

**QUANTIFICATION PROTOCOL FOR
Fly Ash Substitution in Cement Blends**

Technical and Policy Issue Summary

October, 2008

Background

In conjunction with the development of the Alberta protocol document, a listing of key technical and policy issues was developed to guide discussions as part of the technical and stakeholder review processes. The following document provides a listing of the key issues for discussion. Many of the issues have both a technical and policy component and are listed under both sections, as required.

The following technical and policy issues may be considered as part of the technical and stakeholder review processes:

- Are the project and baseline configurations (sources and sinks) sufficiently broad as to capture the full scope of possible projects that use fly ash and their respective supply chains (pages 3-4)?
- Does the protocol allow for any project proponent to quantify the GHG benefit from fly ash usage (whether a power generator, cement producer, a distributor/ marketer or end user)?
- Do the process flow diagrams reasonably identify all possible lifecycle sources of GHG emissions associated with the production of cement and use of fly ash (page 5-8)?
- Does the protocol clearly explain which projects are eligible for offsets and how to avoid double counting of fly ash tonnes used at Large Final Emitter (regulated) sites (page 9)?
- Data Tracking- Is it reasonable/possible for the project proponent to track the fly ash to its end user (pages 9 & 34)? Would fly ash sales data be a reasonable metric to establish the amount of cement displaced by fly ash?
- Are the definitions in the Glossary (page 11) and the language/word choice throughout the protocol consistent with industry norms?
- Is the definition of the baseline scenario clear (page 18)?
- Is the use of a static baseline emissions intensity factor for cement production in Alberta reasonable (page 18)?
- Is the use of 3 years of pre-2002 fly ash usage data reasonable to account for business as usual fly ash usage (page 18)?

- In TABLE 2.3 is it reasonable to exclude all GHG emissions from the transportation of fly ash and cement as functionally equivalent (page 26- 28)?
- Is the use of an equivalency factor between fly ash and cement of 0.88 reasonable (page 18 and page 31)? Is it defensible? Can the end users of fly ash provide perspective on this?
- Is the Flexibility Mechanism (Appendix A) consistent with other quantification approaches and industry practices?
- Is the definition of the cement plant unit of production/output consistent with industry definitions (page 39)?
- Are the emission factors used in the flexibility mechanism (expressed on a kg CO₂e/GJ basis rather than a kg CO₂/volume fuel basis) consistent with available industry fuel consumption data?
- Does the flexibility mechanism fully address cement plants that consume alternative and biomass fuels?