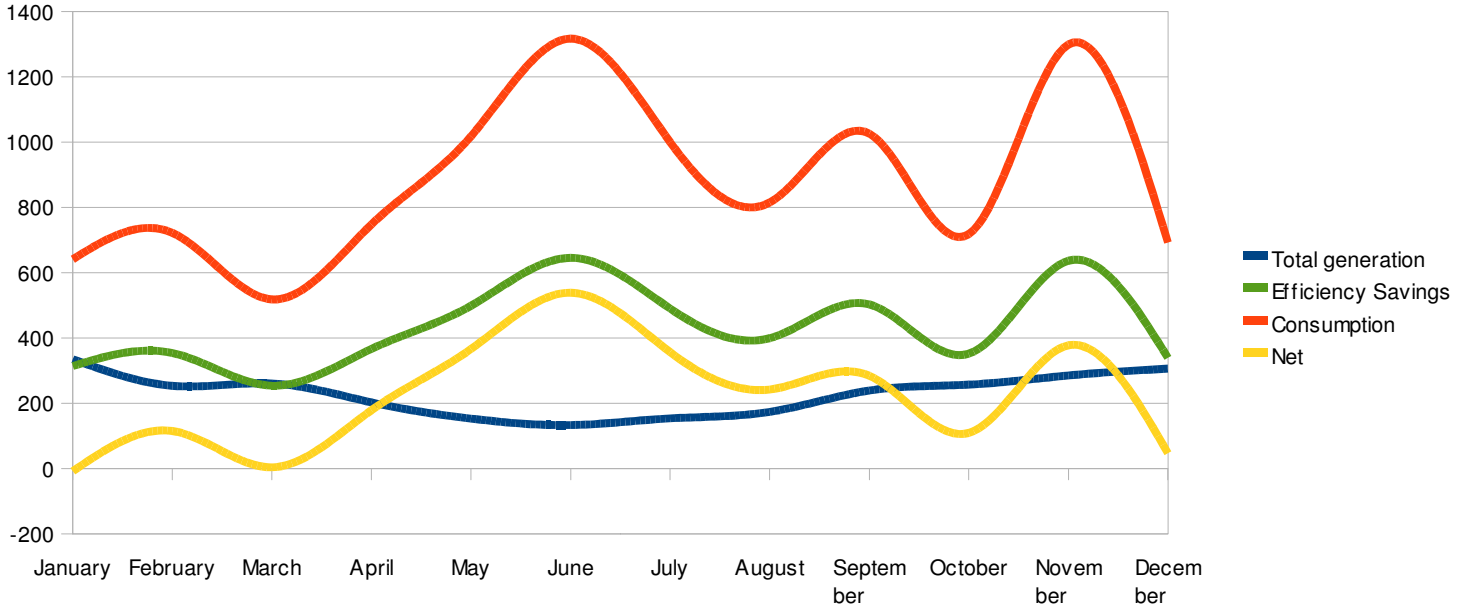
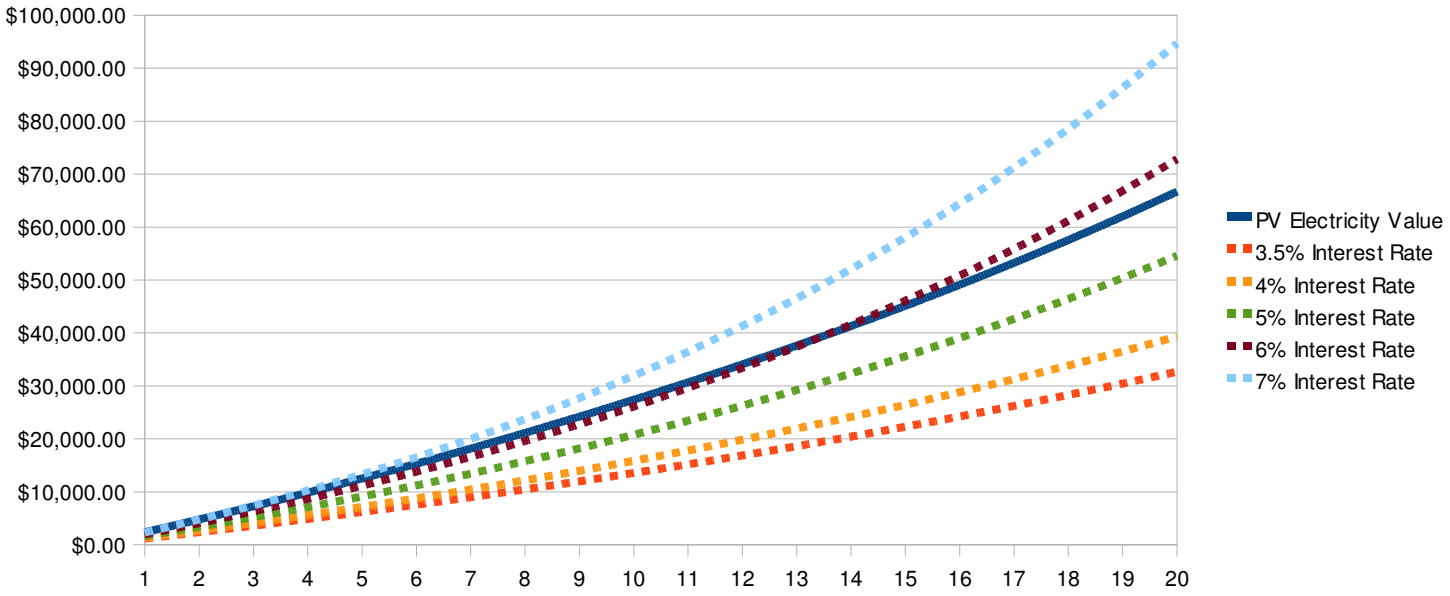
WHATPOWERCRISIS.com
ALTERNATE POWER SOLUTIONS Ph 0508 942 876

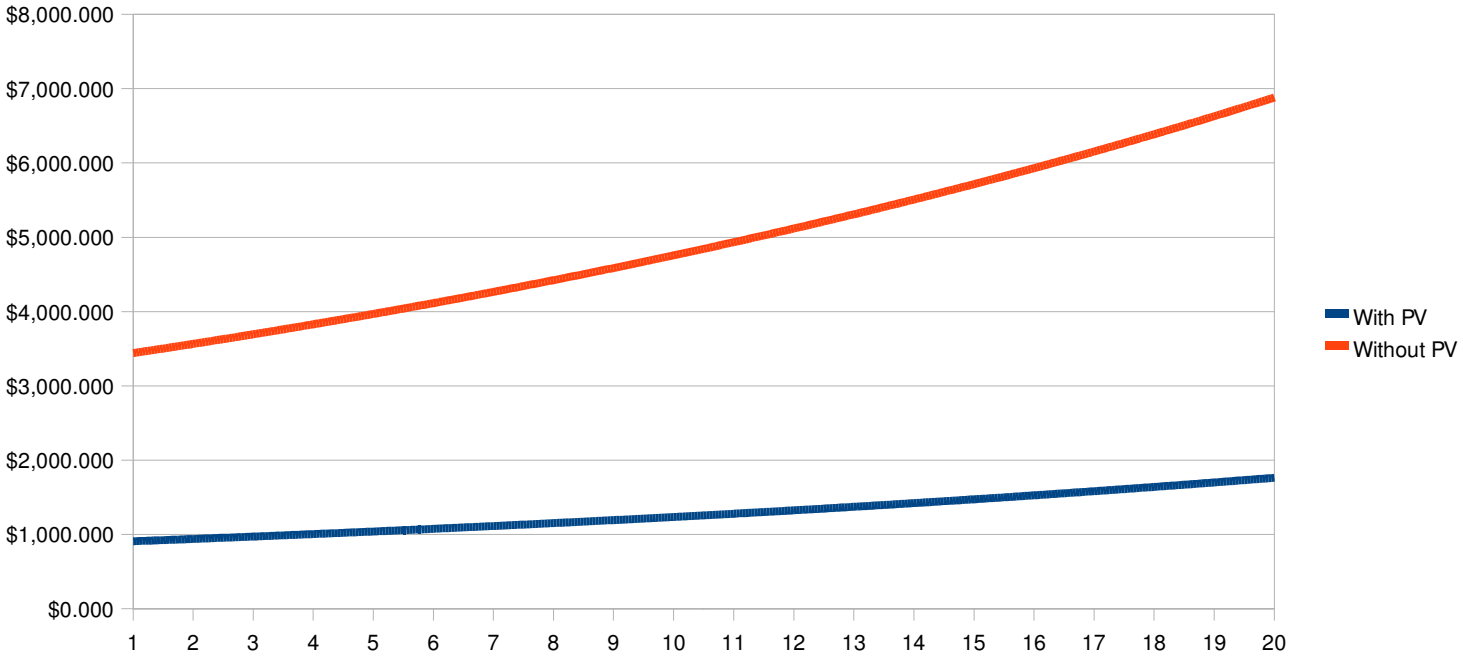
**Client:** North Island Client
**Location** Auckland region
**Date** February 26th, 2010



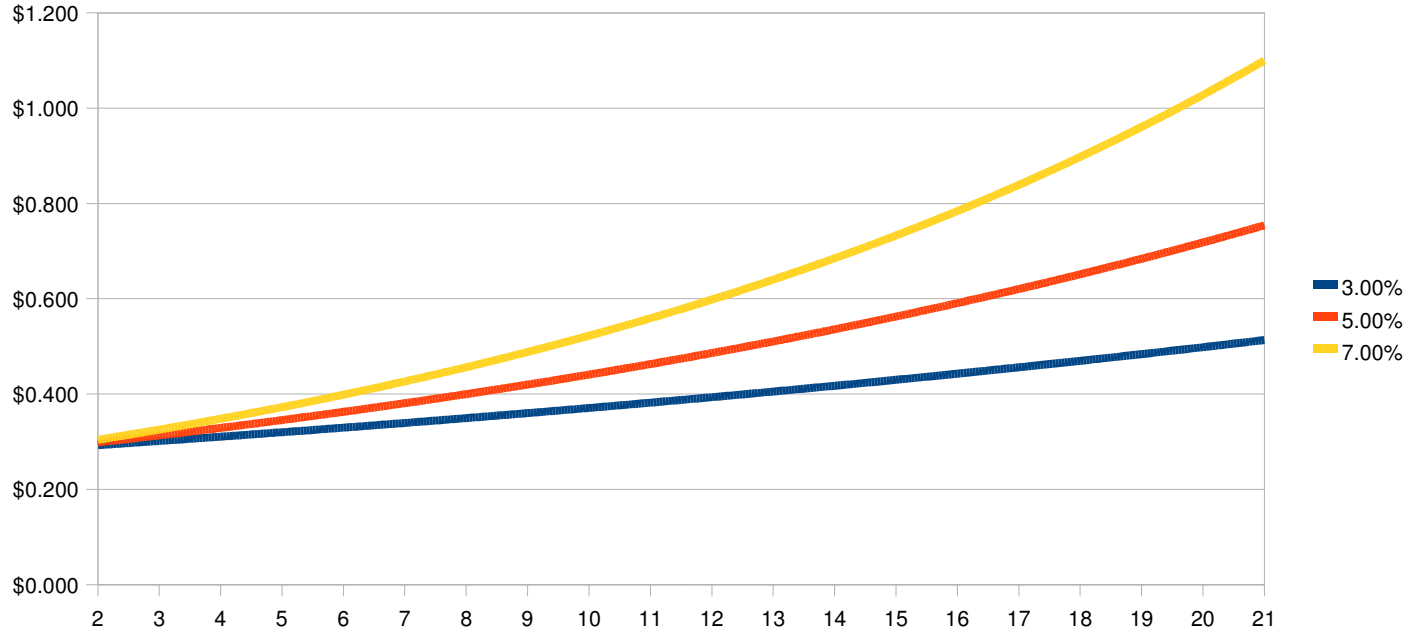

Here you can see the current consumption reduced by the effects of 1.8 kW of tracking photovoltaic modules as well as energy efficiency devices. The goal here to reduce the consumption as far as possible from the average NZ house uses, or 8000 units using energy efficient devices and solar hot water heating. Then we add the generation from the 1.8kW tracking array to get the Net value. NOTE: actual consumption figures are an estimate of what is used in the main house based on the contact energy bills – see the Consumption Model sheet for that calculation. We imagine that the space heating costs will be lower this year due to the double insulated windows.




This chart shows that the upfront cost of the grid-connect system, a solar hot water system, low power refrigerator, and LED light replacements would exceed that of a normal savings account, in terms of payback when power is increasing at 5% annually.




This chart shows your annual power costs with PV + efficiency and without PV and efficiency measure. We are using the assumption of a 5% annual increase in grid-electricity prices. The closer you can bring the generation to actual consumption the flatter that curve is going to look, as the 5% compounding doesn't do much to an initially small number.




This chart is the trends for electric power in kilowatt hours over the next 20 years using different annual percent increases.

# Consumption Model

| Quantity | Appliance | Load (W) | Subtotal (W) | Hours of Operation | Daily Load (kWhrs) | Monthly | Annually |
|---|---|---|---|---|---|---|---|
| 1 | Heaters | 2000 | 2000 | 3 | 6 | 180 | 2040 |
| 40 | Halogen downlights | 50 | 2000 | 6 | 12 | 360 | 4080 |
| 1 | Samsung refrigerator | 80 | 80 | 24 | 1.92 | 57.6 | 652.8 |
| 1 | Computers/Laptops with Monitor | 100 | 100 | 3 | 0.3 | 9 | 102 |
| 2 | Plasma  television | 500 | 1000 | 1.5 | 1.5 | 45 | 510 |
| 1 | Hot Water Cylinder | 2500 | 2500 | 2.5 | 6.25 | 187.5 | 2125 |
| 1 | Oven and Kitchen Appliances | 1000 | 1000 | 1.5 | 1.5 | 45 | 510 |
| | **SubTotal** | | | | **29.47** | **884.1** | **10019.8** |
| | **Misc 15%** | | | | | | **1502.97** |
| | Total | | | | | | 11522.77 |

| Quantity | Appliance | Load (W) | Subtotal (W) | Hours of Operation | Daily Load (kWhrs) | Monthly | Annually |
|---|---|---|---|---|---|---|---|
| 1 | Heaters | 2000 | 2000 | 3 | 6 | 180 | 2040 |
| 40 | LED downlights | 6.5 | 260 | 6 | 1.56 | 46.8 | 530.4 |
| 1 | Ultra low power refrigerator | 20 | 20 | 24 | 0.48 | 14.4 | 163.2 |
| 1 | Computers/Laptops with Monitor | 100 | 100 | 3 | 0.3 | 9 | 102 |
| 2 | OLED  television | 260 | 520 | 1.5 | 0.78 | 23.4 | 265.2 |
| 1 | Hot Water Cylinder | 2500 | 2500 | 1 | 2.5 | 75 | 850 |
| 1 | Oven and Kitchen Appliances | 1000 | 1000 | 1.5 | 1.5 | 45 | 510 |
| | **SubTotal** | | | | **13.12** | **393.6** | **4460.8** |
| | **Misc 10%** | | | | | | **446.08** |
| | Total | | | | | | 4906.88 |