Is solar PV right for your building?

Prior to the installation of a solar photovoltaic (PV) system in your home, there are some conservation measures that should be taken to reduce your current energy use. These measures will not only reduce energy investments and greenhouse gas emissions, but may also allow for the possibility of installing a smaller PV system. Some examples of such conservation measures include:

- A preliminary FREE energy and water audit from Tallahassee City Utilities at 891-4YOU or Talquin Electric at 627-7651.
- LED light replacements and retrofits
- Additional insulation in your attic
- Weather stripping
- Heating and air vent sealants
- HVAC cleaning and maintenance
- Upgraded HVAC units with higher energy efficiencies
- Appliances with higher energy efficiencies

Installation:

The 2014 Edition of the Florida Building Code (FBC) and the 2011 National Electrical Code (NEC) require permits and inspections for solar PV and thermal water heater installations. The FBC requirements include a wind analysis of the host structure prepared by a Florida Register Engineer. This document is required to ensure that the panels have been attached properly and can withstand hurricane force winds up to 120 mph. Additional requirements include field inspections to verify the proper installation of the panels to the roof system, or foundation if the system is ground mounted.

The NEC outlines the proper installation of all electrical components of the PV system. Obtaining a solar permit may require review approvals within Development Support and Environmental Management (DSEM), including Development Services and Environmental Services. To assist with timely review and permit issuance, please contact the Building Plans Review and Inspection Service Advisor at 606-1300 to get complete permit application and inspection information.

Required Submittal Documents:

1. A building permit application will need to be completed for all solar installations. The application can be accessed online at www.LeonCountyFL.gov/DSEM/Applications.
2. The manufacturer’s installation instructions of the solar panels.
3. An electrical diagram of the system and all electrical connections, including inverter placements and system disconnect locations. Electrical connections shall be completed by a Florida licensed electrical contractor.
4. A wind load analysis for 120 mph (3 second gust) hurricane-force winds.
5. If the system is to be ground mounted, additional information shall include a site plan to show location of the proposed structure in relation to existing improvements, property boundaries, trees and/or easements.

**Other Reviews and Approvals:**

1. If trees are to be removed as a component of the solar installation, an environmental permit will be required as outlined in the County’s Land Development Code (LDC).
2. Ground-mounted solar installations are considered to be accessory structures, and will require a Project Status Determination. As a result, the proposed improvement will be subject to the applicable accessory structure requirements noted in the County’s LDC.
3. After review and approval of the building permit, the licensed contractor for the solar installation may wish to expedite the permitting process for future installations by requesting that the submitted information be placed in a “master solar permit file” for future reviews.

**Permit Fees:**

In keeping with the County’s commitment to sustainable practices within our community, DSEM recognizes the impact of utilizing solar power to reduce our carbon footprint, our reliance on fossil fuels, and property owner’s utility costs. Solar installations including photovoltaic and thermal water heating equipment that are proposed as a component of a new building or structure will be covered under the building permit and no additional solar-related permit review fees will apply. Specific to retrofit or stand-alone solar systems, the Board of County Commissioners revised and reduced the fee structure for solar permits in 2011. The following fees are reflective of the Building Review and Inspection fees only.

<table>
<thead>
<tr>
<th>Solar Photovoltaic (PV)</th>
<th>Solar Thermal (Water Heating)</th>
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<tbody>
<tr>
<td>Building permit review</td>
<td>Building permit review</td>
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<tr>
<td>$91.38</td>
<td>$91.38</td>
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<tr>
<td>Electrical permit review</td>
<td>Plumbing permit review</td>
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<tr>
<td>$78.32</td>
<td>$91.38</td>
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<tr>
<td><strong>Total fee</strong></td>
<td><strong>Total fee</strong></td>
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<td><strong>$169.70</strong></td>
<td><strong>$182.76</strong></td>
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Ground mounted (accessory structure) solar permits for structures (PV or Solar Thermal) consisting of 300 or more square feet shall include the following additional fees:

<table>
<thead>
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<th>Ground Mounted Solar Permit Fees</th>
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<tbody>
<tr>
<td>Development Services review</td>
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<tr>
<td>$120.00</td>
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<tr>
<td>Environmental Services review</td>
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<tr>
<td>$180.00*</td>
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<tr>
<td><strong>Total fee</strong></td>
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<td><strong>$300.00</strong></td>
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*Note: The Environmental Services review fee of $180 will not be charged for parcels of five acres or larger.*
Permit Submission:

1. Solar PV and thermal permit applications may be submitted electronically through Leon County’s web permitting program (Velocity Hall). This web-based permitting is available only for licensed contractors that have a master solar permit on file at DSEM.
2. Permits may be delivered to the offices of DSEM (435 N. Macomb, 2nd floor) during regular business hours.

Solar Installation Inspection:

1. Inspections for roof-mounted solar PV systems include review of the connections between the solar panel brackets and the roof structure to ensure that proper connections have been made and that the roof penetrations have been properly sealed.
2. Ground-mounted PV systems will require a foundation inspection, which includes verification of the width and thickness of the foundation and the placement of reinforcing steel.
3. Electrical inspections for PV systems are required for both roof- and ground-mounted systems to ensure the wiring is properly installed, the system inverters are located in the proper locations and that the equipment disconnects are installed as per the NEC. Proper labeling of the breakers in the main distribution panel is also verified during the electrical inspection.
4. Thermal water heating systems will require inspections of the roof panel connection and piping, including a pressure test.
5. Additional requirements such as meter locations may be mandated by your electric utility provider. The applicant or homeowner will need to contact the utility provider directly to determine these requirements.

Notification of Electric Utility Provider:

1. Upon receipt of a solar installation permit application at DSEM, the permit tracking system will automatically notify the electric utility provider of the submittal.
2. After final inspections of the solar PV system are completed and approved by DSEM, the permit tracking system will notify the electric utility provider that all inspections have been approved and that the system is released for service.

Please note, however, that final approval of the Leon County permit does not qualify the owner for installation of a special metering system, as this is determined directly by the utility provider.