

# Commercial Solar Thermal Case study

## Protea Manor Hotel



The Protea Manor Hotel is situated in the suburb of Hatfield in Pretoria / Tshwane and houses 88 rooms.

Its central location makes it a popular and premier destination for diplomats and business travellers to the Pretoria area.

The hotel is owned by the The Boulevard Group and has been rebranded as part of the Protea Hotel Group.

### Facts and Figures

Each room needed 100 litres of water heated at 55°C. 25 Solahart 302J thermosiphon solar water heaters were installed.

### Need

The Boulevard Group wanted to reduce the hotels carbon footprint by turning to more renewable energy sources while still providing guests with hot water on demand.

Hotels are subject to high hot water demand during peak hours. It was therefore important that a sufficient volume of hot water was supplied and available to the hotel guests while still being cost effective and environmentally sensitive.

### Solution

The alt.enerPro team designed a solution specific to the hotel. The solution was split into three mini projects in order to keep the The Protea Manor Hotel's existing infrastructure and to keep costs low.

The rooms accessible via service shafts were connected to 21 Solahart 302J thermosiphon solar water heaters.

alt.enerPro team disconnected and removed the energy inefficient electric geysers that previously serviced these rooms.

In doing so the team reduced the demand by 50% and energy consumption by 80% per year. The second part of the project was to prefeed the existing central boiler system that services those rooms not accessible via service shafts.

Four Solahart 302J solar water heaters were able to heat more than double the amount of hot water that the boiler can produce.

This not only increases the heating capability but also adds almost 1200 litres of additional storage capacity.



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