

WORKSESSION  
DARLINGTON COUNTY COUNCIL  
DARLINGTON, SC

November 3, 2016

A worksession of the County Council of Darlington County was held this 3rd day of November 2016, at 5 p.m., at Hartsville Middle School Auditorium, 1427 14<sup>th</sup> Street, Hartsville, South Carolina to review/discuss information regarding solar panels and solar panel farms.

NOTICE OF MEETING

In compliance with the Freedom of Information Act, a copy of the agenda, giving the date, time, and place of the meeting was emailed to the local newspapers, persons requesting notification, and posted on the county's website and on the bulletin board in the lobby of the courthouse.

COUNCIL MEMBERS PRESENT

Chairman Bobby Hudson, Chaplain Dannie Douglas, Jr., Mr. David Coker, Mr. Marvin Le Flowers, and Ms. Mozella Nicholson.

COUNCIL MEMBERS ABSENT

Vice Chairman Robbin Brock, Mrs. Wilhelmina P. Johnson, and Mr. Robert L. Kilgo, Jr.

ALSO PRESENT

Interim County Administrator Marion Charles Stewart, III, County Attorney James C. Cox, Jr., Clerk to Council J. JaNet Bishop, Economic Development Director Frank Willis, Fire Chief Ricky Flowers, Development Services Director Terri Cribb, Planning Staff Paula Newton and Mary Tunstall, Planning Commission Members Mike Sprott, Travis Bishop, Frankie Jernigan, Ralph Segars, and Chad White, Council Member Elect Lewis Brown, and others.

REPORTERS PRESENT

Ms. Samantha Lyles of the News and Press and Mr. Jim Faile of the Messenger.

Call To Order / Invocation / Pledge Of Allegiance

Chairman Hudson called the worksession to order at 5:03 p.m. Mr. Douglas presented the invocation and everyone recited the Pledge of Allegiance.

Interim County Administrator Charles Stewart explained that the presenters would present their information and members of the public could submit written questions for the staff to ask the presenters near the end of the worksession.

## Presentations On Solar Panels/Solar Panel Farms

Ms. Sara Hummel Rajca, of South Carolina Solar Council (a non-profit with the mission of providing solar energy education and promoting solar applications), provided information on her background and experiences. Highlights of her presentation included information on how solar is making people become energy independent, creating demands, and creating jobs; how solar energy could be generated at Hartsville Middle School and used for educational purpose; and the opportunity for farmers to lease farm space that they are no longer using.

Ms. Elise B. Fox, Ph.D., Principal Engineer and Solar Energy Program Manager for Savannah River National Laboratory, was not present at the worksession. However, Ms. Rajca provided information on her behalf. Highlights of the presentation included federal regulations requiring solar system be removed or sold when they stop producing; solar panel systems cannot be abandoned or sold for less than fair market value; solar panels consist of metals, silicon, and glass, depending upon the manufacturer; and seventy to ninety percent of the total system can be recycled along with the copper wiring. The staff, County Council, and Planning Commission members received copies of two studies regarding the materials in solar panels and Dr. Fox's full presentation.

Mr. Jon Davis, of Capital Solar, talked about his background as an engineer land surveyor, solar developer, and certified contractor for Progress Energy for 30 years dealing with transmission lines, power facilities, and substations. He is registered in North Carolina and South Carolina. Highlights of Mr. Davis' presentation included information regarding solar panels being toxic only if they are eaten; solar panels being salvaged during decommission; no fluid elements in solar panels to leak out; no traffic around solar farms after construction; solar panels collecting protons from the sun and turn the protons into electrons; the humming sound from inverters that are placed near the middle of the system so they cannot be heard outside the perimeters of the farms; the sound level of inverters being under 50 decibels; no glare due to the panels absorbing the sunlight; the height of the panels; the energy produced being sold to the local utility (Progress/Duke Energy); the schematics of solar farms and solar panels; and solar panels being safe as long as they are encased.

Councilman Coker asked what would happen if the panels are destroyed during a natural disaster. Mr. Davis explained that insurance would take care of the cleanup.

Councilman Elect Lewis Brown asked about the noise level from the inverters. Mr. Davis explained that the inverters are not located near the property line so they will not be heard.

Mr. Greg Ness, of Southern Current and a solar developer based in Charleston, South Carolina, talked about his company offering commercial scale renewable energy projects for businesses such as Wal-Mart, Kohl's, Target, etc. Highlights of his presentation included

information on the growth of the solar energy industry, especially in North Carolina; his work with communities and local governments to ensure developers are held accountable when developing projects; developers creating reasonable buffers, landscaping, and addressing various concerns; the placement of inverters inside the system so they cannot be heard; the glare being similar to that on a muddy lake; jurisdictions focusing on setbacks and buffering so that solar farms blend with the environment; the size and construction time for typical solar farm projects; and there being very little activity after construction, except for adjustments which most are made remotely.

Councilman Elect Lewis Brown questioned and Mr. Ness briefly talked about the stability of the manufacturers and the financial aspects.

Mr. Chris Sandifer, a former Duke employee and consultant, provided information regarding his background and credentials, to include solar farm development, utility compatibility studies, etc. Highlights of his presentation included information about solar not being new, but a tried and true technology; Duke Power's 2,000 plus megawatts of solar in North Carolina being three times what the local Robinson Plant can produce; safety concerns; the electromagnetic fields of solar panels being well below the allowed minimum; the installation of solar farms reducing electromagnetic fields in the area; the three components of solar farms (the panel, the inverters, and the transformers); the inverters being placed in the middle of the farm (nesting) to absorb the sound; the inverters turning off at night; solar panels containing no combustible materials, except for the conductors; and solar panels being valuable, long producers, and recyclable.

Mr. Rich Kirkland, of Kirkland Appraisers and a certified commercial appraiser in North Carolina, South Carolina, and several other states, talked about his experiences with appraising agricultural properties, residential development properties, and commercial properties. For the past several years, he has conducted impact study analysis on solar farms, solid waste facilities, treatment plants, billboards, cell towers, etc. Highlight of Mr. Kirkland's presentation included information on match pair analysis involving solar farms in North Carolina; solar farms having no impact on adjoining property values; alternate uses instead of solar farms such as greenhouses, poultry/hog farms, etc.; solar farms presenting no issues with hazardous materials, orders, noise, stigma, etc.; and the appearance of solar farms having the smallest impact since they are less than ten feet in height, easily screened, and have an appearance consistent with greenhouses.

Councilman Coker asked that of the 200 plus farms that Mr. Kirkland had looked at, what percentage of adjoining property owners had a problem with them. Mr. Kirkland explained that he looked at and tracked the sales, which did not decrease. He invited individuals to visit the one-megawatt solar farm in Walterboro, South Carolina.

Mr. Marty Krapf, Regional Sales Manager for Canadian Solar, reported that Canadian Solar is the second largest module manufacturer - a publicly traded company headquartered

in Ontario, Canada with a home base in Cherokee County, Georgia. For clarity, Mr. Krapf pointed out that a megawatt equals a million watts, which equals about 3,000 solar panels on a five to eight-acre solar farm. Highlights of his presentation included information about the average life of solar panels exceeds 30 years with zero air pollutants; the amount of toxins encapsulated in the panels being minimal; most solar panel makers have recycling programs for end-of-life solar panels to ensure leaching does not occur in landfills; solar technologies rank best in lowest environment impact and human health impact; solar panels being manufactured from durable materials (glass, aluminum, and silicon) to withstand decades of use in both temperate and inclement weather; solar panels producing at 92 percent after 20 years; most degradation occurring mainly due to high levels of ultraviolet exposure with no emission of toxins and no human health effects; damage to solar panels being possible, primarily due to acts of nature, but the potential for leaching of harmful levels of chemicals in groundwater being de Minimis; Canadian Solar commissioning a standard leach test by a third party testing company to simulate the disposal of solar panels in a landfill which detected no chemicals known to cause human health issues; solar module recycling wherein over 90 percent of the panels can be recycled; and solar panels being the cleanest form of energy in the world. Mr. Krapf invited individuals to tour the 2.3 megawatt, 15-acre solar panel farm containing 10,010 Canadian Solar panels in Walterboro, South Carolina or their project inside the fence at Columbia Airport.

Mr. Shawn Clarke, an engineer in the Storm Permitting Program with South Carolina Department of Health & Environmental Control (DHEC), pointed out that a permit from DHEC Storm Permitting Program is the only permit required to install solar panels in the State of South Carolina only if the soil is disturbed. If solar panels are installed in a paved area, a permit from DHEC would not be required. He briefly talked about solar farms in Colleton, Jasper, Hampton, and Lexington Counties ranging from seven acres to 500 plus acres (Jasper County). Highlights of his presentation included the EPA determining that solar panels can be disposed of in lined landfills such as in Lee County Landfill; the requirement for storm ponds depending upon the site, the size, and whether the land had been cleared; there being less runoff from solar farms than crop/agriculture fields because grass are underneath the panels; buffer requirements in wetlands; DHEC's Storm Permitting Program being the only Program requiring a permit for land disturbance; and there being no point of discharge for air emission from solar panels/solar farms.

Mr. Tommy Cleveland, a professional engineer at North Carolina State University, provided information on his background which focuses on solar, solar research, and the solar industry in North Carolina, which has the second-largest solar market in the United States. Highlights of his presentation included information about there being more and larger solar projects because the cost of solar panels has decreased over the years and people have learned how to do this more efficiently; solar panels producing much cleaner power; and solar panels passing EPA's test simulating disposal in landfills. Mr. Cleveland pointed out informative resources, fact sheets, and frequently asked questions from North Carolina State

that was distributed in information to the staff, County Council, and Planning Commission members.

Councilman Coker wanted to know the negatives regarding solar panels. Mr. Cleveland stated that depending upon the manufacturer, there may be a small amount of lead in the panels. However, the lead would be encapsulated. Another possible negative would be visual impact. However, the farms can be screened. Also, the change in land use could increase the taxes on the property due to the value of the panels.

Ms. Sara Hummel Rajca invited Council to tour the solar farm in Colleton County. She displayed solar panels for individuals to examine.

#### Recess

Council recessed at 6:45 p.m. and reconvened at 6:58 p.m.

#### Questions/Discussions

Mr. Stewart invited all the presenters to the stage so that individuals could present their questions. Mr. Bradley Narron, Engineer at Pee Dee Electric Cooperative, was present to answer questions although he did not make a formal presentation.

The presenters answered questions from Council members, Planning Commission members and the public. The questions/discussions involved cost savings to consumers, capital investment for developers, lease amounts depending upon the site and location, criteria for a solar site (proximity to transmitter, distribution lines, etc.), feasible sites, street address being assigned to sites for easy access by fire departments, and Pee Dee Electric Cooperative not being regulated/required to buy power such as Progress/Duke.

Darlington County Fire Chief Ricky Flowers presented information about solar farms having very little fire risk. If there is a fire, it would be a quick flash then everything would be over. If the grass is not maintained, there may be a risk of a grass fire entering the property.

The group also talked about solar farms being monitored remotely; the average distance for setbacks and buffers; the expected cost of decommissioning; noise levels; larger buffers and setbacks for larger farms; decommissioning plan with the contract recorded instead of collateral/bonds; and the fact that developers are leasing farms because the farmers/owners do not want to sell their land. It was suggested that individuals visit a solar farm in operation.

#### Adjournment

Mr. Stewart thanked everyone for attending the worksession. There being no further comments, the worksession was adjourned at 8:33 p.m.

Respectfully submitted,

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J. JaNet Bishop  
Clerk to Council

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Bobby Hudson, Chairman  
Darlington County Council

Approved at meeting of December 5, 2016.