The PULSE... Analysis & Calculations

State of the art customised hexagonal PV modules implement mono-crystalline technology. The hexagonal shape is adapted to blend with the design theme. The PV modules are glazed material which employs a PVB technique. The capacity of each PV module is 363Wp with an overall efficiency of approximately twenty percent (20%) depend on Almaden manufacturing resources. The expected annual capacity production is 5,248 MWh due to monocrystalline, flexible thin film, and the energy floor. Utilised amount of PV panels reached to 7,724 modules. The proposed renewable is designed to be grid connected based on net metering scheme, to eliminate the use of the storage system (almost 40% of the system cost), considering the grid as a mega storage. The surplus power will be transferred to the dispatch center to be utilized according to the energy demand by Abu Dhabi government. Moreover, kinetic energy tiles having a coverage area spanning to 2,000 square meters are applied to utilise people mobility in producing additional clean energy (KWh) that will be added to the overall power generation.

### Renewable Energy Production

**Innovative and Efficient**

The project is located on a sprawling 2.4 hectares of raw land, surrounded by roads and a series of residential buildings for future development, within the cutting-edge Masdar City in Abu Dhabi.

**Total Surplus Power**

3357 MWh/year

Dedicated for:

- 540 Nos.(Studies)
  - Avg. Consumption 6 MWh/year
- 187 Nos.(One bedroom flat)
  - Avg. Consumption 18 MWh/year
- 134 Nos.(Two bedroom flat)
  - Avg. Consumption 25MWh/year

### Renewable Energy Production and Impact

- **5,248 MWh**
  - Annual Yield
- **3,375 MWh**
  - Surplus Energy
- **3,000 Tons**
  - CO₂
- **75,000**
  - Trees

### Solar Skin Structural Details

Hexagonal mono-crystalline PV modules 2x2 m in proportion

- Light weight steel sub-frame supporting PV modules
- Supporting Grid Points
- Steel-frame structure

### Kinetic Energy Tiles

- **14.16 years**
  - Average EOI
- **540,042**
  - Annual Return

### Annual Yield Production

- 5,248 MWh
- 4,905 MWh
- 3,375 MWh

### Annual Estimated Design Saving

- 1675 MWh
- 1500 MWh
- 1350 MWh