



## Superior Building Products

### Business Opportunity

Superior building products can now be manufactured from waste power station class 'F' fly ash. A 100% class 'F' fly ash mixture is moulded into a brick (Flash Brick™) and fired in a conventional kiln. The finished brick is 28% lighter and 24% stronger than comparable clay bricks. The Flash Brick™ competes on all technical levels with clay bricks.

In a similar process smaller briquettes are manufactured then crushed to form a light weight aggregate (LWA). This LWA is called Flashag™ and can be used to make lightweight concrete which has 30% less shrinkage and is 22% lighter and 20% stronger than comparable natural aggregate concrete (same cement content and volume ratio of cement, sand, aggregate mix). The light weight concrete also has other superior performance characteristics.

The light weight aggregate also makes superior asphalt for road surfaces due to its zero stripping characteristic and non-skid properties.

### The Market

The markets for the Flashbrick™ and the Flashag™ are essentially different but both are territory specific as transport costs are a major factor. A reliable source of fly ash is a necessity. A market for the Flashbrick™ and Flashag™ are generally required within a 200km radius. The market is price sensitive.

There is no comparable product to Flashag™. In some respects it is similar to natural occurring Scoria (but Flashag™ is much lighter, and has superior structure which in turn results in superior light weight building products). There are several man made LWAs but all are inferior to Flashag™.

In the USA the aggregate market is 2.5 billion tons per year. There is 100 million tons of fly ash generated per year and approx 25% of this is accessible. The manufacture of this quantity of Flash Brick™s and Flashag™ equates to a sale price of approximately US\$750 million per year. A similar calculation can be performed for Australia, UK, Canada etc.

The big markets for Fly Ash products are China, India and Japan. These countries need building materials and ways to dispose of fly ash. India has passed a law that if a brick manufacturer is within 100 km of a coal fired power station then the manufactured bricks must contain at least 25% of its weight as fly ash. In most parts of China it is difficult to find a clay quarry or an aggregate quarry close to a city. Many brick plants are idle due to lack of clay and most power stations in China have some form of brick plant close by to make under sintered (low

temperature) bricks. India and China each produce about 250 million tons of fly ash per year. It is calculated that in both India and China at least 50 million tons of that fly ash is accessible for making fly ash products.



*Light weight aggregate & Bricks made from 100% Fly Ash*

### The Technology

The Fly Ash technology has 2 patents. After extensive searches and due diligence both have reached National phase and entry was in May 2002 to: Australia, USA, Europe, China, India, Japan, Canada and Singapore. Patents have been granted for the USA.

### The Management/Scientific Team

The Fly Ash Products IP is owned by NewSouth Innovations Pty Ltd (NSi) and the inventors are Dr Obada Kayali and Mr Karl Shaw of the Australian Defence Force Academy School of Aerospace, Civil and Mechanical Engineering at the University of New South Wales.

### Investment Opportunity

NSi has already licensed the technology to Vecor Global in Hong Kong and they are actively seeking companies in various countries to become licensees and investors in this exciting technology.

Vecor Global have several innovative commercial models which would be of importance to interested parties. Vecor Global web site is [www.vecor.com.au](http://www.vecor.com.au)

### Further Information:

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