

AKARI ENERGY



Houston-Galveston Area Council



Solar Power Can Work for You

Introduction to Akari Energy

is the Japanese word for *Sunlight*

Providing engineered solutions to capture energy from the Sun in the most cost effective and efficient method possible.

Akari

A world map is visible in the background, rendered in a light blue color against a darker blue gradient. The map includes latitude and longitude lines, creating a grid pattern. The text is centered within a white rectangular box that has a thin dark blue border.

SOLAR POWER

Can It WORK?

Kilo-Watt versus Kilo-Watt-Hour:

- Kilo-Watt (kW) is the **SIZE** of the Electric Generating System
- Kilo-Watt-Hour (kWh) is the **AMOUNT** of Electricity created by the Generating System

Kilo-Watt X Hours Generated or Used

**Your Electric Bill is Charged based on:
\$/kWh**

Capital Costs per kW

3 YEARS AGO

\$7,000

\$6,000

\$5,000

\$3,000 to \$6,000

\$4,000 to \$5,000

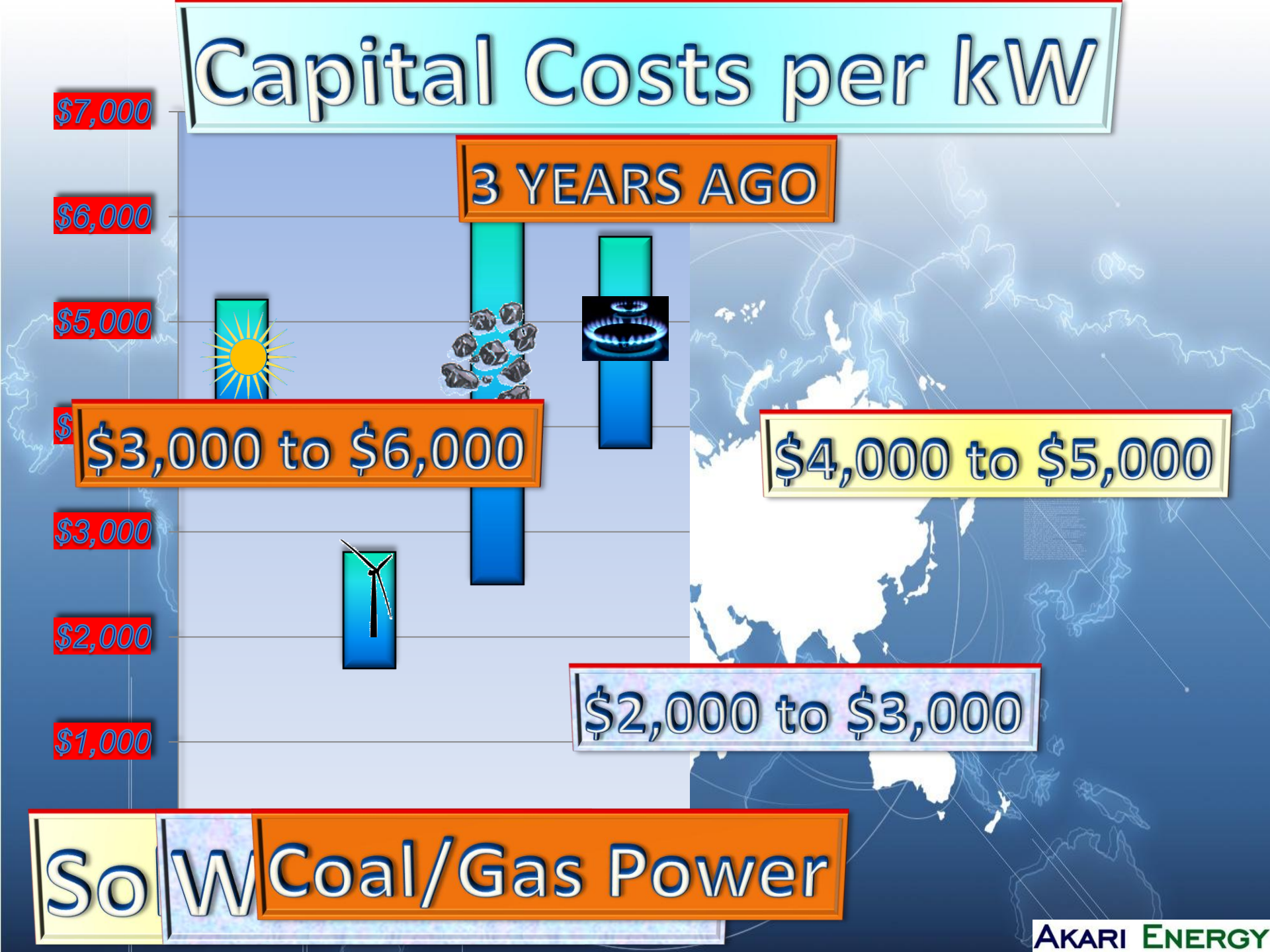
\$3,000

\$2,000

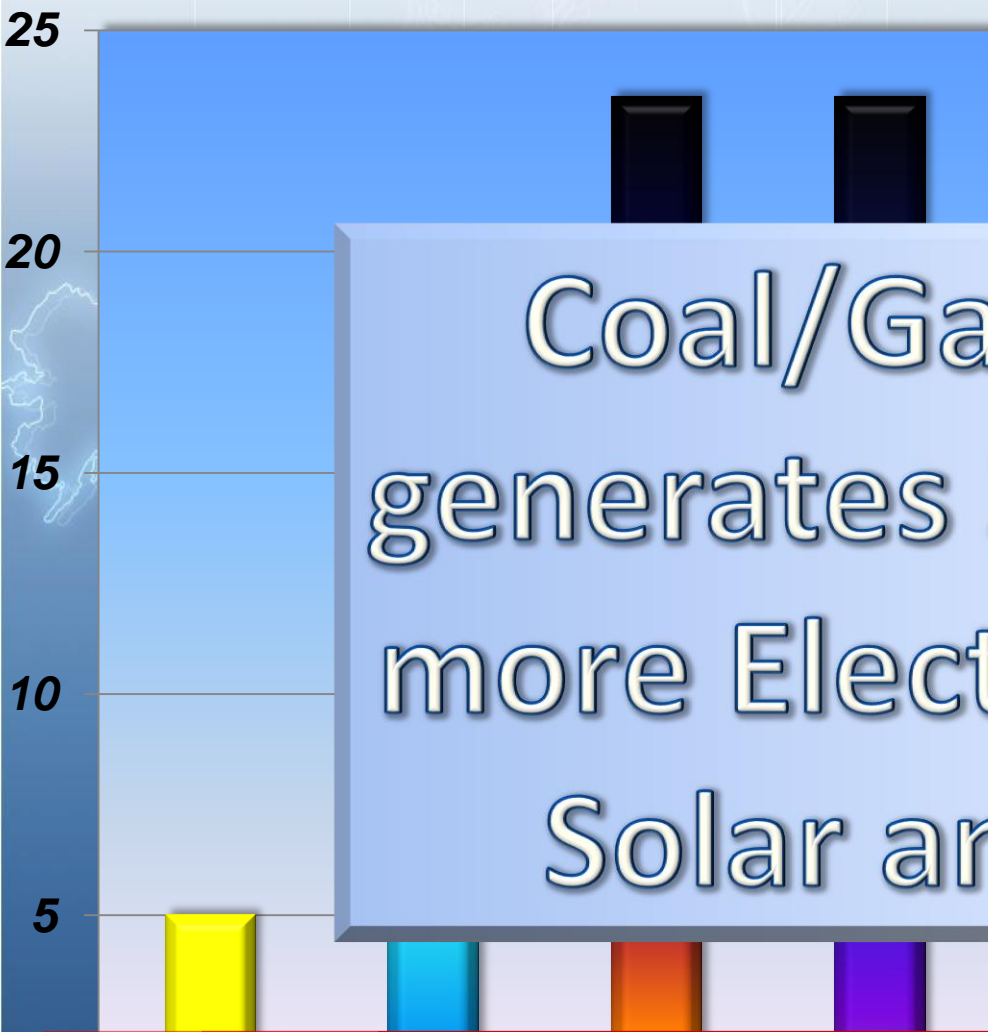
\$2,000 to \$3,000

\$1,000

So **W** Coal/Gas Power



Power Generation – Hours of Generation



Coal/Gas Power generates 3 – 5 times more Electricity than Solar and Wind

So Wi Coal/Gas Power – 24 hours

Capital Costs per kW

SOLAR POWER TODAY

\$7,000

\$6,000

\$5,000

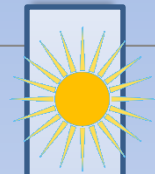
\$4,000

\$3,000

\$2,000

\$1,000

\$0



Solar

Wind

Coal

Gas

\$1,000 – 5,000

Solar Insolation – Average Hours of Sunlight per Day



Sun Hours determines the best Solar Power Location

Solar Power Today:

- Kilo-Watt (kW) Costs are **LOWER** than other electric Generating Systems
- Southern Areas of the USA have **MORE SUN HOURS**

LOWER COSTS X More HOURS GENERATING

**Grid Parity Achieved in Southern Areas
based on
\$/kWh**

The background of the slide is a light blue world map with white grid lines representing latitude and longitude. The map is centered on the Atlantic Ocean. A white rectangular box with a thin blue border is positioned in the upper half of the slide, containing the main text.

SOLAR POWER

How does it WORK?



es

The background of the slide is a light blue world map with white grid lines representing latitude and longitude. The map is centered on the Atlantic Ocean. A white rectangular box with a thin blue border is positioned in the upper half of the slide, containing the main text.

SOLAR POWER

How it CAN WORK

KANEKA TEXAS – LOCATED IN PASADENA JUST SOUTHEAST OF HOUSTON





SOLAR POWER DETAILS

- 486 KTC UA110 solar modules which are 110 Watts each
- SMA Sunny Tower Inverter
- AET solar roof racking with No Penetrations
- Ballasted roof system designed to resist 120 mph winds

Case Study: Kaneka Texas

Located In Pasadena Texas

53.46 kilo-Watt (kW)



SOLAR POWER BENEFITS

- Covers the entire Administration Building
- Provides most of the power of the building
- Uses unused roof space
- Protects the roof from sunlight

Ca
Lo
53



SO

- Roof Safety
- Lifting 1
- Wiring 8



Plant Profile

Energy and Power

Annual Comparison

Visualization

Plant overview

Energy and power

Specific yield

For Data Download (Monthly)

Plant overview_1

> Report (2)

> Devices (7)

> Sensors (1)

User Info/Logout

Plant overview

Page Configuration

Help

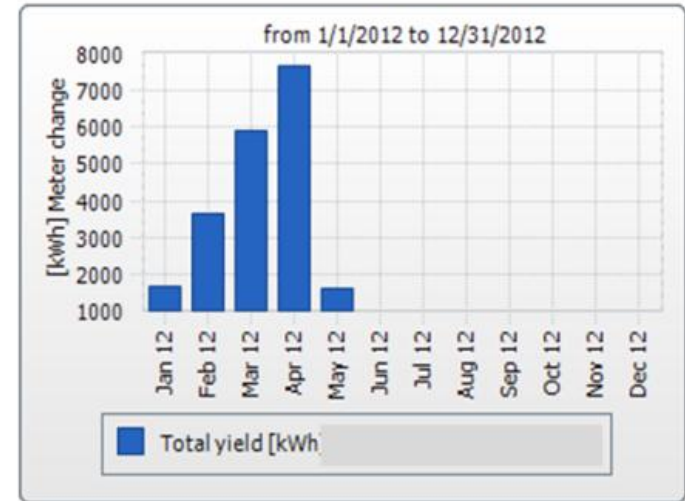
Date:
5/7/2012

Energy:
27,183.28 kWh

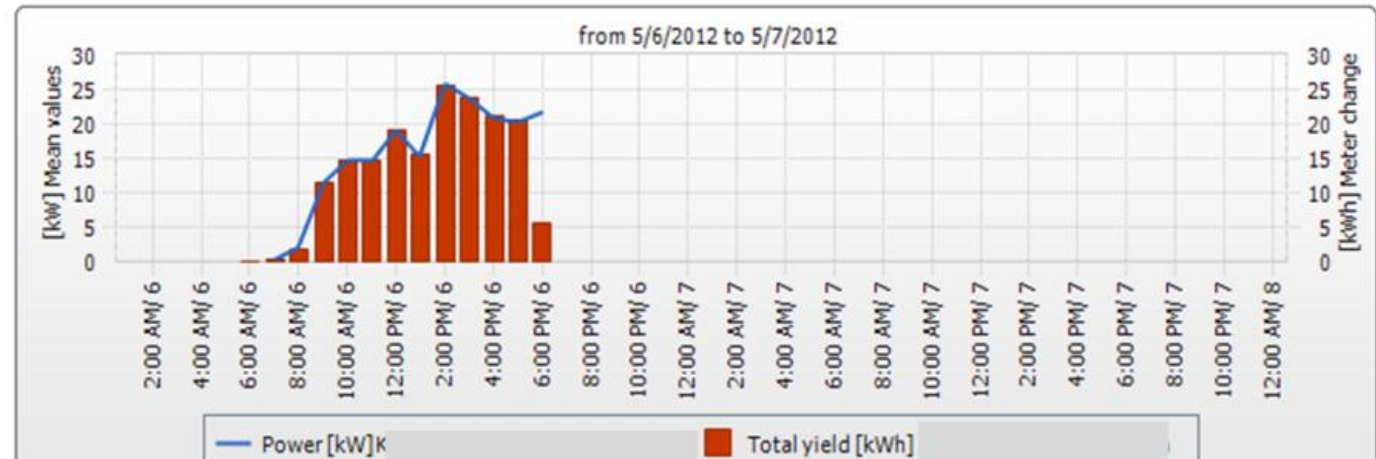


CO2 avoided:
19,028.30 kg

Reimbursement:
11,691.53

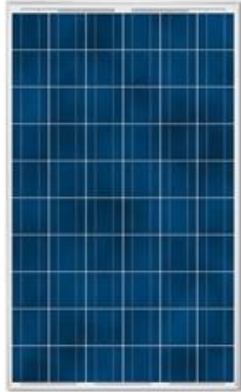


1/1/2012 - 12/31/2012



RMS FOODS – LOCATED IN SOUTHERN NEW MEXICO NEXT TO TEXAS





SOLAR POWER DETAILS

- **910 Conergy PM240P solar modules which are 2400 Watts each**
- **2 Schneider Electric Inverters**
- **Conergy solar roof racking with No Penetrations**
- **S5! Clamps securing the racks to the roof**

Case Study: RMS Foods

Located In New Mexico

219 kilo-Watt (kW)



SOLAR POWER BENEFITS

- Covers the Cooler and Freezer roofs
- Provides significant power to the building
- Uses unused roof space
- Protects the roof from sunlight
- Cools the roof and building below the roof



- Roof Safety
- Lifting materials
- 480 Volts AC
- Three phase system
- Connecting the solar power system while RMS in production





70°F



130°F

**Reduced the Building Temperature by
20-30°F**

**Roof W
(70°F)**



**Temperature
Difference =
60°F**

21°C

**Not Shaded
by Solar
Panels**

Case Study: RMS Foods

Located In New Mexico

219 kilo-Watt (kW)

FOOD PROCESSOR



ROOF COOLING EFFECT:

- 60°F cooling of the Roof
- 20-30°F cooling of the building interior
- Reduced Cycling of AC equipment
- Lower Transition Air temperatures
- **DOUBLES THE KWH SAVINGS**

RESIDENTIAL SOLAR – LOCATED IN SOUTHERN LOUISIANA





SOLAR POWER DETAILS

- 78 Kyocera 220 solar modules
- 4 Schneider Electric Inverters
- Unirac solar roof racking
- Attic Insulation Added

Case Study: Res. solar

Located In Louisiana

17 kilo-Watt (kW)



SOLAR POWER BENEFITS

- Covers the residential roof
- Cut their electric bill in half
- Uses unused roof space
- Protects the roof from sunlight
- Cools the roof and building below the roof



surfaces



- Superior solar performance
- On-site solar monitoring
- Energy Efficiency



RICE UNIVERSITY



SOLAR POWER

CAN Solar Power WORK for You?

YES!

Houston-Galveston Area Council and Akari Energy

The logo for Akari Energy features the word "AKARI" in a bold, black, sans-serif font, followed by the word "ENERGY" in a bold, green, sans-serif font. The text is centered on a white horizontal bar that is superimposed over a stylized world map with glowing blue outlines and grid lines.

AKARI ENERGY

Making Solar Power Work for YOU

