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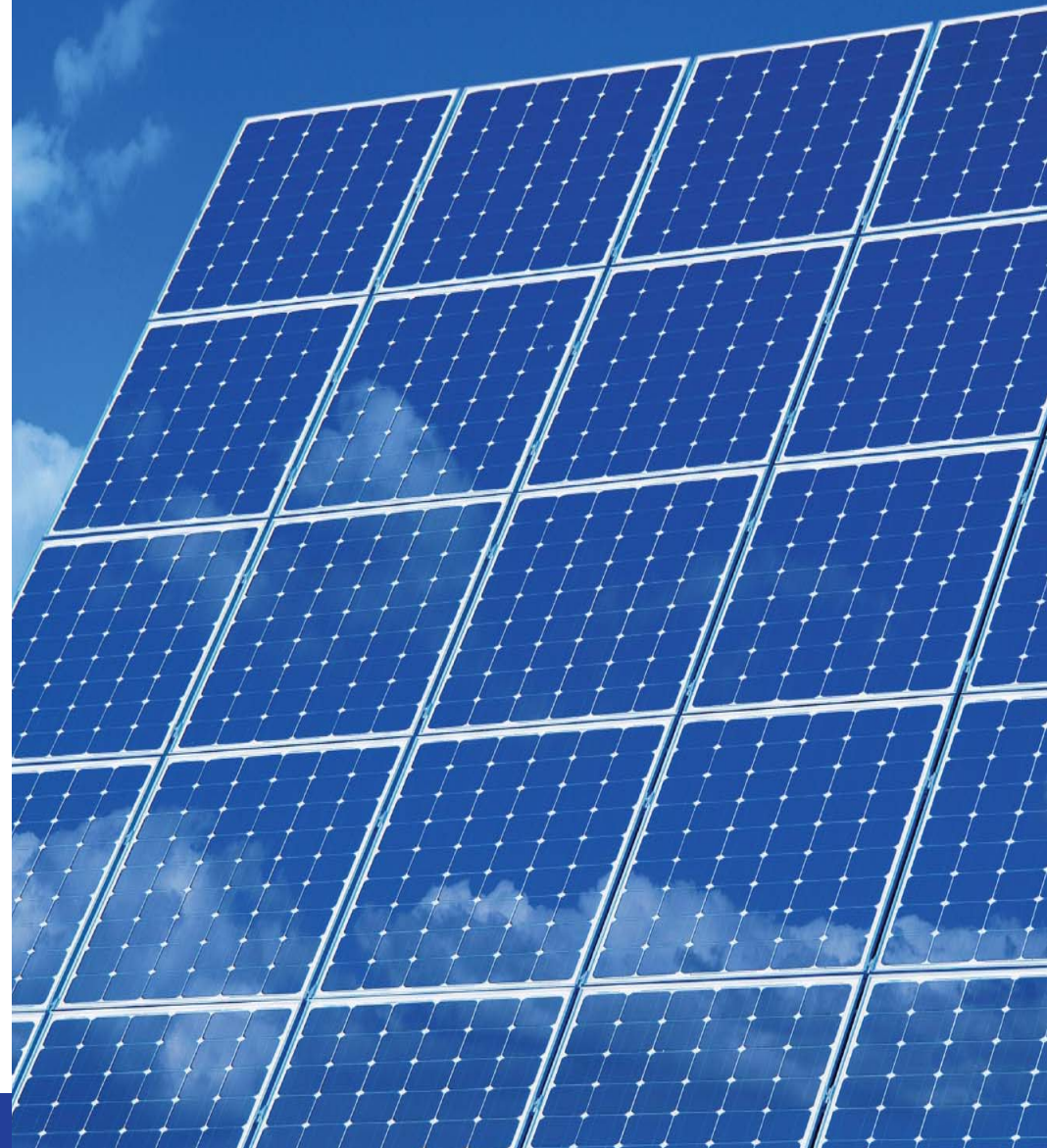


**NANCY WARD**  
Freeholder

UNION COUNTY IMPROVEMENT AUTHORITY

# RENEWABLE ENERGY IN UNION COUNTY

2010 ALTERNATIVE POWER INITIATIVE



*“I’d put my money on the sun and solar energy. What a source of power! I hope we don’t have to wait until oil and coal run out before we tackle that.”*

*~ Thomas Edison*

## 2010 Union County Improvement Authority

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## 2010 UNION COUNTY RENEWABLE ENERGY INITIATIVE

The County of Union, through the Union County Improvement Authority (UCIA), is pleased to announce a Countywide Renewable Energy Program. This \$500,000 initiative will be offered to all municipalities, public school districts, and local authorities within Union County and will consist of having renewable energy sources such as solar panels or wind devices (hydro-power also may be an option) installed on buildings or grounds identified by each respective participating entity with the goal of accomplishing the following results:

- Permitting your municipality, school district or local authority to partner with the UCIA as a program participant and GO GREEN;
- Reducing a portion of your local entity’s dependence on retail electricity while not requiring your entity to incur any out-of-pocket costs;
- Structuring the financing through the UCIA in a manner that will have all debt issued through the UCIA;
- Better pricing of the power purchase agreement, lower cost of project installation and the ability to offset other capital projects.

The State of New Jersey Master Plan calls for municipalities to meet or exceed a goal of 30 percent renewable energy by 2020. With the UCIA as the lead implementing agent, local governments have the ability to begin Going Green with renewable energy. This will reduce energy costs, result in budget certainty and savings while providing many other significant benefits outlined in this booklet.

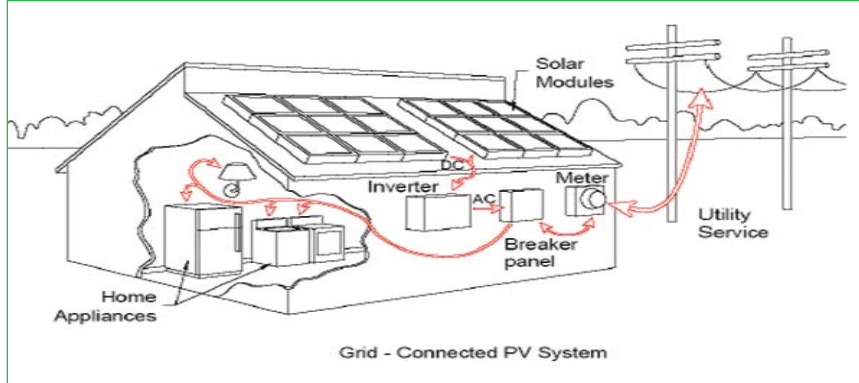
The time to Go Green is now. The Union County Improvement Authority is here to assist you.

*“The exciting thing about the energy technology revolution is that it spans the whole economy, from green-collar construction jobs to high-tech solar-panel designing jobs. It could lift so many boats”.*  
~ Thomas Friedman

# SOLAR ENERGY

## WHAT YOU NEED TO KNOW TODAY.

Solar power systems convert energy in sunlight directly into electrical energy. This conversion (based on PV effect) occurs within solar cells which are electrically interconnected into solar modules.



## THE BENEFITS OF GOING SOLAR:

- Provides clean, renewable source of power
- Enables you to more accurately budget your utility costs
- Lowers your cost of energy
- Protects you from the market fluctuations of the electric markets
- Provides a hedge against electric price increases. Due to the constraints of NJ's power infrastructure and the increasing demand for electricity, costs are likely to continue to rise.
- Reduces our dependency on foreign oil;
- Provides an excellent learning tool for students, teachers, employees and residents.
- Enables Local Unit to comply with the Governor's mandate and the State's Energy Master Plan to reduce energy and carbon footprint.

## ITEMS TO CONSIDER BEFORE INSTALLING SOLAR PANELS

**AVAILABLE, UNOBSTRUCTED, ROOF SPACE**

**SOUTHERN EXPOSURE**

**EXISTING CONDITION OF ROOF**

**SHADING**

**EXISTING ELECTRIC DEMAND/USAGE**

**LOCATION OF ELECTRIC SERVICE TO FACILITY**

**BUDGET/FINANCING THROUGH THE UCIA**



## TYPES OF SOLAR PANEL SYSTEMS

- Roof Mounted Flat (penetrating and non-penetrating)
- Roof Mounted/Tilted (penetrating and non-penetrating)
- Roof-Integrated
- Ground Mounted – Fixed
- Ground Mounted - Tracker
- Parking Lot/Canopy

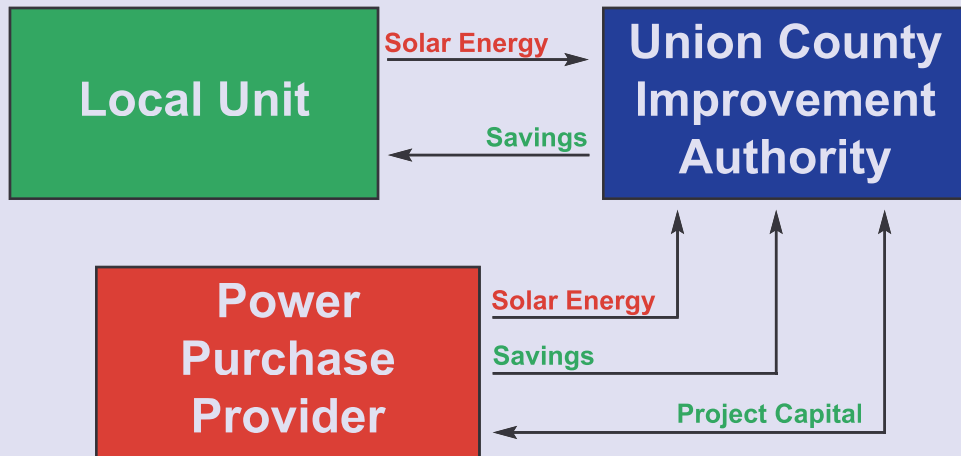
*“It is time for us to lay a new foundation for economic growth by beginning a new era of energy exploration in America”.*

*~ President Barack Obama*

## ECONOMICS OF A SOLAR PROJECT

- UCIA Solar Financing Model
- Electric Cost Savings
- Solar Renewable Energy Certificates (SRECs)
- Federal Investment Tax Credit (30% of capital cost)
- Accelerated Depreciation
- Net Metering

### POWER PURCHASE AGREEMENT (PRIVATE)



- UCIA bonds backed by County of Union
- Under private option, there is no local unit debt
- Lower cost of solar feasibility analysis
- Lower cost of project installation
- Better pricing of the power purchase agreement
- Ability to offset other capital projects
- Budgeting certainty
- Compliance with DCA Notice 2008-20, December, 2008, and 2009-10, June, 2009.

## Here is How You Can Participate in the UCIA Renewable Energy Program

Contact UCIA Project Director Mark Brink either by phone (908-820-9710), fax (908) 820-9874, or e-mail at [ucia@verizon.net](mailto:ucia@verizon.net). The UCIA will provide you with a facility survey. Please complete the questionnaire and submit it to the UCIA by February 15, 2010.

UCIA's energy consultant, PMK Group, Inc., will contact you and arrange for site visits at all facilities to conduct a solar feasibility analysis.

After the site inspections are complete, a preliminary financial analysis will be prepared and submitted to the Local Unit. The purpose of this analysis will be to identify the buildings that are eligible to have solar panels installed, the approximate size of the photovoltaic system, and the economic value generated by the proposed system.

Once the site inspections and financial analyses are complete, a bid specification will be prepared and issued to receive proposals for a large-scale Power Purchase Agreement (PPA).

