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To Whom It May Concern:
A Strategy for producing cements

I am currently a PhD research student at the University of Tasmania in the area of geochemistry and have been briefed about the technology behind the eco-cement project.

In an industry that consumes increasing amounts of energy and raw materials and an economy that is seeking the utilisation of alternative methods and materials, the significance of this proposal should not be underestimated.

The production of a new type of cement for potentially a fraction of the usual costs and the incorporation of various waste products such as fly ash, iron ore slag and potentially the binding of toxins in a stable form offers an exciting opportunity to:

a) reduce the emission of CO_2 in the production of cement which currently estimated at 5 to 10% of the worlds total output
b) produce a cheaper cement that has similar or possibly better physical properties than other cement
c) incorporate waste products such as mining by-products, sewerage waste or organic residues that would otherwise be discarded
d) incorporate toxic waste materials which can form a reasonable stable and resistant material, that would otherwise have to be stored or treated at additional costs

The investigations so far have shown that various combinations of cement or cement-like materials and a range of waste materials can produce a practicable cement that can be used in many areas. Other results indicate that a number of products possess similar properties as any ordinary cement and therefore could be used for a wide range of construction purposes. Clearly more research is needed to establish the precise parameters, proportions and economics of this product. It is my belief however that with the necessary funding an important development in cement production could be achieved and the final results could reduce the costs of the production of cement, while using waste products and significantly reduce the emission of carbon dioxide. Also, the methods devised would allow the production of better 'low value' construction material such as mud bricks, which is still widely used in third world countries.

Once the exact properties and proportions of various waste materials are assessed and the optimal reaction conditions (e.g. stoichiometry, temperature) are established, results can be verified and the principals for the production of various types of cements with different properties can be devised. The flexibility of the method(s) is another important advantage; the production could be adjusted depending on the local economy and availability of materials.

Yours Faithfully

Christian Schardt