



April 11, 2016

Clean Energy Development and Services (CEDS)

## Project Updates from GIS Department

The county parcels containing corrections sites have been examined, open areas have been identified and information sheets have been produced for examination by DMME.

I went back and included the prison facilities in other service territories even though we do not have annual kWh data. These facilities tend to have large demand and adequate acreage so inclusion at this stage of analysis is warranted.

There are 39 parcels containing a total of 75 corrections facilities (DHS list).

- 16 parcels in Dominion territory with 34 facilities
- 10 Parcels in ApCo territory with 10 facilities
- 14 parcels in other territories with 21 facilities

Property information sheets have been created for each correction parcel and the total load for the parcel has been noted. Estimates for the size of array to meet the parcel demand are included as well as other pertinent site information.

Several of the corrections parcels contained or were adjacent to VDOT facilities and those were noted on the property information sheet and the results spreadsheet. Images of the GIS maps were included in the property sheets as well as a Google Earth 3D snapshot.

### Interactive Web Map Displaying Corrections GIS

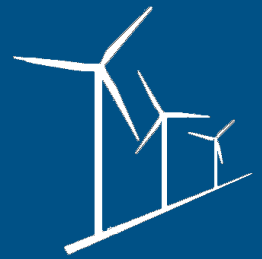
Using ArcGIS online, the corrections GIS layers were exported and an Esri interactive map application was created. This was then imported into a website created and hosted here at the Center for Wind Energy at JMU. The layers on the map are:

- Corrections parcels (Extracted from VGIN County Tax records)
- Corrections facilities (Dept. of Homeland Security data)
- VDOT property boundaries (based on VDOT data)
- Open areas available for PV

The link to the site is: <https://maps.cise.jmu.edu/public/wind/CEDSmap/>

This website is not intended for the general public but to pass on results and information in a visual manner. At this moment the website is only two web pages, one with the interactive map and one where correction property information sheets may be accessed in PDF format. The website is designed to be used along with the results spreadsheet to view the properties. The search box is set to search the corrections facility by name. Each feature on the map has a pop up box displaying pertinent attributes.

We have compiled an Excel spreadsheet listing the corrections parcels and the facilities



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located on those parcels. We have added the annual kWh values when available and performed calculations on how much PV may be placed in a parcel. At this time we have not attempted to cull the list of prison properties or rank them in any way.

### **Department of Military Property Parcels**

The next class of properties we are examining are the DOM properties. Most of these facilities on the DGS list are National Guard Armories throughout Virginia.

At this time we have extracted the county tax parcels containing these facilities and are in the process of examining them for potential ground mount solar installations. It should be noted that most of these properties do not have enough acreage for the application of 2 MW of PV.

- Property sheets will be prepared for those properties that have the ability to host a large PV array and have enough of a demand to warrant closer examination.
- Properties that do not meet the above criteria will not be included for further study at this time. Our plan is to create a document that lists the property attributes and include a snapshot of the GIS to show why we rejected the property at this time.
- If DMME decides a property on the rejected list requires further study, we can easily go back and review it.

Notes to DMME.

Any questions relating to GIS, interactive web maps, and property sheets should be directed to Philip Sturm at: [sturmpv@jmu.edu](mailto:sturmpv@jmu.edu)

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Please let us know if there is additional information you would like added to the property sheets.