

Guidelines for installation of Solar Power on Diocesan properties

Buildings and Property Committee

31 January 2018

The Buildings and Property Committee have concluded that there is much diversity across the ministry units with regard to: energy usage, building types and locations; existing contracts and accessibility. Thus a single model to fit every ministry unit is impossible to formulate.

The following are guidelines for consideration of all ministry units to assess their energy usage and assess if Solar Power is viable in their location.

1. Every time your energy contract needs to be renewed obtain a few quotes. Otherwise you will automatically be switched to a no discount policy.
Church Resources have already done a lot of negotiation with electricity companies and are worth considering: www.cr.org.au
2. The main benefit of solar panels at the moment comes when the sun is generating electricity. So installation of panels should be done on buildings with highest day time use of energy. The rebate will not justify the cost of installation, but energy savings might. A rule of thumb is that a building like a rectory, with high night and day time usage (ie. home office, children, people at home through the day) should save approx. 50% of energy usage. An Op Shop which primarily runs through the day will achieve a much greater percentage saving, especially if air conditioning and dehumidifiers are in use.
3. Battery Storage at the moment is cost prohibitive. Batteries will decrease the amount of power which will be drawn from the grid, but the cost savings will not offset the capital purchase price of the batteries. When batteries become cheaper this advice may change.
4. If you conclude that Solar will be of benefit to your building, then here are some tips when obtaining quotes:
 - Use a local supplier, preferably one whom you know has a good reputation. This is important for warranty issues, as well as them depending on their reputation.
 - Only accept Tier 1 solar panels, don't compromise on the quality.
 - The inverter is very important. Obtain a quote for an inverter from one of the major companies: SMA; Fronius; ABB; Solaredge (power optimizers) or Enphase (micro inverters).
5. The choice of a single inverter, power optimizers or micro inverters will depend on the sun exposure to your roof. If shade falls across 1 panel in a connected grid, electricity generation will drop to the level of that panel across all the panels in the grid. In this case power optimizers or micro inverters will overcome that issue, keeping each panel generating electricity at optimal levels.
If there is no shade across your roof then it is less complicated if you avoid micro inverters.
6. The panels will be placed in 2-3 grids, each grid works together generating electricity. It is best to face grids in varying directions if possible, to spread electricity generation through the day, minimizing the volume of electricity drawn from the Energy Companies.