhouse gas emissions reductions resulting from “beneficial use” of coal combustion waste products. Pursuant to the EPA Guidelines, I look forward to your response to this Complaint within 90 days. Thank you in advance for your prompt attention to this matter.

Sincerely,

Jeff Ruch  
Executive Director  
Public Employees for Environmental Responsibility (PEER)