

Calculations of Cost of Heliosa short wave infrared verses Gas Heaters

Summary Takeaways:

- Short-wave infrared heaters can cover the same area at least as effectively as ceramic gas heaters for a fraction of purchase price and have lower running costs.
- Short-wave infrared heaters are more cost effective than patio heaters, even taking into account installation costs, because their running costs are so much lower – in cost terms alone payback is just over one year.

The heat projection of gas ceramic heaters makes them popular outdoor undercover heaters for use in hospitality areas. To achieve the radiant heat 'throw' they need a good supply of gas and are generally in the range of 25 – 40 Mj per hour capacity. Often requiring deflectors to reduce loss of heat to the area above the heater, it is not uncommon on a cold day to see the waves of heated air floating upwards away from the people it is intended for. This is because the radiant efficiency of the medium wave infrared is around 60%.

This same issue affects the standard patio heater, more often than not portable and fueled by 9kg LPG bottles, using an atmospheric gas burner. The 'mushroom' deflector over the top is designed to direct the heat downwards, but instead it deflects a lot of it around the mushroom before it escapes to the surrounds. At best these heaters have a radiant efficiency of 40% and while they may claim to heat large areas, anybody who has used them understands that there are limited situations where this is the case and often the temperature rise above ambient is in very narrow band once more than a couple of metres away.

Good quality gas ceramic heaters tend to be quite expensive to buy and can be expensive to install dependent upon existing gas supply and whether they need electricity connections. On the other hand, they are more efficient to run compared to a gas patio heater. The popular 'mushroom' patio heater is very cheap to buy, but a pain to operate given that a change of bottle or gas re-fill is required after every 10 – 12 hours of use; it doesn't take too much math to work out that the running costs of portable heaters can soon take the overall cost above much better heating alternatives.



INSTANT COMFORT WHERE IT'S NEEDED

We have recently completed cost comparisons between our new short-wave infrared heaters, the Heliosa range, and gas heater alternatives. Short wave heaters offer instant heat at 92% radiant efficiency – there is much energy less loss to the atmosphere. Unlike most other commercial electric heaters on the market, they can cover similar square meterage to that of their gas alternatives – and this means that they should be considered seriously by cost conscious hospitality providers wishing to offer comfort in their outdoor seated areas and beer gardens.



Capital cost to purchase are a fraction of the wall mounted natural gas ceramic heaters, they are less costly to install, and have comparable running costs. While more expensive than patio heaters, once running costs are taken into account, payback is little over one year.

	Cost basis for calculation (\$)	Commercial Ceramic NG heater with deflector 42 Mj/phr	Mushroom Patio 38.5Mj/phr	Heliosa 44 2000w	Heliosa 66 2000w
Nominal Area Heated m2		20	17	15	20
Capital Cost (based on ex-GST RRP)		2177	135	450	560
Install Hours (est.)		2	0	1	1
Install Cost p/hr		150	150	150	150
Install Cost (based on 1 unit)		300	0	150	150
Running Cost - Electric cents p/kWhr	0.27700			181	181
Running Cost - NatGas cents MJ p/hr	0.01821	250			
Running Cost - LPG \$ p/hr(9kg bottle)	1.66667		545		
Portable - number of refills			27		
Total Cost Year 1		2727	680	781	891
Total Cost Year 2		550	545	181	181
Cost after 2 years \$		3277	1225	962	1072

Our comparisons have been based on Adelaide costs as at January 2018 from Origin Energy 'Business Saver Plan' for both gas and electricity. In making our comparisons, we have assumed 327 hours a year usage (three winter months at 3 hours a day, 7 days a week, plus two shoulder months at 2 hours a day, 3 days a week). These are estimates and each installation needs to take its own circumstances and usage patterns into account.

Take a look at our figures and add us to your list of possible options when you next review your heating needs. We believe that short-wave infrared heating is a serious option for consideration, in particular the Star Progetti Heliosa® range of stylish Italian designed heaters with their warm amber heating element.

Call us or email us at info@sbhsolutions.com.au for free design and layout configuration advice, or just to discuss the benefits of short-wave infrared.