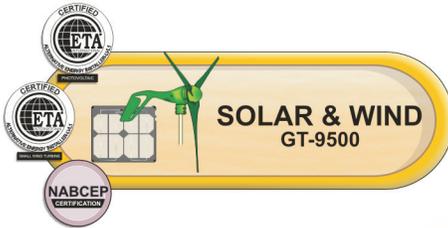


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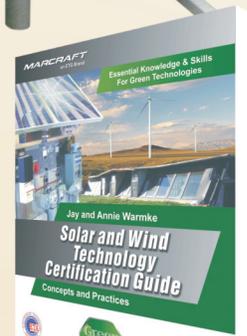
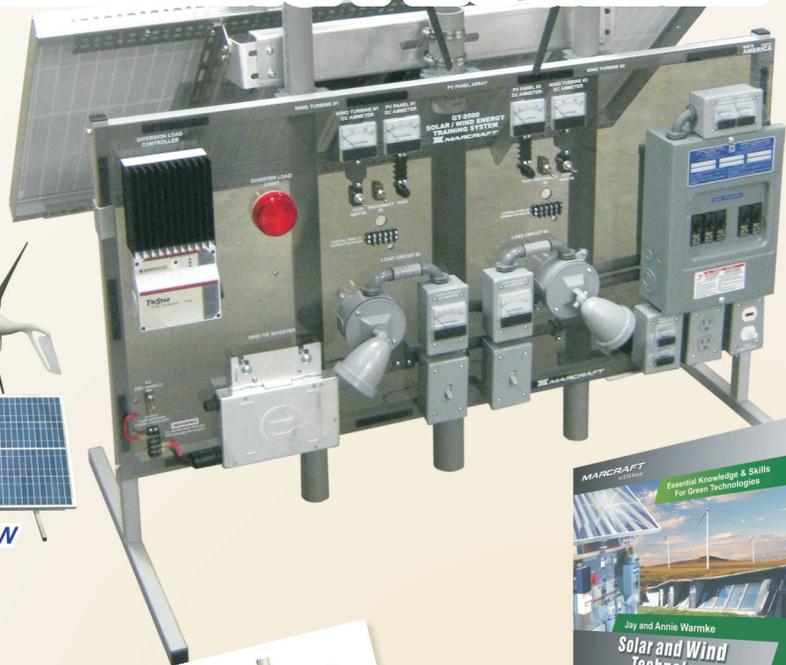
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# SOLAR PANELS WIND TURBINES



## SOLAR/WIND ENERGY TRAINING PROGRAM



### HANDS-ON LAB GUIDE

#### Alternative Energy Generation

- History of fossil fuels
- Environmental concerns & price convergence

#### Energy and Power

- Types of energy
- Electrical loads

#### Passive Solar Systems

- Angular and reflective light
- Passive solar heating, cooling and shading
- Convective and evaporative cooling

#### Active Solar Systems

- Photovoltaic modules and ratings
- Inverters and metering
- Thermal heating and collection

#### Design & Installation of Residential Scale Photovoltaic Systems

- Mounting & orientating PV modules
- Battery systems and wiring
- PV charge controllers
- Grid-tie metering

#### Troubleshooting PV Systems

- Locating and isolating bad panels
- Locating bad terminals, wiring and connectors

#### Wind Power Technology

- Global and localized wind patterns
- Windmills and electricity
- Measuring and scaling wind speed
- Wind farms

#### Wind Turbine Design

- Rotor blades and shaft design
- Pitch, flaps, yaw and furling
- Towers types and design

#### Design & Installation of Residential Scale Wind Turbine Systems

- Site suitability & system sizing
- Load determination
- Installation and safety
- Grid-tie metering

#### Troubleshooting Wind Turbine Systems

- Locating bad terminals, wiring and connectors
- DC storage control

#### Building Codes and Compliance

#### Understanding Blueprints

#### Reinforced with Hands-on Labs



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