

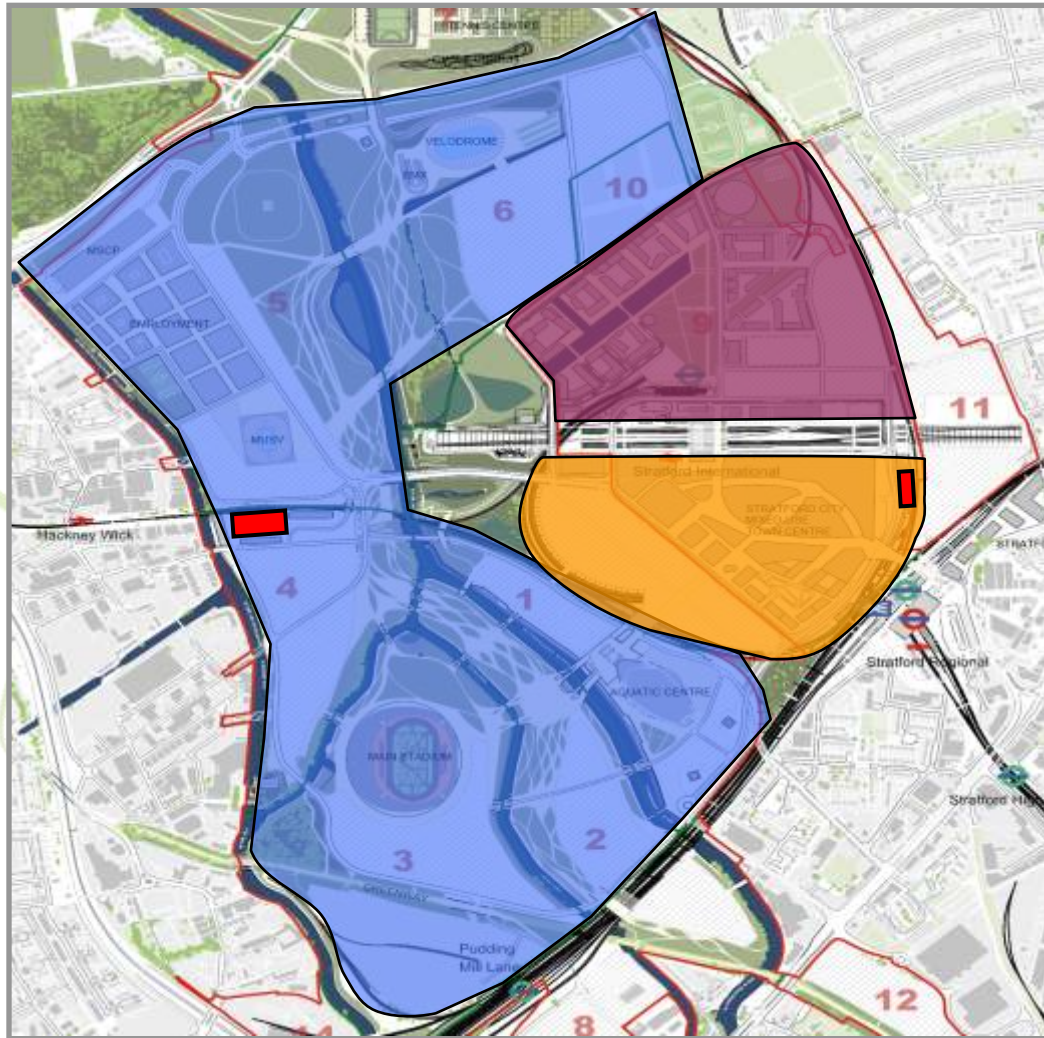


Olympic Park and Stratford District Energy Schemes

**London Energy Partnership
3rd July 2008**

**Ian Kirton
Commercial Director**

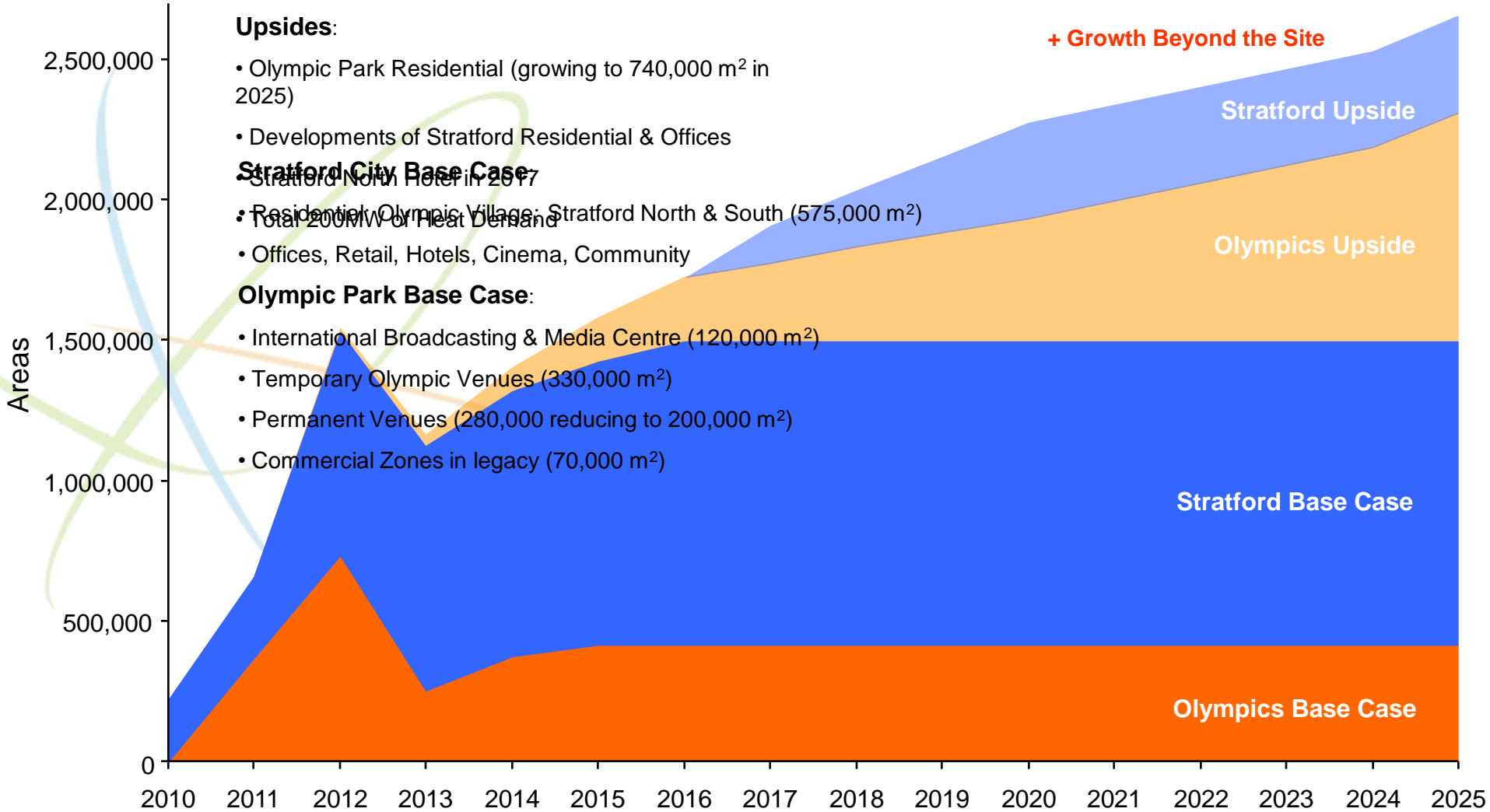
Design Brief



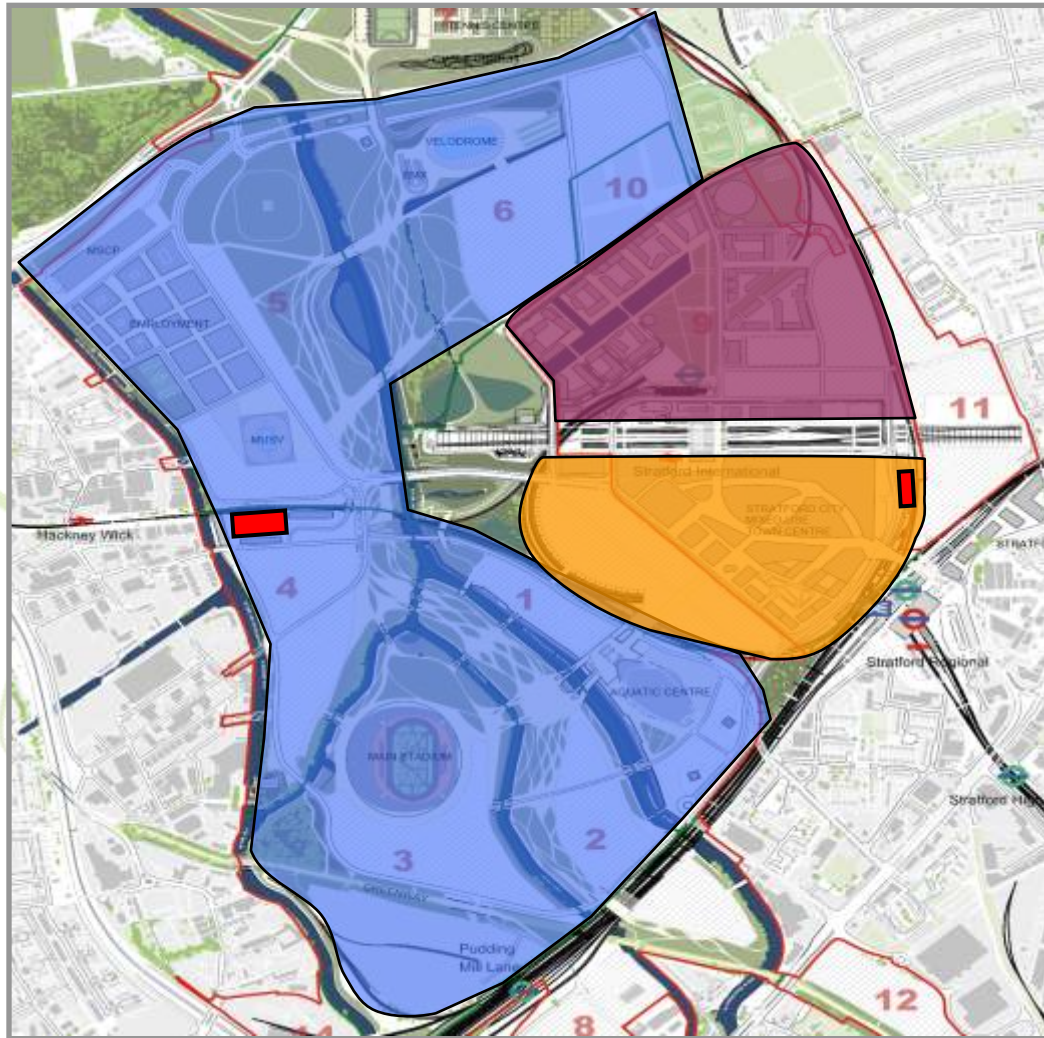
-  Olympic Park
-  Olympic Village
-  Stratford Zones

Base Case is 1.5M m² - Planning approval given for 2.7M m²

Development Assumptions



Design Brief



-  **Olympic Park**
-  **Olympic Village**
-  **Stratford Zones**

Base Case is 1.5M m² - Planning approval given for 2.7M m²

First Phase Capacities

- 120 MW Heating
- 45 MW Cooling
- 20 MW Electrical
- 20 km Networks

Total Capacities

- 210 MW Heating
- 60 MW Cooling
- 30 MW Electrical

Design Principles



"exemplary performance in sustainability and corporate responsibility that will provide a lasting social, economic and environmental legacy"

Reduced energy demand through the application of innovative design

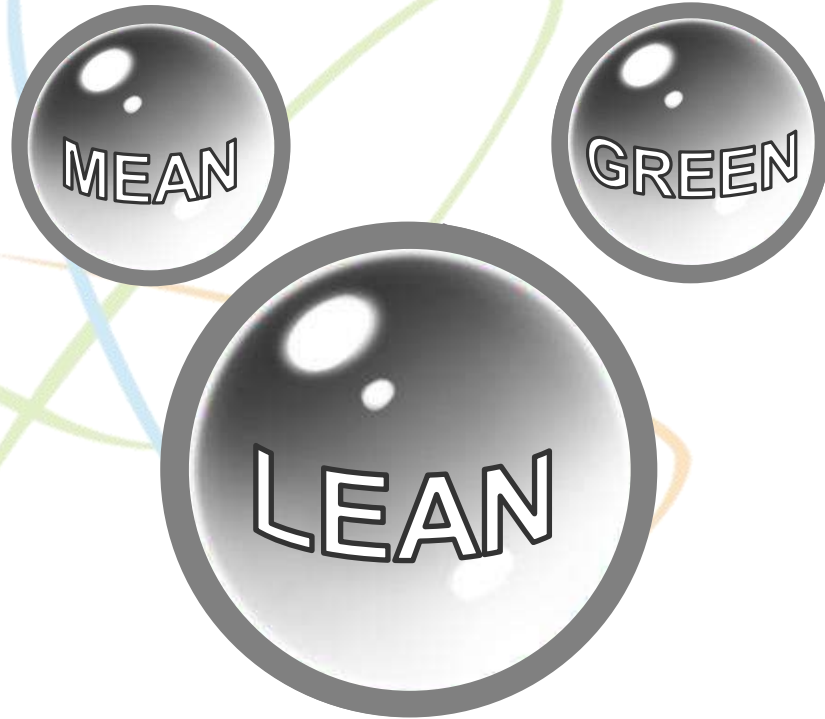
Optimised energy efficiency

A design solution that avoids overcapacity

Modular design to meet demand and avoid over-investment in early years



Design Principles

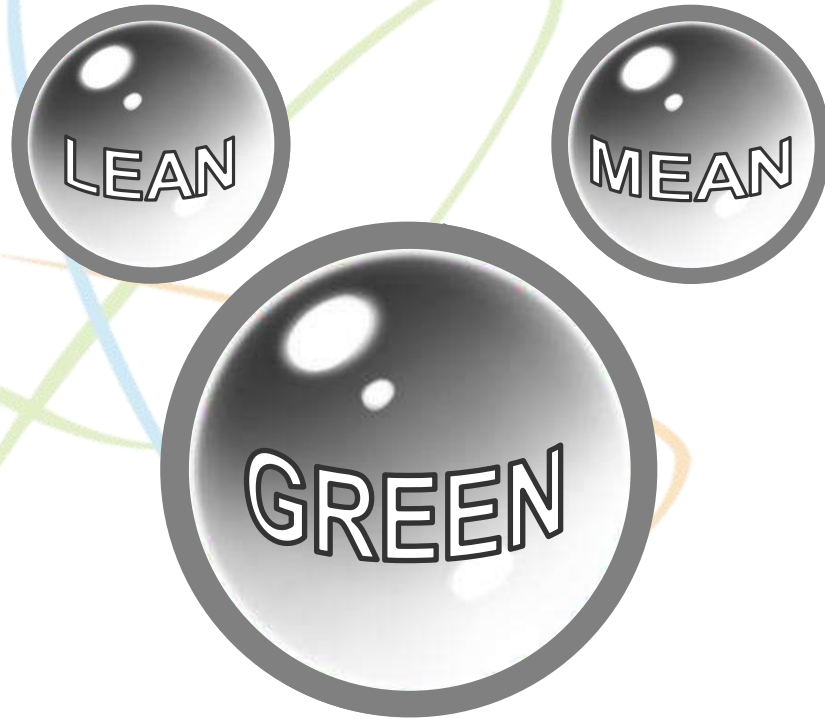


**Low carbon and
renewable technologies**

**Tangible economic
solution for end users**

**A heating and cooling
network that minimises
losses**

Design Principles



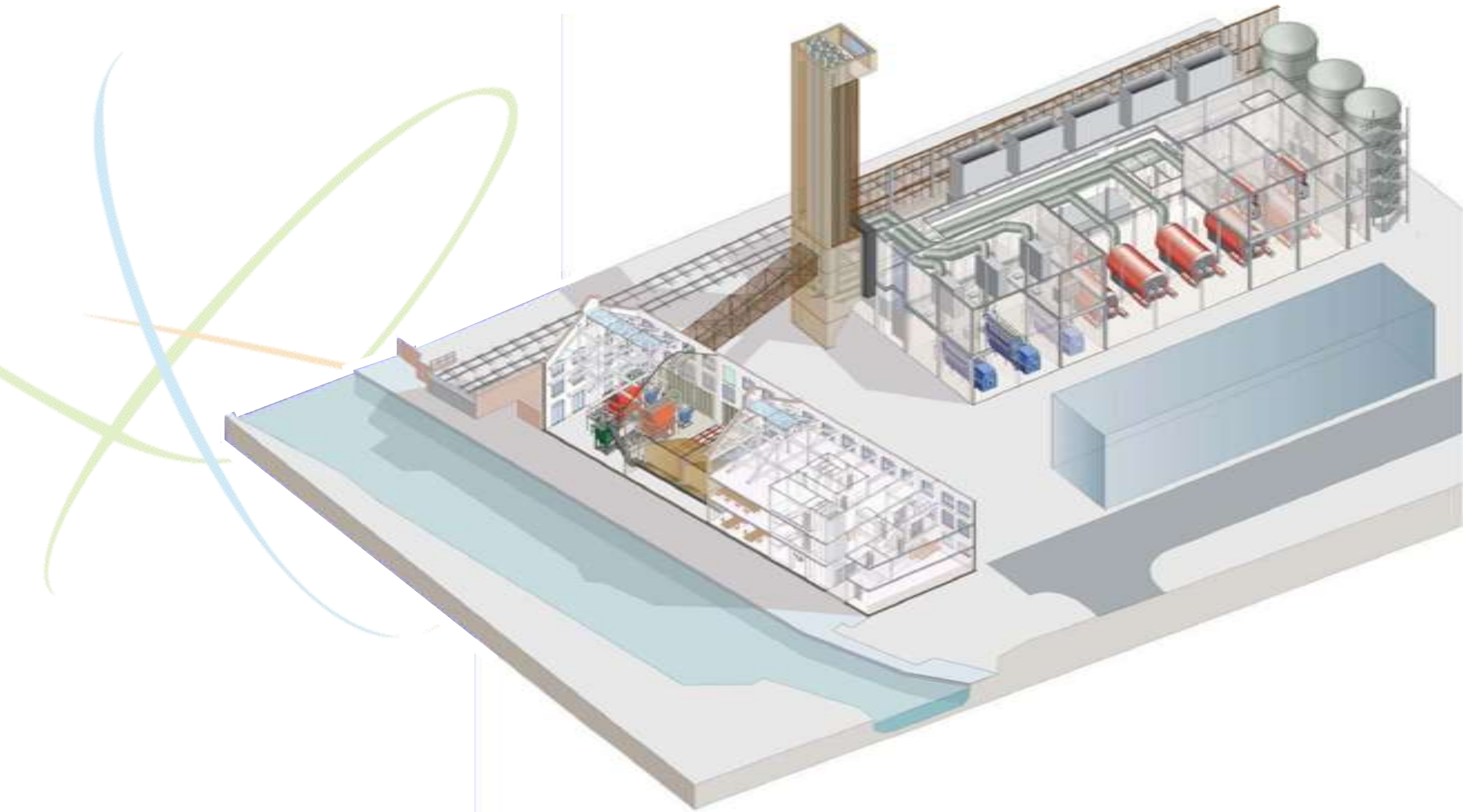
Strategic introduction of combined cooling heat and power plants

Zero carbon renewable energy sources utilised via biomass boilers

Exceed ODA's carbon reduction targets for the energy centre

Majority of power requirements provided from green technology

Energy Centre Design



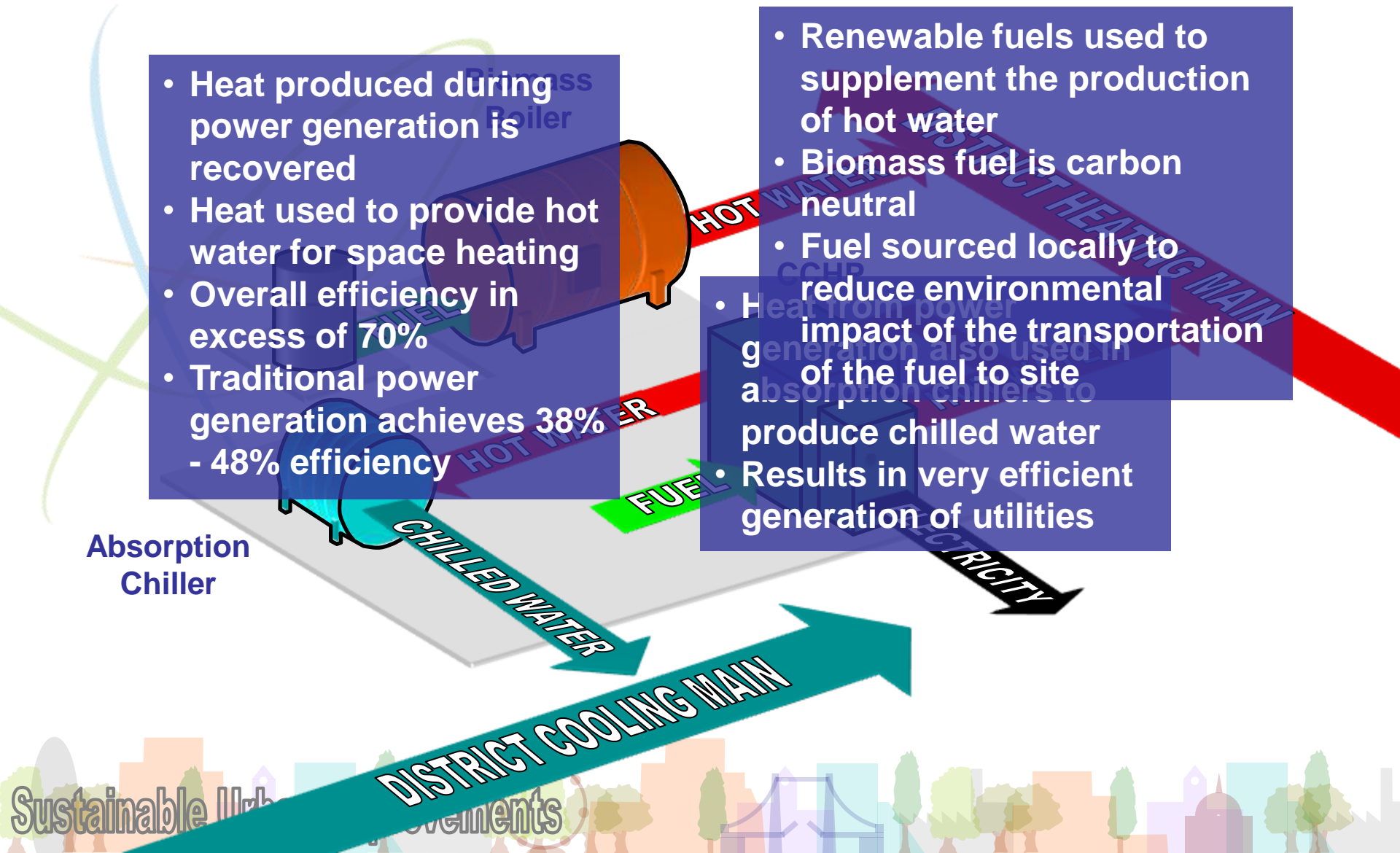
Sustainable Urban Improvements

Energy Centre Design

- Heat produced during power generation is recovered
- Heat used to provide hot water for space heating
- Overall efficiency in excess of 70%
- Traditional power generation achieves 38% - 48% efficiency

- Renewable fuels used to supplement the production of hot water
- Biomass fuel is carbon neutral
- Fuel sourced locally to reduce environmental impact of the transportation of the fuel to site
- Heat from power generation also used in absorption chillers to produce chilled water
- Results in very efficient generation of utilities

Absorption
Chiller

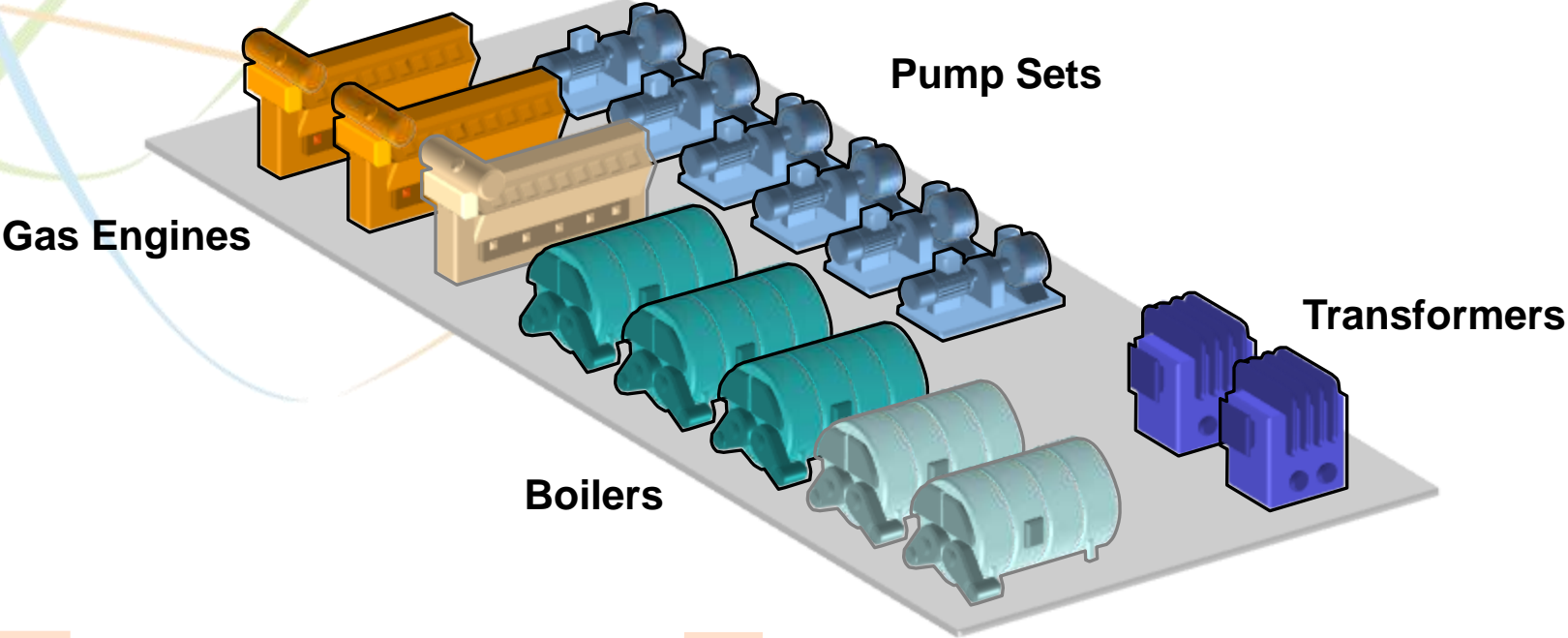


Energy Centre Design

- New design retains the Victorian mill building
- Mill building renovated as part of project
- New modular designed building attached to create the Energy Centre
- Building designed to utilise recycled materials

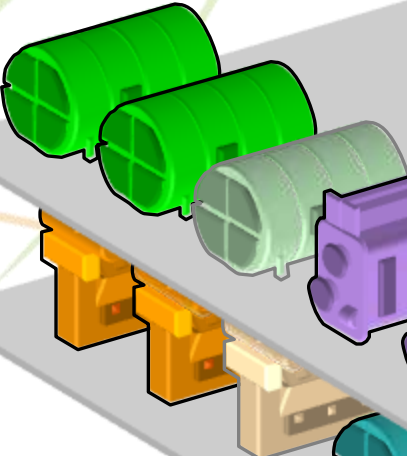


Energy Centre Schematic

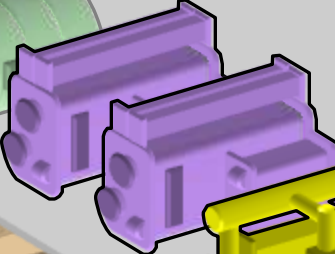


Energy Centre Schematic

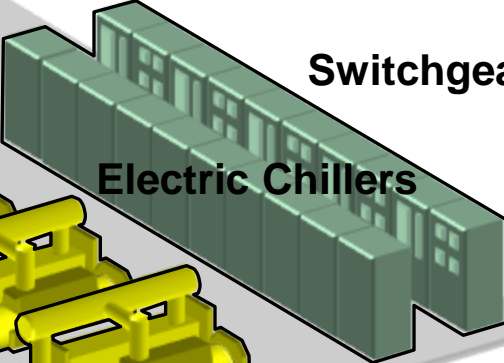
Waste Heat Boilers



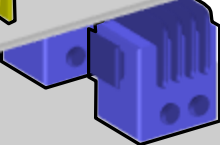
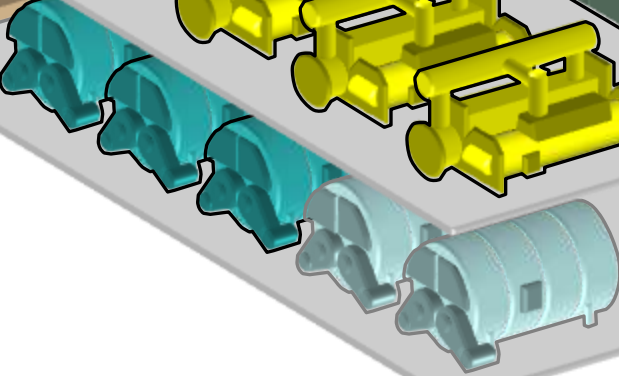
Absorption Chillers



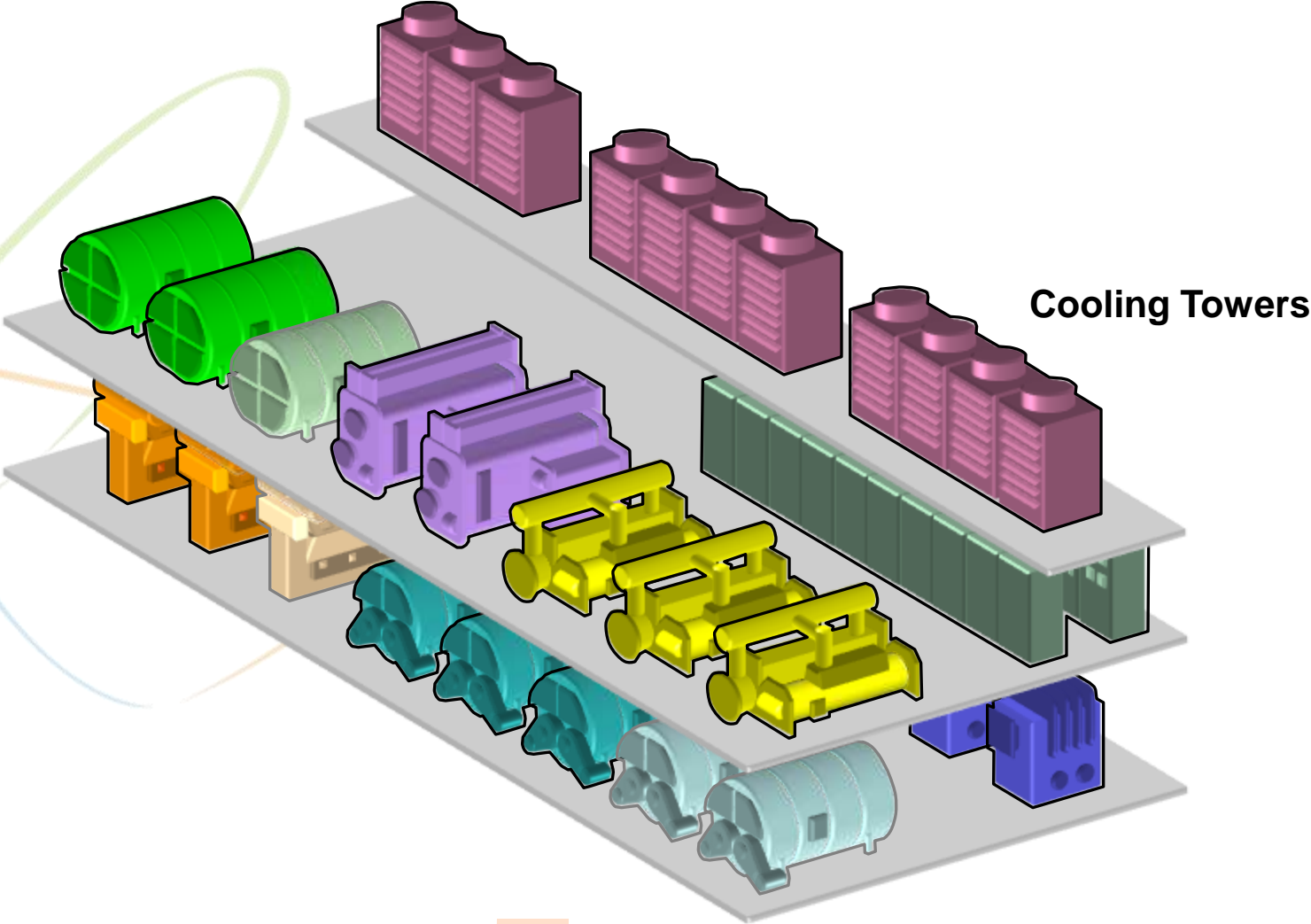
Switchgear



Electric Chillers

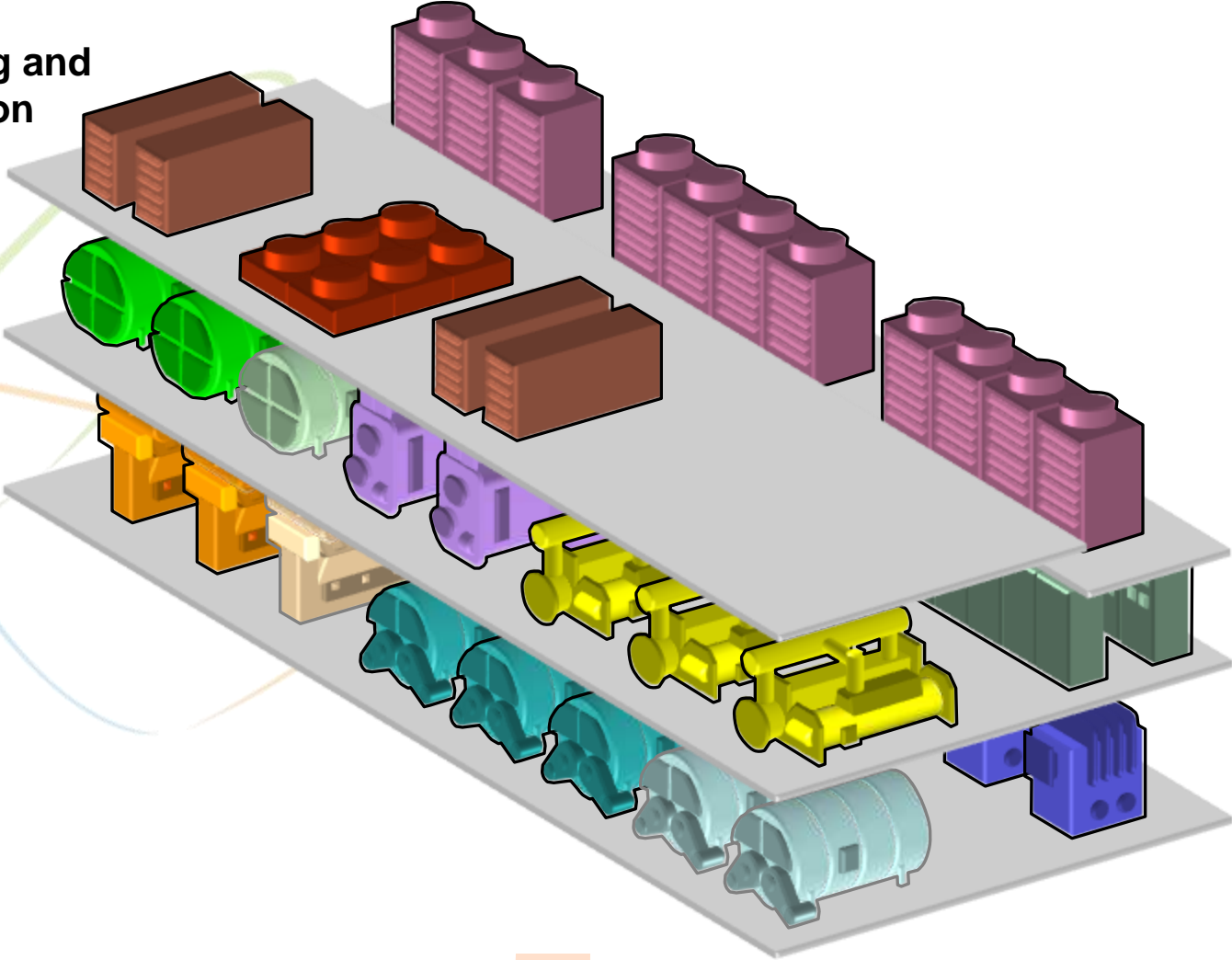


Energy Centre Schematic

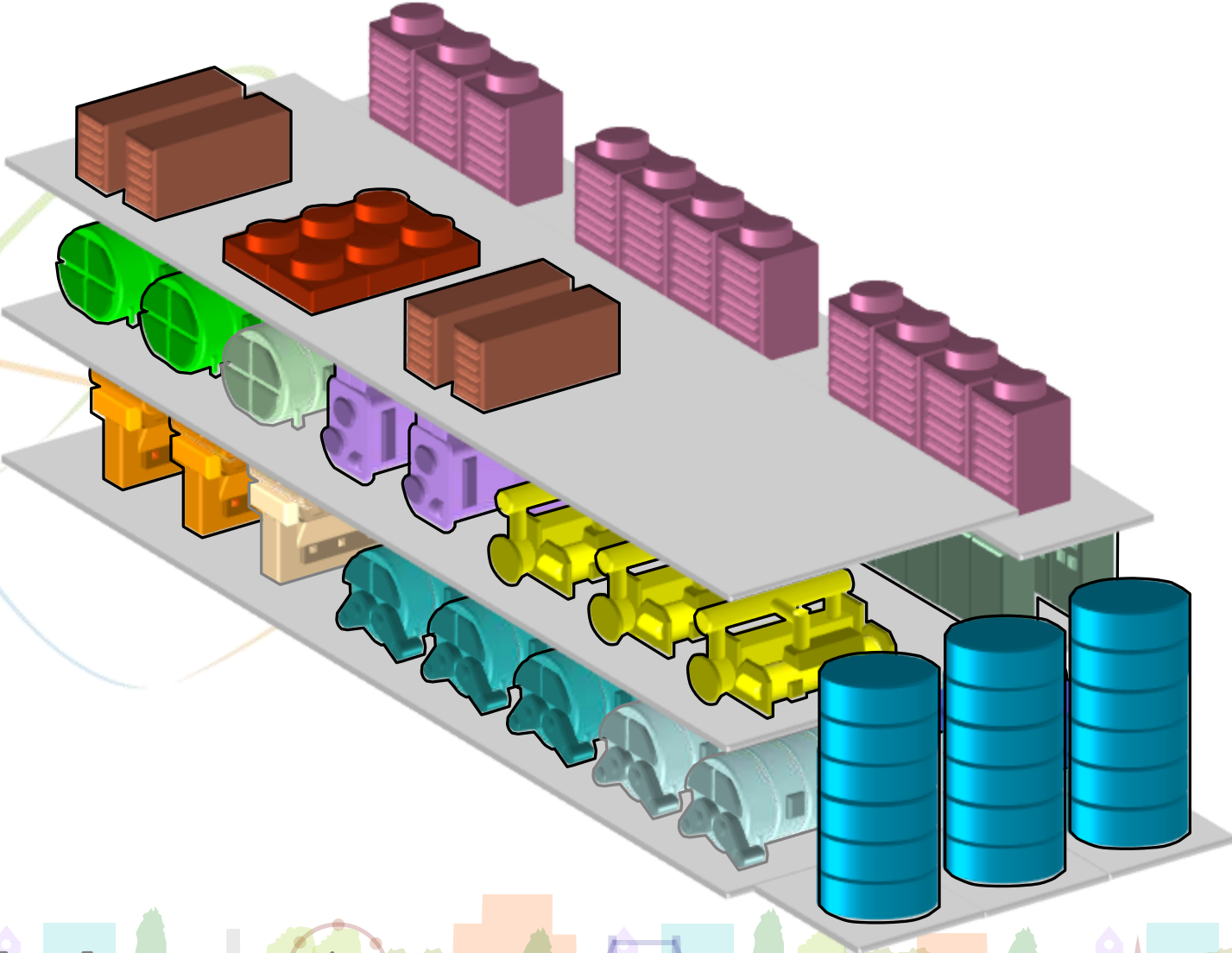


Energy Centre Schematic

**Air Handling and
Ventilation**



Energy Centre Schematic



Scheme Benefits

COST BENEFIT

- 40 year concession contract
- Cost of the scheme provided 100% by concessionaire
- Cost recovered through the sale of utilities to the end users
- Lower energy costs to the end users compared to imported electricity and traditional systems of heating and cooling

ENVIRONMENTAL BENEFIT

- Reduced carbon footprint compared to traditional methods of generating electricity and systems of heating and cooling
- Carbon reduction due to CCHP expected to be in excess of 20%
- Carbon reduction from the biomass boilers expected to be in excess of 1000 tonnes per annum





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