Brazilian construction and demolition company, Caenge Ambiental, is using lessons learned from a BRE pre-demolition audit to help meet its commitment to the sustainable management of demolition waste.

The Help nightclub was built in the late 1970s and located in a densely populated area, with the front of the building facing the ocean and the back surrounded by high-rise building at close proximity to the site (see photograph above).

The building had a concrete frame structure, with brick and blocks forming external and internal walls. One side of the roof’s structure was made of concrete covered in aluminium cladding, and the rest of the roof was covered with terracotta tiles.

The club was selected for demolition as part of a programme to revamp the area ahead of the 2016 Olympic games, which Rio de Janeiro will host. The site will house a new development, the Museum of Sound and Image funded by Fundação Roberto Marinho.

In a detailed survey of the nightclub site, the type and the condition of the materials encased in the building were assessed, and the quantities of materials that would be generated as a result of the demolition works were estimated.
The findings
The audit findings showed that the total material arisings from the building would be around 2,500 m$^3$, broadly equivalent to 5,261 tonnes (see table).

The audit identified 24 key demolition products that would be generated. Seven were identified as suitable for reuse off site, ten for off site recycling, and three (in the timber and insulation categories) for energy recovery. Three products would have to be disposed of in landfill, and one sent off site as hazardous waste.

Of the total materials arising by weight:
- 91%, including concrete, bricks and inert material, were suitable for off site recycling.
- 6%, including the internal floor coverings, ceramic roof tiles, timber wall partitions, mirrors and red granite floor coverings, could be reused.
- 2% were identified as only suitable for landfill disposal.
- 1%, fibre cement sheet cladding, had to be disposed of as hazardous waste.

Use of the materials
Caenge Ambiental worked in partnership with a non-governmental organisation (NGO) to ensure that the reclaimed materials were given to social projects operating in the local area.

Prior to the demolition a representative from the NGO went on site to co-ordinate the collection and distribution of the materials. This activity provides job opportunities and raises the profile of reuse and recycling within the community.

Selected reclaimed items were taken to workshops where they were used to create arts and craft items to sell. Those materials not suitable for this use were reused within the community.

Reclaimed materials
Energy from waste
A small amount of timber and insulation material was sent to a nearby energy from waste recovery plant.