RE-1: Renewable Energy

Intent

To reward projects for the use of renewable technologies, therefore reducing the carbon emissions associated with public realm operation and the reliance on fossil fuel based energy generation.

Credit Requirements

General

Demonstrate that a study has been undertaken at the concept design stage to assess the feasibility of photovoltaic (PV) and solar thermal system(s).

Demonstrate that 50% of the total annual outdoor lighting energy consumption (kWh) is to be generated from PV system(s).

Demonstrate that 50% of the total annual hot water energy consumption (kWh) is to be generated from solar thermal system(s).

Additional Requirement/Clarifications

Other forms of renewable technology may be proposed and will be subject to approval from Estidama.

Credit Submission: Design Rating

- ☐ PV and solar thermal system(s) feasibility study;
- ☐ Calculations of the annual energy generation of the proposed PV system(s) and resultant percentage reduction in total annual outdoor lighting energy consumption;
- ☐ Calculations of the annual energy generation of the proposed solar thermal system(s) and resultant percentage reduction in total annual hot water energy consumption; and
- ☐ Drawings and specifications detailing the proposed PV and solar thermal system(s).

Credit Submission: Construction Rating

- ☐ Updated calculations of the annual energy generation of the proposed PV system(s) and resultant percentage reduction in total annual outdoor lighting energy consumption;
- ☐ Updated calculations of the annual energy generation of the proposed solar thermal system(s) and resultant percentage reduction in total annual hot water energy consumption; and
- ☐ Photographs confirming that the proposed PV and solar thermal system(s) have been installed.

Calculations and Methodology

The feasibility study must cover the following:

- Calculations demonstrating the total annual outdoor lighting energy consumption and total annual hot water energy consumption;
- Annual energy generated from PV and solar thermal system(s);
- Life cycle cost of each technology, and payback;
- Suitable locations for siting each technology;
- Visual issues; and
- Maintenance (including cleaning requirements).

The percentage of total annual outdoor lighting energy consumption supplied through PV system(s) is determined by calculating the annual energy generation of the PV system(s), and dividing their sum by the annual outdoor lighting energy consumption.