Impacts on Urban Systems

Energy

Annual Kilowatt hour generation TEG modules
= 5,475 hours x 0.024kw x 32,000= 4,204,800 kWh/year
Annual Kilowatt hour generation Photovoltaic cells
= 2,372.5 hours x 4.88kwp = 11,577.8 kWh/year

4,216

MWH/ year generated per module

Light up 700+ Street Lamps

Water

Total Annual Freshwater production
= 7 cooler pods x 0.90m x 6.90 sqm= 43.47 cubic meters x 365 days
= 15,866.55 cubic meters - 30% for evaporation loss and misting

11,100

cubic meters of freshwater per module

Irrigate 120 sqm of Gardens

Environment

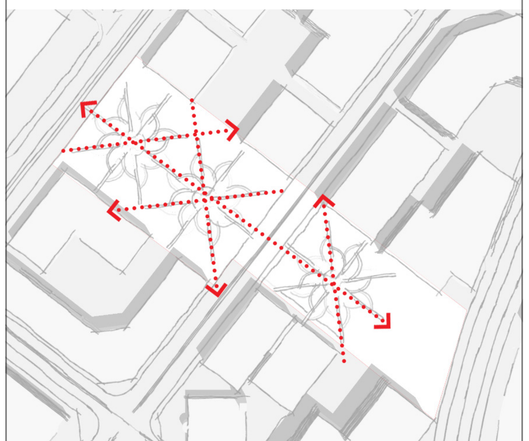
A capacity of 1,000 MW can offset 1 million tonnes of carbon dioxide according to UAE State of Energy Report 2015.

773

tonnes of carbon dioxide offsetted per module

Mobility

The Groves serve as nodes of path networks that interlace between buildings.



Urban Quality

The Groves is projected to mitigate UHI level in the city by the releasing of mists from cold chamber of TEG and TEC pods and irrigation of surrounding gardens by the freshwater produce.

5-10%

reduction in energy usage in surroundings due to reduced UHI