

# Greenhouse Gas Verification Programme in the Aluminum Industry

## 1. BUSINESS CHALLENGE

Over the past decade, the aluminum companies operating in Quebec have voluntarily achieved significant reductions in their greenhouse gas (GHG) emissions. In 2002, the Aluminum Association of Canada and the Government of Quebec signed a covenant to voluntarily reduce an additional 200,000 tons of GHG emissions from primary aluminum operations by the end of 2007. The covenant proposed gradual, permanent reductions that allow for growth in the industry, and acknowledge the contribution to the collective effort to reduce GHG emissions.

As part of these individual agreements, each company was required to have its emissions inventory verified by a certified third-party auditor prior to submission to the government. The prime contracted verifier, First Environment Inc. of Washington, D.C., selected ÉEM inc. as a local partner for the second round of audits in 2005, following approval by the companies.

## 2. APPROACH AND STRATEGY

As an initial step, the auditors developed an understanding of the systems used to calculate, aggregate and report GHG emissions data at the corporate level. This was followed by a top-level review of all of the GHG emissions data reported by the sites in Québec. To ensure the completeness and accuracy of the data used to calculate GHG emissions, visits to certain facilities were carried out and the controls and procedures used by site management were tested. During each visit, the team conducted detailed testing by obtaining evidence supporting the amounts and disclosures in the GHG statement, testing the mathematical formulas used, testing the methodologies used to aggregate data, and assessing significant estimates made by management.

The Aluminum Association of Canada compiled a Greenhouse Gas Audit Manual, which provides the framework for this independent verification. First Environment and ÉEM followed this framework to assess whether the companies' GHG statements had been prepared in accordance with the calculation methodology specified in the Québec Covenant Agreement, and whether the underlying data used in the calculations were free of material errors.

## 3. SOLUTION

Essentially, the goal of the verification process was to provide assurance to stakeholders that the claims made by the company being verified were true. Below are several noteworthy features of the second round of audits undertaken by First Environment and ÉEM:

1. Conducted site visits to four smelters in Quebec - during which detailed testing of the data was performed by obtaining evidence supporting the amounts and disclosures in the GHG statement, testing the mathematical formulas used, testing the methodologies used to aggregate data, and assessing significant estimates made by management;

2. Conducted desk audits of six other facilities which included testing of the raw data used to produce the voluntary emission reduction reports for each operation;
3. Worked with company staff to resolve any additional issues that were identified during the site audits; and
4. Held a wrap-up meeting to discuss the results and identify any issues and opportunities for improvement.

#### 4. RESULTS

The end result of the second round of audits is an auditor's report (or statement) that expresses the auditors' overall view on the quality of the GHG data. This statement was based on assessment of whether:

- the GHG inventory was developed according to the protocols outlined in the Québec Covenant document;
- the systems and control procedures in place at both the regional and local levels are sufficiently robust;
- all sites are comparable in terms of the scope, boundaries and data sources for their inventories;
- the reasonableness of the emissions information based on estimates or calculations is verified through targeted data testing at a site;
- the data collected falls within the boundaries of the materiality threshold defined by the company and the reduction target agreed upon by the company and the Québec Government.

In general, key issues identified in the report were: documentation of the data trail, documentation of changes to data sources/values, integration of GHG management into the site's ISO system and better quality control.

No material errors were identified during the desk review of the site data, and none were identified during the site audits at the six facilities. The company's efforts to address all of the recommendations as a result of the previous audit indicate the company's commitment to having a robust GHG management system.

The company has made a clear commitment to providing an accurate inventory by developing strong controls, good internal communication and transparency in the process. All of the sites have robust systems for the collection and reporting of their GHG inventory data.