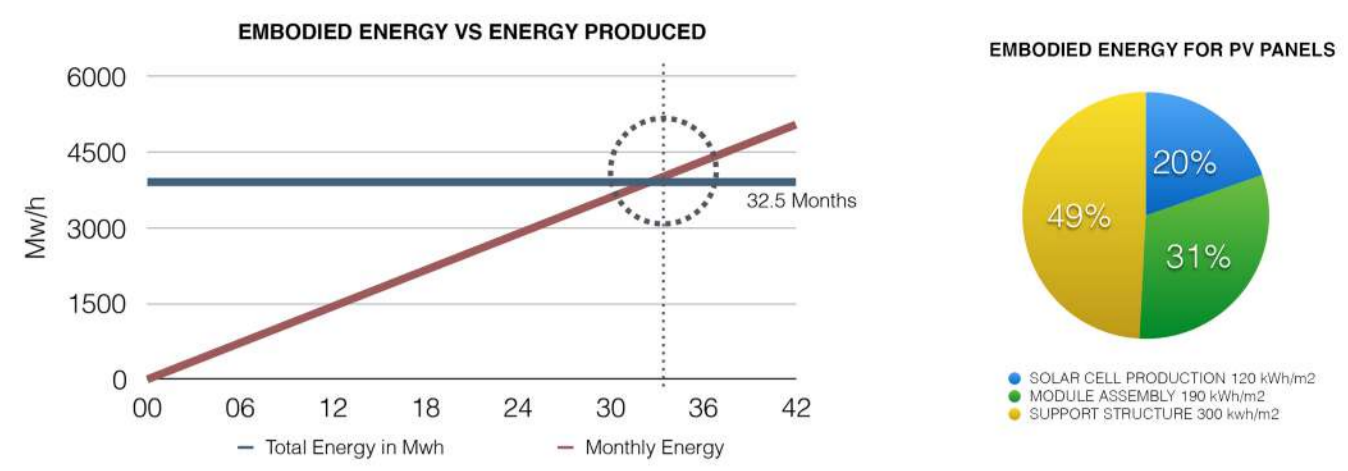




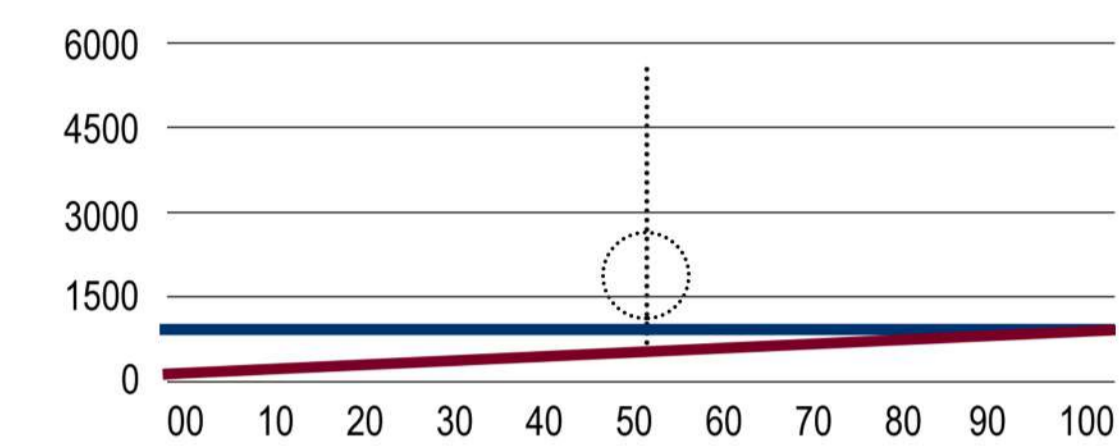
ENVIRONMENTAL IMPACT ASSESSMENT FOR PHOTOVOLTAIC PANEL

Panel Data	Embodied Energy
Available area for panels = 9343 sqm	Solar cell Production - 120 kWh/m ²
Each panel takes upto - 1.63 m	Module Assembly - 190 kWh/m ²
Total panels required 5731 panels	Support Structure - 300 kWh/m ²
For space issues if we take 70% utilization	Total Energy per m ² = 610 kWh/m ²
Total practicable no. of panels = 4000	Total Energy = Total No of Panels x Panel Size x Energy required for 1 Square Meter
One panel produces 30kWh every month	4000 x 1.63 x 610 = 3904000 kWh (3904 mWh)
Therefore, 4000x30kWh = 120 MWh/month	Therefore = 3904/120 = 32.5 Months



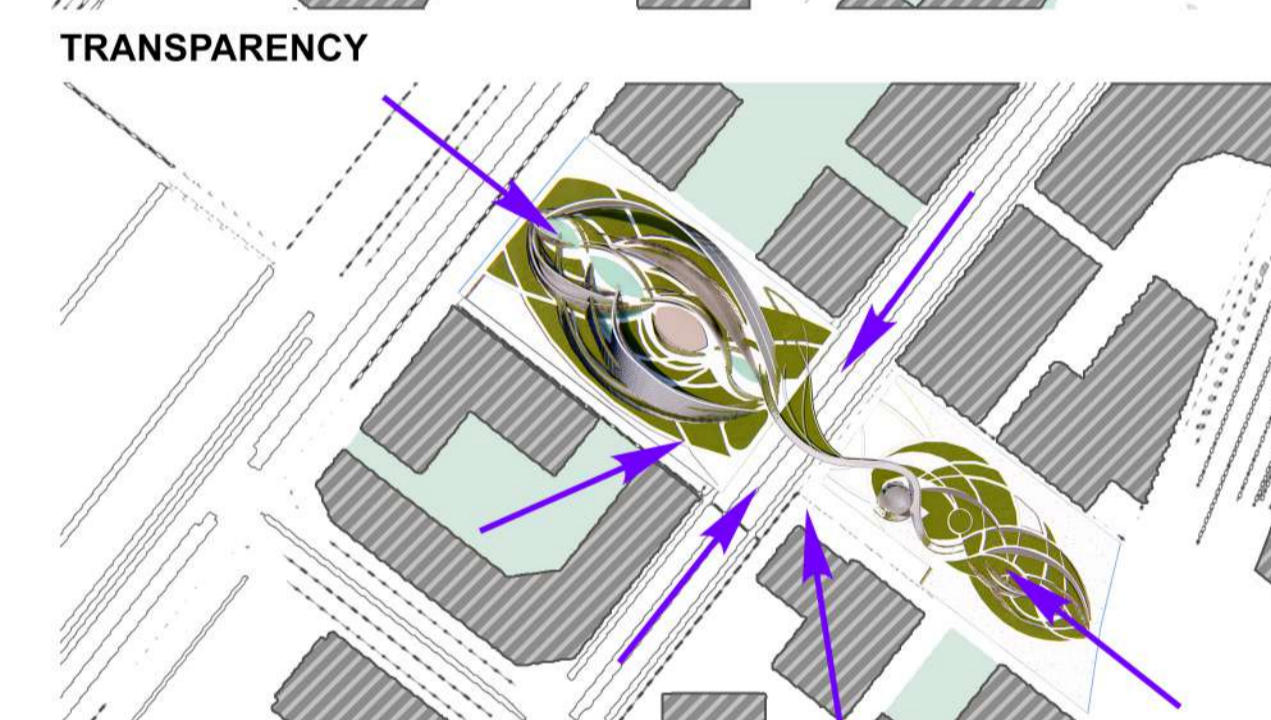
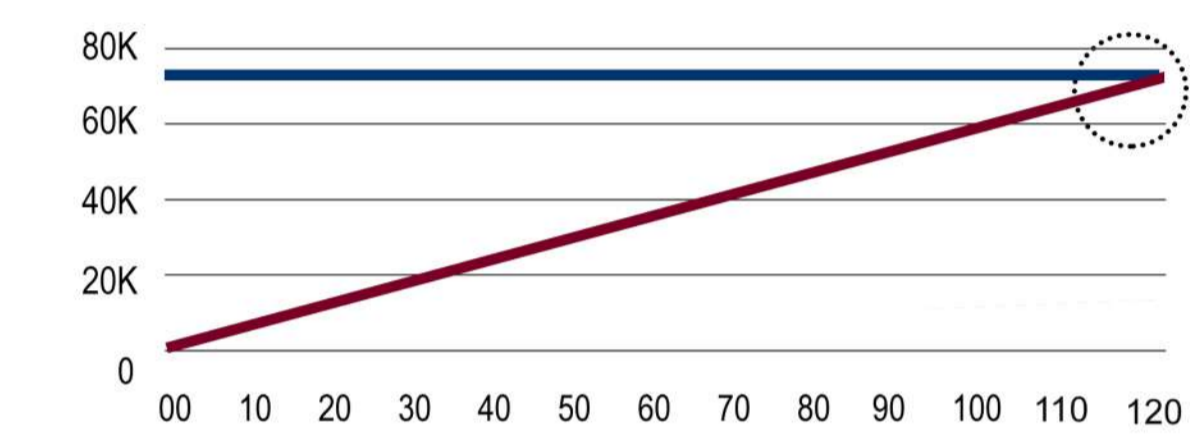
ENVIRONMENTAL IMPACT ASSESSMENT FOR WIND TURBINES

EMBODIED ENERGY FOR WIND TURBINE FAN PRODUCTION - 180KWh/sqm
MODULE ASSEMBLY - 165 KWh/sqm
SUPPORT STRUCTURE - 220 KWh/sqm
TOTAL ENERGY PER sqm - 1125 KWh/sqm
TOTAL ENERGY= TOTAL NO OF TURBINES x TURBINE SIZE x ENEGRY REQUIRED PER 1 SQUARE METER
3x 310 x 1125=1,046,250
THEREFORE = 1300/95 = 13.6 MONTHS



ENVIRONMENTAL IMPACT ASSESSMENT FOR POLY CRYSTALS PIEZO CERAMIC TILE

EMBODIED ENERGY FOR PIEZO CERAMIC POLY CRYSTALLINE PRODUCTION - 180KWh/sqm
MODULE ASSEMBLY - 95 KWh/sqm
SUPPORT STRUCTURE - 65 KWh/sqm
TOTAL ENERGY PER sqm - 11 KWh/sqm
TOTAL ENERGY= TOTAL NO OF TILES x PIEZO CERAMIC SIZE x ENEGRY REQUIRED PER 1 SQUARE METER
7000 x 1 x 11 = 77,000 KWh/sqm
THEREFORE = 77,000/120 = 641 MONTHS



ENVIRONMENTAL IMPACT ASSESSMENT FOR FOG CONDENSERS

EMBODIED ENERGY FOR OTTI AEROGEL AND MOF PRODUCTION - 480KWh/sqm
MODULE ASSEMBLY - 240 KWh/sqm
SUPPORT STRUCTURE - 210 KWh/sqm
TOTAL ENERGY PER sqm - 2250 KWh/sqm
TOTAL ENERGY= TOTAL NO OF LAYERS x PANEL SIZE x ENEGRY REQUIRED PER 1 SQUARE METER
4000 x 2 x 2250 = 1800000 KWh/sqm
THEREFORE = 1800000/225 = 426 MONTHS

