



The Brown Solar House

A Residential Photovoltaic Electrical Generating System

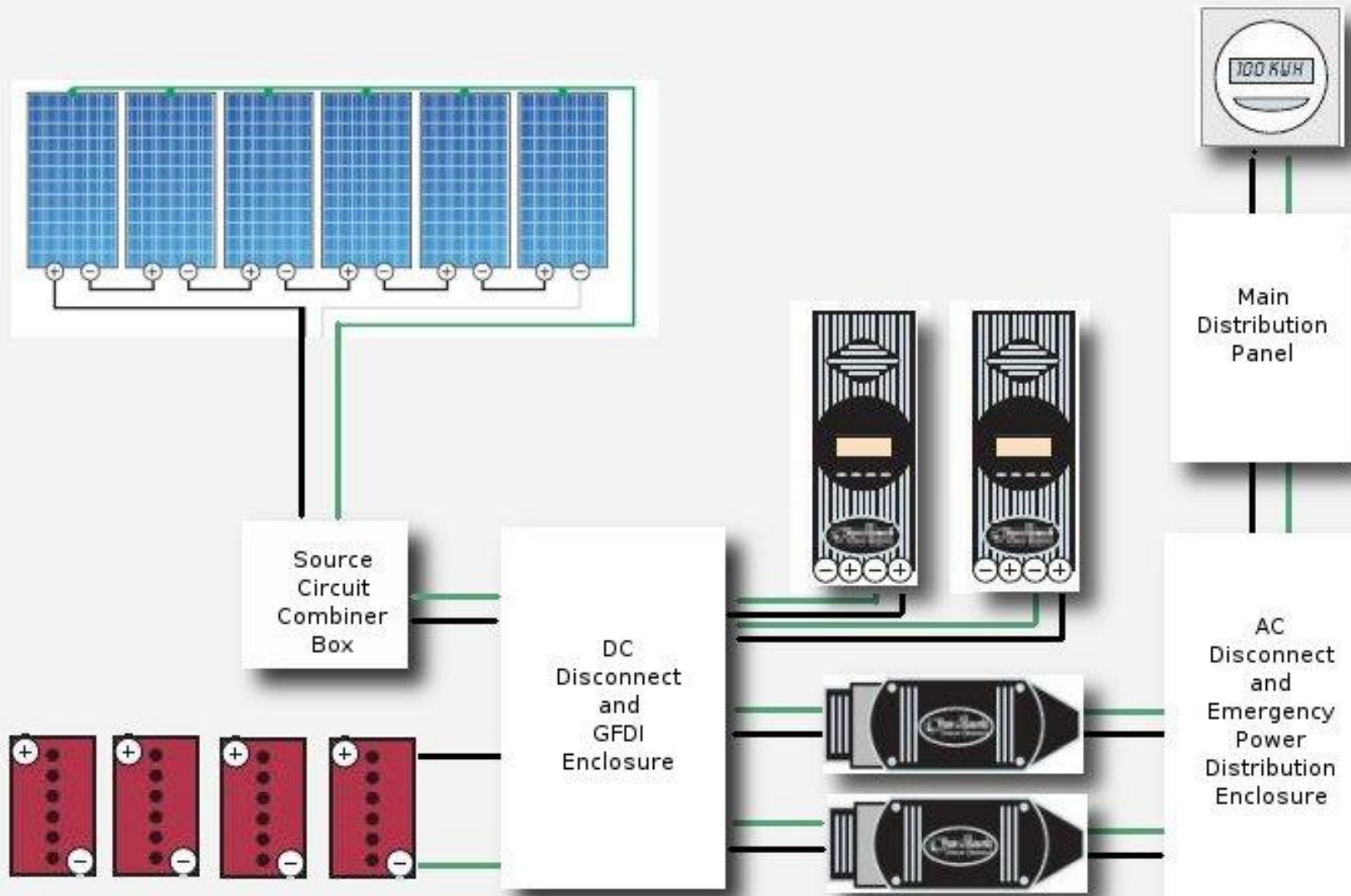
System Components

Our system consists of:

- 22 Sanyo HIP200-BA3 200 watt photovoltaic modules**
- 2 Outback Power Systems GVFX-3648 inverters**
- 2 Outback Power Systems MX-60 charge controllers**
- 8 Concorde PVX-2240T backup batteries.**

The roof mounted panels consist of two arrays. One 1.6 kw array faces south and the other 2.8 kw array faces west providing a total of 4.4 kw capacity. The batteries can power our emergency circuits for several hours insuring uninterrupted power to our lighting, computers, and refrigerators

Simplified System Schematic



How Much Did It Cost?

System Initial Cost	\$48,721
State of Florida Rebate	-\$17,600
Federal Tax Credit	-\$
2,000	
Net Cost	\$29,121

Years to Break Even

Average annual offset based on \$ 0.12 per KWH = \$ 1073.75

Payoff at \$ 0.12 KWH = 26.37 years

Payoff at \$ 0.13 KWH = 24.28 years

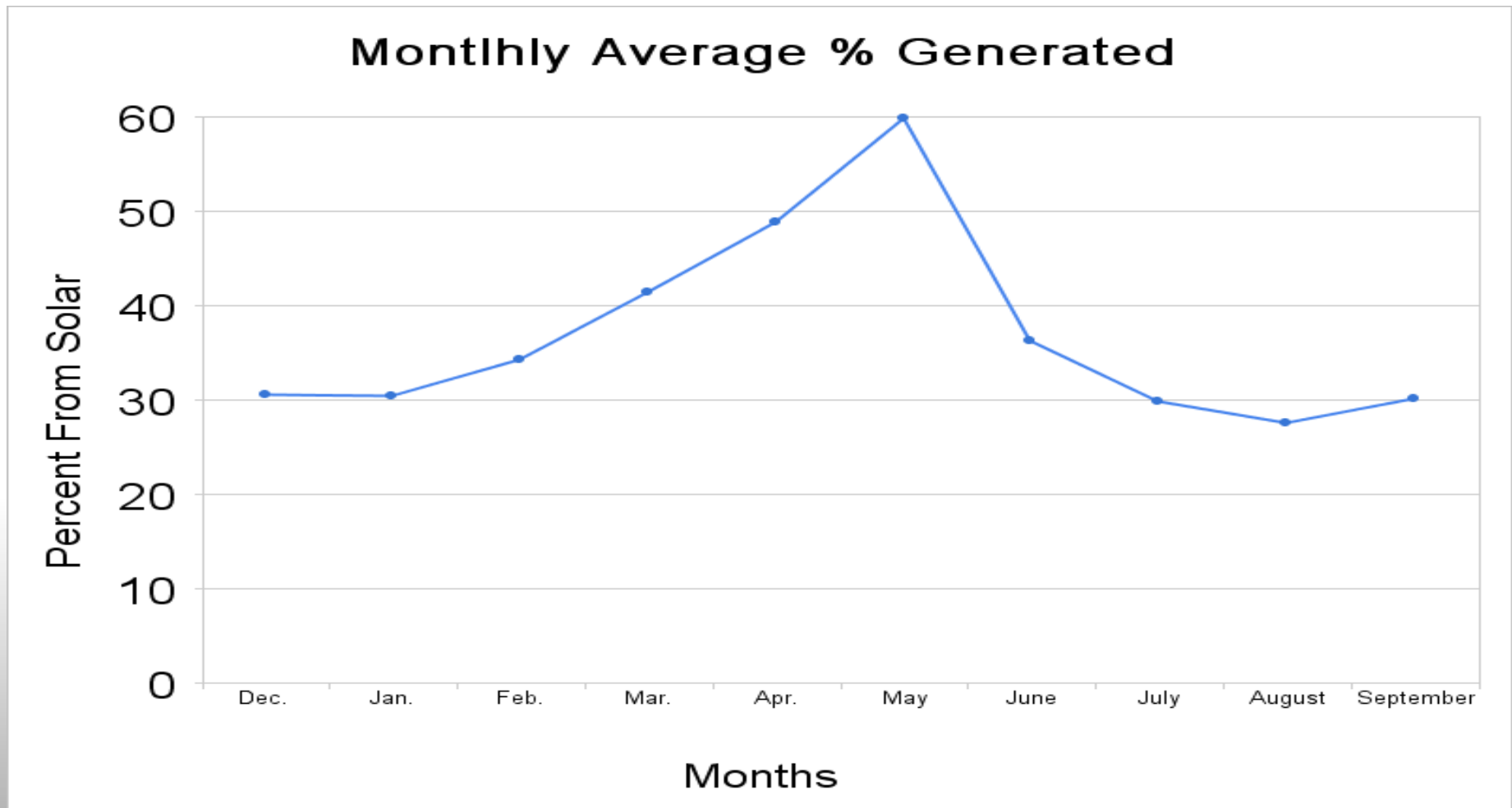
Payoff at \$ 0.14 KWH = 22.49 years

Payoff at \$ 0.15 KWH = 20.94 years

Payoff for whole house generator = ?

How Much Does It Generate?

Monthly



Interesting System Statistics

System designed for 27 KWH per day

Max Daily KWH Generated 30

Max Daily Percent Generated 117 percent

Average Daily KWH used 50

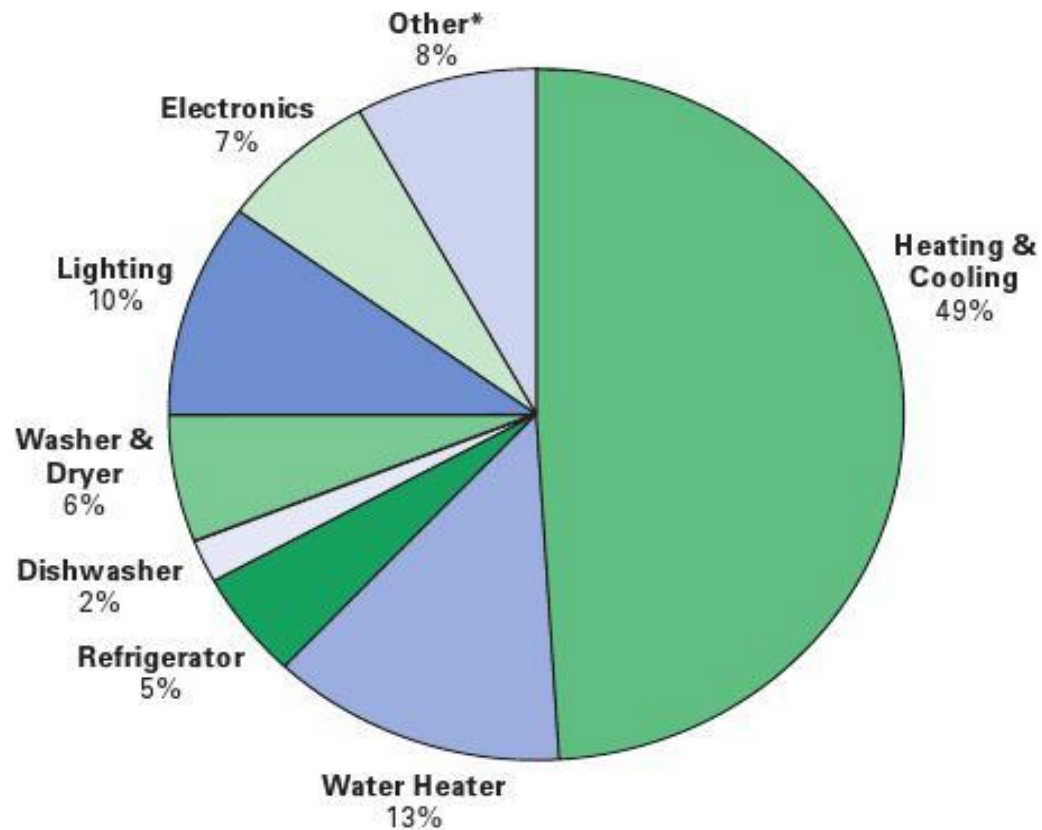
Average Daily KWH Generated 18.2

Average Daily KWH Purchased 34.21

Average percent generated 36.4 %

Typical Energy Usage

Typical Household Energy Use



*Other represents an array of household products, including stoves, ovens, microwaves, and small appliances like coffee makers and dehumidifiers.

Courtesy of www.energystar.gov

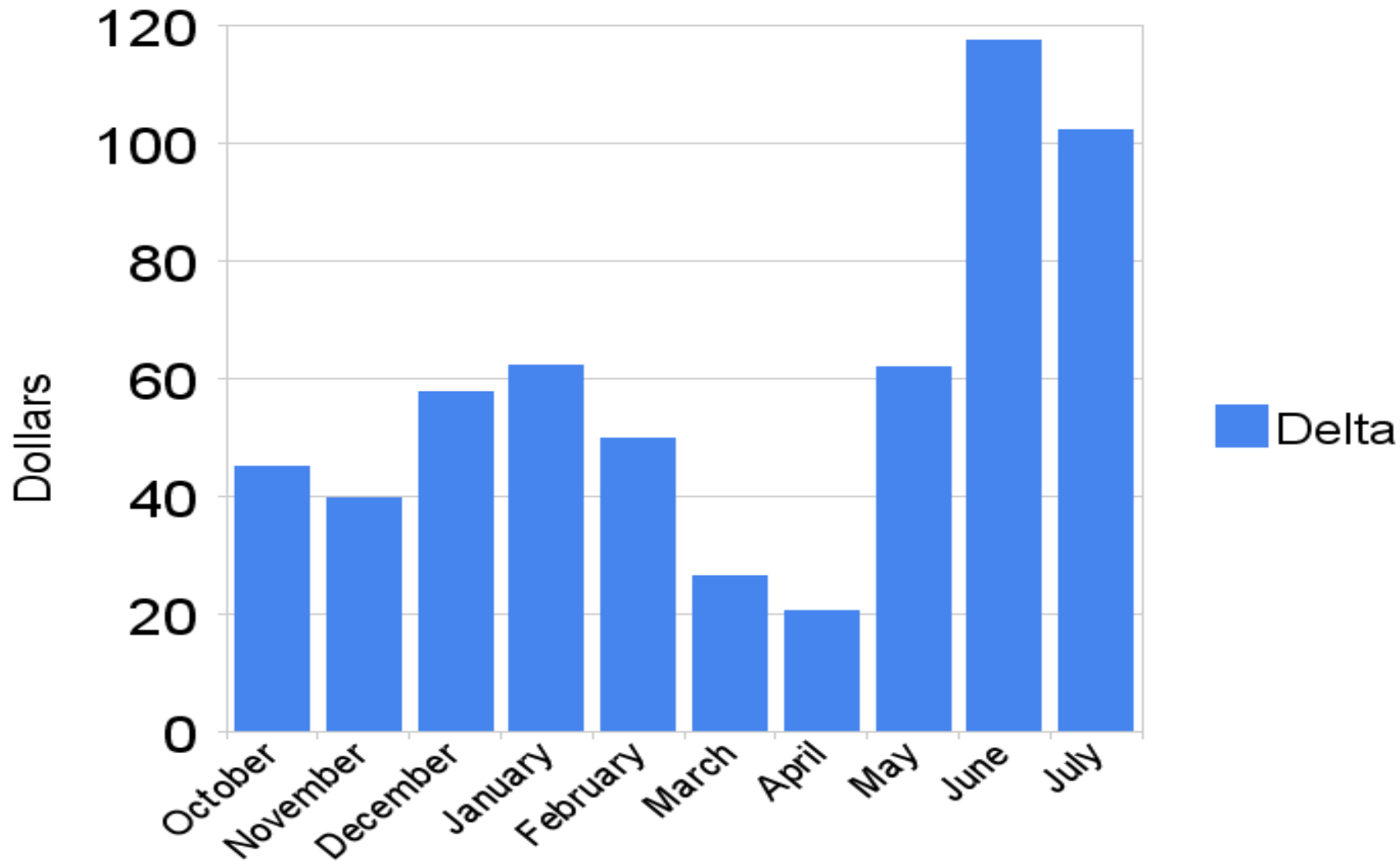
Kill-A-Watt



Cheapest and most expensive device you will ever buy.

Impact On Monthly Bills

Dollar Difference Monthly Bills (Sell back not accounted for)



Benefits

- Uninterruptable power for whole house
- No maintenance
- Automatic switchover upon grid loss
- Generates power every day
- Silent operation
- Eventually pays for itself
- Higher benefit if grid rate increases
- No fuel worries
- Reduced carbon footprint
- Generates more when grid demand is high (hot and sunny)

References

<http://www.bbbrown.com>

<http://bbbrown.mysolarlog.com>

<http://www.mysolarlog.com>

<http://www.solarhouse.com/>

<http://www.theenergydetective.com/>

The Brown's Website

Our live energy production

Energy monitoring software

The Maine Solar House

The Energy Detective