

'Regenerative Healthcare' for a Circular Economy

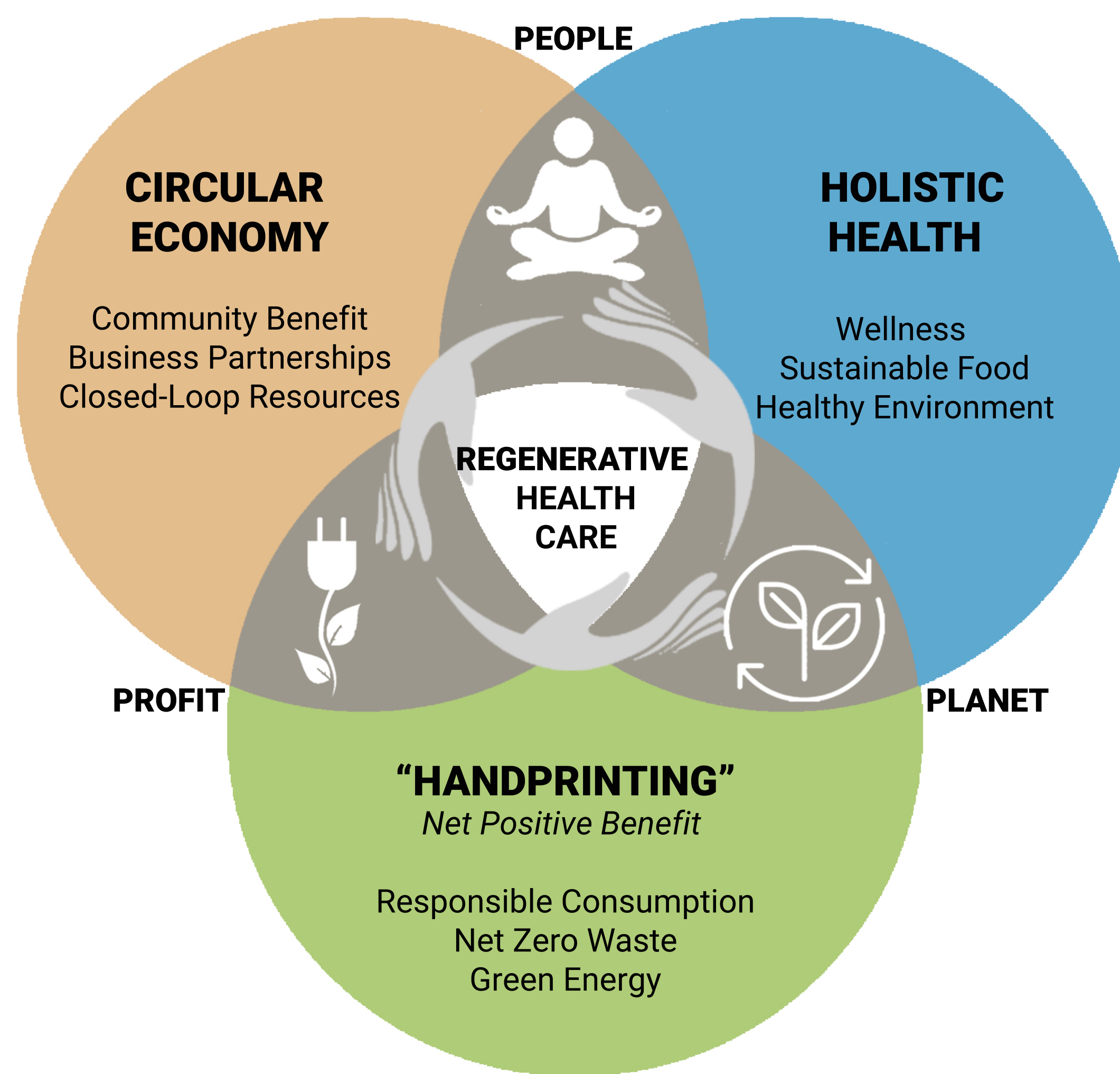
Reimagining healthcare sector as a force for transformation in delivering environmental, economic and social benefit.

Proactive Healthcare

With more people living longer with long-term conditions and co-morbidity, there are increasing demands on healthcare facilities and infrastructure. Yet our resources are finite - increasing energy demands together with waste and water consumption patterns pose significant challenges in achieving our Global Sustainability Targets and energy/emissions reduction targets of 2030.

In this context, the United Kingdom has set ambitious targets for reducing carbon emissions and energy usage, moving from fossil fuels towards renewable energy sources and eventually "net zero" hospitals.

The healthcare sector represents an enormous force for market transformation for promoting sustainable, high performance buildings and operations. Typically, as energy and resource intensive buildings, hospitals are a crucial social asset that support human health. It is imperative that we procure, design and operate them in a way that brings environmental, economic and social benefits to healthcare organisations as well as to the communities they serve.



Catalysing Local Benefits

Health promoting buildings not only improve people's health and wellness, they are also uniquely placed to promote collaboration within a circular economy that benefits the natural environment and communities they are embedded within.

A "regenerative and restorative" approach promotes good health and a self-sustaining "net positive benefit" in the design and operations of health facilities. Healthcare institutions can promote the sharing of assets and infrastructure with mixed use community developments, forming partnerships with local districts for sharing resources/systems for greater resiliency and efficiency.

Facilitating partnerships with local enterprises – such as using renewable technologies and partnering with micro-grid energy generation schemes, promoting urban food production, recycling and up-cycling resources, carefully regulated reprocessing of specialised medical equipment for reuse, using healthier non-toxic materials with no VOCs and PBTs, improving air quality etc. – will bring about positive social and environmental transformation and help healthcare developments become net-positive.

Circular Economy



Holistic Health



Handprinting



South West Acute Hospital, Enniskillen, Northern Ireland, UK
Use of low carbon footprint, closed-loop renewable materials like FSC certified timber and Donegal shale stone from local quarries help in creating value chains within the community. The atrium space and landscaped linear gardens are designed as accessible spaces for use by local community and enterprise that boost the local economy. This NEAT Excellent rated development achieved 100% social credits and preserves ecological cycles within a rich greenfield site.



Laguna Honda Hospital Rehabilitation Centre, California, USA
This LEED Silver project is a pioneer in promoting holistic health through local food production and disseminating education on medicinal value of plants. It integrates community led horticultural programs and orchards in an attempt to encourage healthier eating, leveraging nature's therapeutic powers to help reduce lifestyle related chronic illnesses. The institution also uses its purchasing power to support environmentally sustainable local agricultural economy as an investment in community wellbeing.



Cancer Centre at Guy's Hospital, London, England, UK
Exposed pre-finished structural surfaces, use of natural materials such as recycled bamboo flooring and naturally ventilated spaces in this BREEAM Excellent rated building promote material resource efficiency, lower energy use and reduced carbon emissions. Designing the feature staircase as a centrally placed element also encourages benefits of physical activity for overall health by taking stairs rather than the lift.



UCSF Medical Center, Mission Bay, San Francisco, California, USA
This flagship LEED Gold development transforms its neighbouring community to create "total health". Promoting benefits of nature in healing within 4.5 acres of green space, the design achieves a 50% energy reduction and zero use of toxic materials associated with cancer, birth defects, reduced fertility etc. With 90% landfill diversion rate, environmental responsibility was also extended to supply chain which took a "cradle to cradle" approach to materials manufacturing and recycling.



Tunbridge Wells Hospital at Pembury, England, UK
The NEAT Excellent hospital is set within the High Weald Area of Outstanding Natural Beauty, an area protected for both its beauty and ecological significance. Benefiting from the healing powers of biophilic views of surrounding nature was fundamental to the design. As well as preserving the local ecology, access to sensitively landscaped respite areas and 100% naturally ventilated patient and staff rooms, promotes health and uplifts the spirits of patients, staff and visitors.



Nanaimo Hospital Emergency Department and Psychiatric Emergency Services, Vancouver, British Columbia, Canada
This LEED Gold hospital renovation project champions the re-use of existing infrastructure, adjacent to a working hospital facility, reducing the environmental impact of the redevelopment. The design incorporates healing day-lit spaces, natural ventilation, high performance facade upgrades and a geothermal labyrinth, enabling a 50% reduction in energy use with a 7 year pay back period, enough to power 100 homes every year.