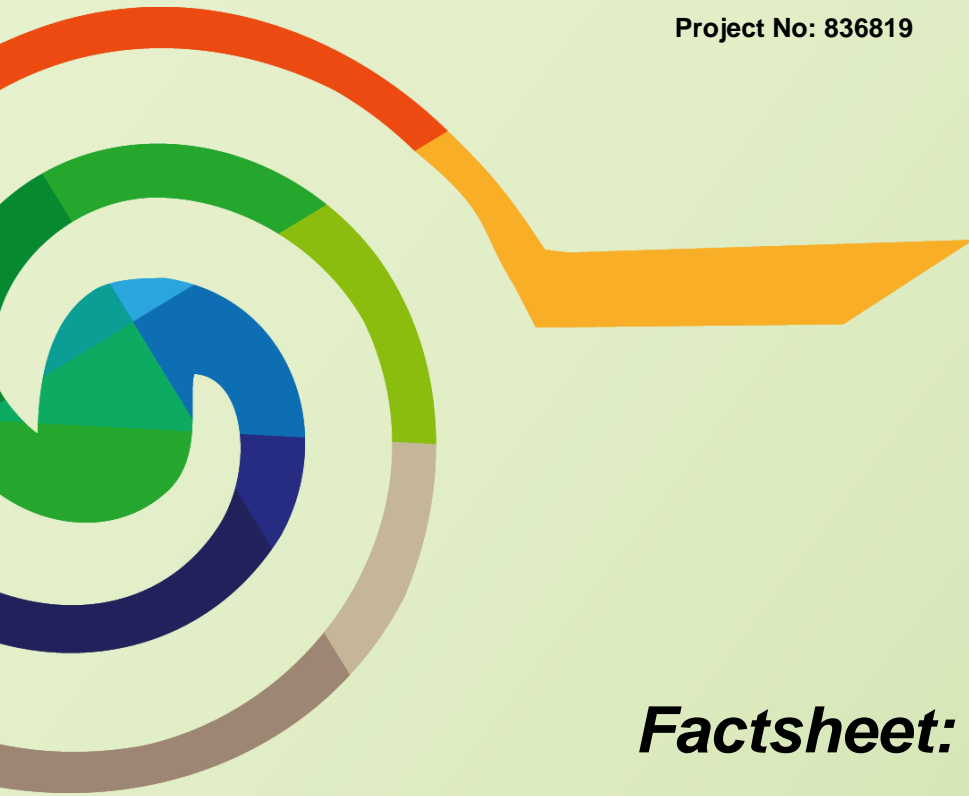


Smart strategies for the transition in coal intensive regions

Project No: 836819



***Factsheet:
Abandoned clay quarry vs. Ecotourism
in the Eden Park***

SEPTEMBER 2019



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Description

With the depletion of China's clay resource, the quarry created a unique and fascinating industrial landscape, for which in 1996 a new development concept for the area called Project Eden was proposed. Nicknamed the eighth wonder of the world by some, the Eden Project is a global garden sheltered in the tropical biomes set in a crater with a size of approx. 35 soccer fields. It is not only a wonderful attraction for visitors but Eden is also fast becoming a unique resource for education and knowledge for a sustainable tourism and future.

To find solutions, to the problem of living a modern lifestyle in harmony with the natural world, scientists from horticulture, tourism, marketing, media and human resources are constantly researching ways to combine science, art, technology and communication, including:

- design and construction of biomes;
- landscape design;
- discover new uses for plants, including plastics, medicines and oils to promote the area.

1. Location: St Blazey / England, UK.

2. Type of action: Functional reconversion of an industrial site

3. Actors: The project was conceived by Tim Smit and designed by architect Nicholas Grimshaw and engineering firm Anthony Hunt and Associates (now part of Sinclair Knight Merz). Davis Langdon managed the project, Sir Robert McAlpine and Alfred McAlpine completed the construction, MERO designed and built the biomes, and Arup was the service engineer, economic consultant, environmental engineer and transport engineer. Land use consultants led the master plan and landscape design.

4. Financing conditions: Millennium Commission¹, donated 56 million pounds, the EU and Southwest Regional Development Agency (about 50 million pounds, including 26 million pounds for EU capital funding) and 20 million pounds of commercial loans, other loans of 8 million pounds and some funds generated by Eden itself and reinvested in the project.

5. Fund(s): ASDC / AsusTek (United Kingdom) / Big Lottery Fund (Big Local) / Big Lottery Fund (The Big Lunch) / Blue Pegg / Buro Happold / Department of Communities and Local Government / Eddie George Memorial Fund / Exeter University / Eranda Foundation / Halifax / Pukka / Renault / Seasalt / Sky Rainforest Rescue / St Austell Brewery / Wellcome Trust / Woodford Investment Management (Neil Woodford and Craig Newman).

In the early part of the 19th century, clay production was a small-scale industry. The extraction of clay consumed much labour, production was restricted by the slow drying process used at that time and there was no transport infrastructure developed in the St Austell area (the main centre of China's clay production). By the end of the 20th century, more than half a million tonnes of Chinese clay were produced annually in Cornwall.

The importance of China clay extraction is recent in historical terms, being a little over 200 years old, but it has created a unique and fascinating industrial landscape.

By 1910, Cornwall produced about fifty percent of the world's Chinese clay, with surface exploitation, extracting about one million tonnes each year, seventy-five percent of which were exported. In 1919, the three main manufacturers joined, under the name of China Clay Company, which continued to dominate the market until it was bought by the French company Imerys in 1999 for 756 million pounds.

¹ a UK public body, was set up to celebrate the turn of the millennium. It used the funding from the UK National Lottery to help communities mark the end of the second millennium and celebrate the beginning of the third.

Today, St Austell's deposits, which have produced about 120 million tons of clay from China and are still good for at least fifty years, have been largely abandoned. The French company Imerys moved most of its operations to Brazil at the beginning of this century, and now there are less than two thousand employees in Cornwall. The legacy of China Clay still defines the region, although the Eden project due to the existence of the industry is located, in a former clay quarry in China.

China clay (kaolin) is a decomposed granite form used in the manufacture of porcelain and, more recently, as an ingredient in paper, plastic, cosmetics and pharmaceuticals. China's clay production remains a large extractive industry in the middle of Cornwall.

Achievements

The „eighth wonder of the world,“ as the Eden Project called it, which began as a dream in 1995 and opened its doors to the public for an exhibition in 2000, creates a unique experience.

As the third millennium approached, the former sleepy mining town of St. Blazey needed a futuristic update. For fifty years, a clay quarry on the outskirts of the English city had been slowly abandoned, until the late 1990s when a new concept for the area called Project Eden was proposed.

A pole close to the crater left by the 160-year old quarry, the Eden Project was designed as a massive greenhouse complex, consisting of two biomes that roll on the ground and reflect both a tropical and a Mediterranean climate.

After the remaining deep hole from the quarry was filled with thousands of tons of soil, construction began and the two largest greenhouses in the world were created in two and a half years. Inside the hexagonal model biome there are over one million different plant species, each reflecting the climates of their biomes. The Garden of Eden, according to the Bible, contains „every plant pleasing to the eye and good for food.“

The tropical biome has rubber plants, bananas and bamboo stems that rise above the visitors in the nearly four-acre dome. The Mediterranean biome is only 1.6 acres, but it is similar in capacity to olives and vines.

Visitors who want a truly fantastic experience should stay up at night, when the biomes emanate a futuristic, colourful glow.

In addition to the floral attractions of Eden, in 2005 an educational unit called Core was built, where the staff of the complex learns environmental sustainability and works to improve people's relationship with nature.

Along with an amazing flower, cascading waterfalls and footpaths pass over massive boulders and puddles and even a few statues can be carefully located around the Mediterranean biome. Although greenhouses are the central attraction of the complex, the grounds of the Eden project are also covered by temperate plants that can grow in an outdoor atmosphere.

Eden is a fascinating place where you can spend a fun, family-friendly day and the most important effect - educational. Curious children can find out where tea, rubber and sugar come from and visitors can travel in simulated / virtual environments of tropical destinations they dream of travelling to in the future. There are thematic events depending on the seasons, workshops for adults and children, days of activity, music concerts and many more.

As visitors to the domes pass by lakes and waterfalls, through tropical forests and across deserts, they discover how ecosystems work in each area, find out how people have damaged each environment, and learn how native / local people from different areas can learn to live in harmony. With their environment and have a positive and beneficial effect on it.

Thus, by exploring key themes - ecological restoration, learning and research, living sustainable and using the story as a global example - this project allowed the development of

sustainable tourism, with its various forms: ecotourism, cultural tourism and adventure tourism in Eden Park, Cornwall.

Challenges

„Our ultimate mission is to use every means at our disposal to enlighten people about the inter-relatedness of life on Earth, and in that knowledge, shape the cultures and decision-making of people to steward our direction of travel to the benefit of all living things. And to provoke actions of transformation that inspire others to constantly improve the thinking, systems and actions that will lead humanity to live beautifully within the planetary boundaries as best we can define them.“ Sir Tim Smit KBE, Co-Founder of the Eden Project.“

Rainforest Biome covers approximately 16,000m² and has a height of 50 m - the Tower of London can be inside it! The structure weighs 465 tons and contains 426 tons of air (dry air at standard temperature and pressure). The Mediterranean biome covers approximately 6540m² and is 30m high. Together the two outdoor gardens, Rainforest Biome and Mediterranean Biome cover approximately 13 hectares - about 35 football fields!

To stabilize the sides of the clay quarry, 2,000 rock anchors with a length of 11 m were used. During construction, 43 million gallons of rainwater fell in 90 days.

By building the Biomes, they entered the Guinness Record Book for the use of most scaffolding, 230 km long!

Eden employs about 400 people and offers another 300 people the opportunity to volunteer. Since opening to the public in 2001, the site has attracted over 18 million visitors and has generated an economic renaissance in Cornwall, contributing over £ 1.7 billion to the local economy.

The Eden Project has something for everyone, including a climbing frame for young children, many food options, group and private trips and even a perfume garden. It is even a “heaven / Eden” on earth!

Enabling conditions

The functional conversion of the clay quarry in Crowell, England through the development of ecotourism will provide both social and ecological services in a period of global environmental decline and social disruption. Through environmental education focused on the interdependence between plants and humans, students and scientists, they will quickly be able to benefit from an unmatched source of knowledge for future scientific research.

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