



Unity Finance is an Australian Credit Advisory business providing quality finance solutions for the specific needs of individual & corporate borrowers. Uniquely, we reward your sustainability.

Unity Finance rewards GeoExchange clients for doing “good” – July 2015

In a world of rising debt and questionable values, wouldn't it be better if just a small portion of the billions borrowed for property each year rewarded "good" rather than "greed"? Most people would agree with this sentiment - but what is “good”, and where are the financial rewards when it comes to sustainable homes or business premises?

GeoExchange specialises in central air-conditioning & hot water systems that have superior energy performance. **GeoExchange technologies are around 2 times more energy efficient than standard systems. Capital costs, grants and comparative savings can all be included in a mortgage by Unity Finance – so the lower loan interest & avoided system operating costs can add up to more than \$50,000 in lifetime savings*, with no out-of-pocket expenses.**



["There's a treasure in your backyard"](#) by GeoExchange

*To help illustrate the above please see the case study & table on the following pages.

CASE STUDY

The property

- Residential property renovation for a 250m² house in the Southern Highlands, NSW
As part of the works, the clients wanted an integrated central air-conditioning and hot water system (HVAC & HWS) with 15kW of heating and cooling capacity.

The prime cost / operating cost issue

- The clients realised that integrated HVAC & HWS design and installation costs would be the largest of their PC items, easily more than \$20k.
- The clients also learned that HVAC & HWS would be their biggest operating cost item.
- In terms of energy use & maintenance, operating costs might be more than \$150k over a standard systems 20 year lifespan (i.e. after allowing for 5% p.a. price increases).
- So, the clients were motivated to choose the most energy efficient system.

The GeoExchange technology solution

- Absorption of solar radiation / energy by the ground (e.g. 47% of the sun's energy that reaches the Earth) is the renewable energy source of GeoExchange systems.
- In most locations, ground depths greater than 2 to 3 metres provide a stable temperature environment that is around the yearly average air temp. for that location.
- GeoExchange systems utilise solar energy stored within the earth for heating buildings (e.g. a comparatively warmer earth is used as a heat source in winter) and as heat rejection (e.g. a comparatively cooler earth is used as a heat sink in summer).
- Both internationally and in Australia, this technology has been applied at residential, commercial and utility scale levels.
- A GeoExchange system can save you:
 - up to 50 percent on heating & cooling bills compared to standard reverse cycle air-conditioning, or
 - up to 80% compared to LPG boilers of radiant heat systems.
- The above savings are possible because GeoExchange systems access more stable temperatures beneath the earth throughout the year, thereby optimising the efficient use of electrical energy.

The “good”

- For every 2.5 hours of use, a GeoExchange system produces 1 kg less CO₂ than a conventional HVAC system.
- For example, where the grid electricity source is a coal-fired power station, a 15kW conventional system attributes around 16.5 tonnes of CO₂ p.a. compared to just 4.8 tonnes of CO₂ p.a. for a GeoExchange system (* emissions are subject to location).

The rewards


- Unity Finance provides market leading discounted loan interest rates plus private grants of up to \$10k for GeoExchange clients who take up their mortgage option.
- Clients are able to utilise the Unity Finance grant & GeoExchange comparative savings to make optional extra principal reductions for no extra cost, thereby reducing the lifetime loan interest paid on their mortgage.
- The above finance option can help save more than \$50,000 in lifetime loan interest & avoided system operating costs (* based on the average Unity Finance mortgage amount & 15kW GeoExchange HVAC & HWS system – see attached table).

*Note: The products & services of Unity Finance and GeoExchange can be tailored to suit residential or commercial contexts; together with purchase, refinance, renovation or new build situations. Please see the supporting table to the above case study on the next page.

Contact Unity Finance for a free consultation regarding your sustainability rewards

*individual * corporate * community*

Scenario 1 - Southern Highlands, NSW. Economy Ducted (Central-Air) Heating & Cooling with domestic HWS

Savings Comparison ("BAU" Business As Usual v. "SEP" Superior Energy Performance) - after finance					
Details:					
House m2	250	Loan comparison rate, July 2015	4.10%	Electricity Tariff, c/kWh	30
HVAC kW	15	Loan term, years	20		
Base mortgage loan	\$ 600,000	Likely % escalation in energy costs p.a.*	10.00	Escalation % rate adopted p.a. **	5.00
Technologies:			Notes		
Economy Air-Source Heat Pump		GeoExchange Water Furnace Envision2 Compact			
BAU		SEP			
Likely operating costs, 20 yr *escalated	\$ 317,282	Likely operating costs, 20 yr *escalated	\$ 176,086	lifetime op. costs - escalated energy & maintenance	
Operational cost yr. 1	\$ 5,351	Operational cost yr. 1	\$ 3,074	Yr. 1 op. costs (information provided by GeoExchange)	
Capital cost (inc. installation)	\$ 20,100	Capital cost (inc. installation)	\$ 34,940	Capital costs (information provided by GeoExchange)	
less grants	\$ -	less grants	\$ 1,980	Unity Finance grant (i.e. based a mortgage for \$600k)	
Net Capital cost	\$ 20,100	Net Capital cost	\$ 32,960	finance including base mortgage & total project costs	
plus base mortgage loan	\$ 600,000	plus base mortgage loan	\$ 600,000		
Total financed	\$ 620,100	Total financed	\$ 632,960		
Monthly finance cost:					
loan repayments (inc. annual loan fee)	\$ 3,790	loan repayments (inc. annual loan fee)	\$ 3,869	p&i repayments @ 3.99% p.a. (inc. estab. & annual fees)	
less monthly operating savings, yr. 1	\$ -	less monthly operating savings, yr. 1	\$ 190	yr. 1 savings referred to as "unescalated savings"	
Total (after unescalated savings)	\$ 3,790	Total (after unescalated savings)	\$ 3,679	unescalated saving applied to extra principal payment	
		Net monthly comparative savings	\$ 111		
Lifetime Costs:					
Lifetime loan interest	\$ 289,605	Lifetime loan interest	\$ 281,705	unescalated savings (loan interest savings) \$ 7,901	
Escalated lifetime op. costs (**adopted)	\$ 105,131	Escalated lifetime op. costs (**adopted)	\$ 57,303	escalated savings (> yr. 1 op. savings) \$ 47,828	
Total	\$ 394,736	Total	\$ 339,008	Total savings over lifetime \$ 55,729	
		Lifetime Savings (after finance)	\$ 55,729		

Warning:

Comparison rate is based on a \$600k loan over 20 yrs. Comparison rate is applicable only for the examples given and changes in loan terms & conditions will change the comparison rate, not all transaction cc may have been included in the example given. Grants available only on Unity Finance qualifying loans.