

EcoMaster (Solar Thermal Assessment)

A separate form should be completed for each system to be designed.

Complete as fully as possible. However, appropriate assumptions will be made where details are not known.

FROM: _____ **DATE:** _____
 Company: _____
 Address: _____
 Site Address: _____

Insert..... / Circle items as appropriate. Underline* = Please consult Redland Technical Solutions.

ROOF DETAILS

- **Condition of Roof and Structure:** New / Good / Moderate / Poor
- **Pitch:**Degrees
- **Redland Large Format Interlocking Tiles (type):** Yes (.....) / No (.....)*
- **Is roof constructed with 25mm thick battens fixed to rafters (with underlay between)?** Yes / No (describe)*

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 • **Pipe length required to connect collector/s to the system:** Flowm; Returnm

SYSTEM REQUIREMENTS

- **Number of Stories in Building:**N^o

BUILDING TYPE AND USE: -

- **Type:** Detached / Semi-detached / Terraced / Flat / Maisonette
- **Use:** Dwelling / Care home / Senior citizens' home / Sheltered accommodation / Hospital / Hotel / Hostel / Office / Student accommodation (with canteen) / Student accommodation (without canteen) / Shop / Other

BUILDING, SITE AND LOCATION

- **Stage:** New-build / Re-roof (replacing tiles) / Retro-fit (retaining existing tiles)
- **Height Above Sea Level** (if known):m
- **Surrounding objects that will cast shade on the proposed collector location** (e.g. trees, buildings, etc, and nature of horizon) – (objects, height, width, distance and details):

HEATING APPLICATIONS FOR SOLAR SYSTEM: -

- Hot Water Supply / Space Heating / Swimming pool / Other*

(Delete sections that do not apply): -

If For Hot Water Supply: Complete this section: -

- **Number of Persons:**
- **Consumption:**l/person/day / **or;**l/day / **or;**m³/Annum
- **Daily Usage:** Morning peak / Evening peak / Constant / Other
- **Annual Usage – Details (months & Dates):**
- **Required Hot Water Temperature:**°C
- **Secondary Circulation available:** No / Yes Weekly & daily operating times:

ROOF SLOPE (for panel location): -

- **Height (ground to eaves):**m
- **Dimensions:** Width (L to R)m X Slope length (along rafter)m
- **Orientation:** N / NE / E / SE / S / SW / W / NW
- **Over-shading from roof and immediate surroundings** (e.g. flank wall, parapet wall, roof overhang, chimney, satellite dish, aerial etc) – **Details:**

If For Space Heating: Complete this section: -

- **Total Building Heating Requirement (not allowing for heat gains):**kW
Gains (if known): SolarkW; InternalkW
- **Floor Area:**m²
- **Design Temperatures: Int**°C; **Ext**°C
- **Heating Method:** Radiator / Under-floor / Other (or combination)
- **Insulation Standard:** -
Pre-1984 / 1984 / 1995 (or later) / Low Energy
- **Wall Thickness:** Thin / Moderate (typical) / Thick
- **Annual Usage – Details (months & dates):**
.....
.....
- **Night-time Temperature Reduction:** -
Effect time: From; To; Of°C

If Swimming Pool: Complete this section: -

- **Daily fresh water requirement:**l /m³
OR: - Number of swimmers per day:N^o
- **Auxiliary heating:** Yes / No
- **Heat exchanger:** Yes / No
- **Swim Season:** Begin; End
- **Pool filled at each season beginning?** Yes / No
- **Indoor:** Room temperature°C; RH%
OR: -
Outdoor: Tile colour; Wind shield: (No / Partial / Full); Environment: (Exposed / Unsheltered / Sheltered / Well Sheltered)
- **Pool** (shape, dimensions, mean depth, surface area)
.....
.....
- **Pool Temperatures:** Desired°C; Max°C
- **Pool Cover:** No / Yes (details)
.....
.....
- **Solar Yields:** How should the gains from the solar array supplying the pool be allowed for in financial and energy saving calculations): Not / Up to a certain temperature°C / Totally

AUXILIARY HEATING: NO (delete) / YES: -

STATUS: Existing / Proposed. Upgradeable: Yes / No

APPLIANCE: -

- **Fuel:**
- **Manufacturer:**
- **Model:**
- **Type:** (If “continuous flow” or “Instant Hot Water” (e.g. “combi”), is it suitable to accept pre-heated water: Yes / No*)
- **Output:**kW. **Efficiency**%
- **Operating times:**
.....
.....
- **Annual Usage – Details (months & dates):**
.....
.....

SPACE HEATING LOOP (if solar input required): -

- **High Temperature Loop (Radiators):** -
Pre-run°C; Return°C
- **Low Temperature Loop (Under-floor):** -
Pre-run°C; Return°C

ELECTRIC DOMESTIC HOT WATER HEATING ELEMENT (Immersion Heater): NO (delete) / YES: -

STATUS: Existing / Proposed. Upgradeable: Yes / No

- **Power**kW
- **Operating times:**
.....
.....
- **Annual Usage – Details (months & dates):**
.....
.....

OPTIONS FOR MONITORING AND REMOTE CONTROL

For some systems, options are available for monitoring their running, and displaying their status remotely. Is either of these options of interest for this system?: -

- **Monitoring:** Yes / No / Would like to discuss
- **Remote Display:** Yes / No / Would like to discuss