Feasibility Studies with the Aim of Developing Joint Crediting Mechanism FY2014

Reduction of CO₂ Emission by Utilizing Fly Ash as Cement Substitute in Mongol

New Energy and Industrial Technology Development Organization (NEDO)
Techno Chubu Co., Ltd.
To evaluate the feasibility of fly ash cement production by estimating fly ash cement market, after studying the characteristics of fly ash and introducing appropriate facilities in the thermal power plant and the cement distributing station based on the study.

Summary

To evaluate the feasibility of fly ash cement production by estimating fly ash cement market, after studying the characteristics of fly ash and introducing appropriate facilities in the thermal power plant and the cement distributing station based on the study.

Survey Items

1) Policy: Reduction of CO₂ emission, waste recycling
2) Technology: Ash handling, characteristics of fly ash, cement and fly ash cement
3) MRV method
4) Feasibility of the project

Partner/Site

- The 4th thermal power plant in Mongol

Estimated Reduction Amount 35 ktCO₂/y

<table>
<thead>
<tr>
<th>Reference Emission</th>
<th>Project Emission</th>
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</thead>
<tbody>
<tr>
<td>Current condition: Fly ash cement is not produced in Mongol</td>
<td>Preconditions: Production of fly ash cement accounts for 20% of the total production of cement and fly ash cement contains 20% of fly ash.</td>
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<tr>
<td>•Reference emission volume: Volume of CO₂ emitted by the cement producing industry.</td>
<td>•Measurement: Production of cement, fly ash cement and blending rate of fly ash.</td>
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<tr>
<td>Current • Reference</td>
<td>After the Project</td>
</tr>
<tr>
<td>Fly ash cement 0%</td>
<td>Mixing percentage of fly ash</td>
</tr>
<tr>
<td>Fly ash cement 20%</td>
<td>Amount of cement production</td>
</tr>
</tbody>
</table>

Estimated Reduction

- 4% reduction of CO₂ emission
Fly ash must be classified to meet the standard applied for cement substitute. Japanese classification technology can control particle size distribution with high accuracy. Applicability of the Japanese classification technology will be examined in this study.

Particle size distribution must be measured in a short time with high reliability. Japanese laser diffraction particle size distribution analysis technology has high resolution and accuracy. Applicability of this Japanese technology will be examined in this study.

Quality control system for fly ash handling is required to supply fly ash in order to meet the customer requirements as well as the national standard. Introduction of the fly ash quality control system into the 4th thermal plant will be examined in this study.