

Good Practices... Kennecott passes the stewardship test

An excellent example of the growing links between mining and sustainable development is the Eden Project in Cornwall, England, an educational trust which has been set up to promote a better understanding of the relationship between plants people and resources. While the project itself is a model for sustainable mine closure and post mining regeneration, its latest addition, the education centre, tells its own story of responsible sourcing and good practice.

The £15 million building, now known as The Core, is striking for a number of reasons but none more so than its copper clad roof, a spiral design based on the Fibonacci number sequence and featuring just over 33 tons of material from the Kennecott Utah Copper mine. The mine, at Bingham Canyon, is regarded as having among the highest environmental and social standards of any copper mine in the world.

Once the decision had been made to go for a copper roof, there were three possible sources of supply: the open market, 100% recycled material or virgin copper from a single mine with high environmental and social standards.

“The first option would have been easiest,” says Eden’s senior scientist Peter Whitbread-Abrutat “but it would have contained copper from many mines around the world – some good and some not so. The second option tells an environmentally important story but is already well-known, and recycling is dealt with elsewhere at Eden by the Waste Neutral programme.”

Enter Rio Tinto, an Eden Project partner which owns the Kennecott copper mine. Needless to say Bingham Canyon, one of the world’s largest open pit copper mines, met the criteria of a tightly drawn ‘rock to roof’ sourcing policy and the decision to use single source virgin copper rather than recycled material, says Whitbread-Abrutat.

Current demand for copper is growing rapidly and at present it cannot be met from recycling alone. This is likely to coincide with expanding markets in China, India and elsewhere.

One of the features of operations at Bingham Canyon has been progressive clean-up and regeneration. In recent years Kennecott has spent around US\$350 million on the clean-up of historic smelter operations. Since 1994 it has reclaimed more than 16,800 acres of land for wildlife and has planted more than 120,000 trees over the same period. The mine has produced around 17 million tons of copper since operations began in 1906.

Once out of the ground, the Eden consignment was transported to Germany where it was fabricated into high purity sheets for installation. It now forms part of a building which, since opening on 19 September 2005, has become another Eden Project showcase for sustainable development. “The building is an exhibition in its own right,” says Whitbread- Abrutat. “We are trying to show natural design throughout and stimulate discussion around what ‘sustainable construction looks like’; and because of the Eden context, the roof had to be stunning and also functional.” While copper can be relatively expensive for a roof and is in strong competition with other roofing materials, it is robust, even when turned into sheets, malleable, completely waterproof and very long lasting. What’s more it will gradually turn green in keeping with its

ecological surroundings. It is also easily identifiable to visitors, enhancing the value of the sustainability message.

As far as Eden is concerned, the education building roof is only one aspect of its involvement in more responsible materials stewardship. The global ecology showcase has also begun a two year research project, funded by Rio Tinto and the European Social Fund, to research the issues and barriers to progress. Added Whitbread-Abrutat: “We intend to research the obstacles to broader take-up of stewardship schemes, in the hope that it will increase the take-up of certification schemes to help users choose metal and mineral products that have been supplied in the most responsible manner.”