



EXHIBIT D

Community Impact Analysis

Lily Pond Solar, LLC- Rezoning and Conditional Use Permit
Application



LILY POND SOLAR FACILITY IMPACT ANALYSIS



September 2022

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TABLE OF CONTENTS

Introduction	2
Executive Summary	4
Residential Development	5
Economic and Fiscal Impact	7
Current Usage and Negative Impacts	12
Conclusion and Summary	13

Introduction

Energix Renewables engaged Sanford Holshouser Economic Development Consulting, LLC (SHEDC) to conduct an analysis of the impact its proposed Lily Pond Solar Facility would have on Dinwiddie County and surrounding areas. The Lily Pond Project will be an 80 MW solar energy facility, located on approximately 1,891 acres. The analysis consists of two parts; part one is a comparison of the impacts brought about by the development of the subject property being development for residential use versus the development of the same tract as a solar facility, and part two the potential economic and fiscal impacts of the fully developed and functional solar facility were calculated to demonstrate the potential benefit to Dinwiddie County, the surrounding area, and the Commonwealth of Virginia. Also included in part two is an assessment of current use and the potential negative impact if it were replaced with the solar facility.

The analysis of usage of the property for residential purposes versus a renewable energy facility was performed by SHEDC Partner Tom Johnson, CECD, HLM. Tom spent the first 15 years of his career as a city planner in three states. In his analysis Tom used industry accepted standards and Dinwiddie County ordinances to project housing density, household population, etc. The costs of providing governmental services to the homes and residents of the new development were derived using audit reports which provided spending data in two major categories, education, and public safety.

To calculate the economic and fiscal impact analysis and estimate SHEDC, as it has for many similar projects, partnered with Henry Lowenstein, Ph.D. of Research and Consulting, LLC. (RCS). Dr. Lowenstein has a long, distinguished career in academics, business, and government. Further, he has conducted research analysis and calculated estimate impacts for a number of economic development projects in North Carolina, South Carolina, and Virginia. The estimates in this report are based upon relevant data inputs provided by Energix Renewables officials and utilizes the RCS© estimating model which has been successfully used on many other economic development projects for purposes of evaluating economic development decisions. The model uses standard industry accepted multipliers that estimate total economic impact of jobs and spending by a business to the local economy. This includes an estimate of indirect¹ and induced² economic activity and employment created by the activity of a business (*ripple effect*) in addition

¹ *indirect business impacts* -- business growth/decline resulting from changes in sales for suppliers to the directly affected businesses (including trade and services at the retail, wholesale, and producer levels) (*see*; Greg Weisbrod and Burton Weisbrod, Measuring Economic Impacts of Projects and Programs, ECONOMIC DEVELOPMENT RESEARCH GROUP (BOSTON, MA), April 1997 at 5.

² *induced business impacts* -- further shifts in spending on food, clothing, shelter and other consumer goods and services, as a consequence of the change in workers and payroll of directly and indirectly affected businesses. This leads to further business growth/decline throughout the local economy. (*see*; *Id.*)

to direct economic impacts. Fiscal impact estimates utilize *per capita* estimates of state and local taxes from the most recent data base of the Tax Foundation, a long-respected research organization in Washington, D.C.

This fiscal model is useful in aggregating both high and low consumer-taxpayer fiscal inputs into one comparative number estimating average *per capita* revenue at each level of employment headcount. Using *per capita* tax data, thus, allows policy makers to obtain a macro or overall view of estimated tax projections which harmonizes across all levels of income, discretionary spending, property values and the like. It helps clarify potential fiscal impacts of jobs, since the overwhelming bulk of tax collections arise from tax payments (direct and indirect) of individuals, hence wage-earning employees.

As with all such analytical models, results are estimates based upon economic theoretical models and may be impacted by changes in assumptions and precision of data inputs provided. Estimates presented provide a consistent comparative basis as those used historically at state and local levels, and, by the Federal government in determining economic impact in development decisions. It is important to note and recognize, as theoretical models, projected outcomes and their degree of magnitude are not guaranteed.

The report is limited to providing impact data estimates only. We provide no recommendation decision of various public policy options officials may consider as inducements or incentives to the developer.

Executive Summary

The Lily Pond Property

	RESIDENTIAL	SOLAR FACILITY	
Capital Investment	\$16,556,680	\$124,800,000	
Property Taxes	\$161,123	\$374,381	
Revenue Share		\$329,324	
Cost of Services	\$195,697	-0-	
Net: Taxes - Services	\$34,574	\$374,381	
Net: Revenues - Services		\$329,324	
Jobs Created		4.5 (Full-Time Equivalent)	
Annual Economic Impact		\$313,373	
Annual Fiscal Impact		\$20,486	
 Total Annual Economic & Fiscal Impact (A. Property Tax, B. Revenue Share)		A	B
		\$313,373	\$313,373
		\$ 20,486	\$ 20,486
		<u>\$374,381</u>	<u>\$329,324</u>
	\$34,574	\$708,240	\$663,183

There are additional and intangible benefits that will arise with the development of the solar facility. Energix will make roughly \$7,200,000 in network upgrades and attachment facilities as part of their interconnection agreement. These enhancements could provide services to homes and other businesses that would not be available if not for the development caused by the solar facility. Further, the location of a clean energy facility could entice a manufacturing company to locate near the facility enhancing Dinwiddie County's prospects of attracting additional capital investments and job creation.

Residential Development

Population and Households-Revenues

The most recent population information from the Missouri Census Data Center indicated a total population for Dinwiddie County, Virginia of 28,686 with 27,867 in households. The same data source indicated a total of 11,800 households with 10,403 of those occupied resulting in an 88.12 percent occupancy rate. This results in an average of 2.68 persons per occupied household. The median home value was \$185,200 and the average home value was \$211,065.

In reviewing an 1,891-acre single family home development in the A-2 zoning district, it is assumed there could be a total of 72 units built. While an overall 88.12 percent occupancy rate is found in Dinwiddie County, a closer look reveals that 24 percent of these were either for sale (56), for rent (276) or for occasional use such as vacation homes (4). This leaves 76 percent or 1,061 units that are not for sale or rent and therefore it can be assumed most of these 1,061 units are not habitable. This would not be the situation in new construction and therefore a 95 percent occupancy rate, not 88 percent, is applied here. Based on information provided, there could be 72 total units constructed on 1,891 acres and based on a 95 percent occupancy rate, there would be 68 occupied dwelling units and with an average family size of 2.7 persons per dwelling unit, the total increased population would be 184. Also using the average home value of \$211,065, the total home value in the subdivision would be \$15,196,680. When the tax rate of 79 cents per hundred is applied, the resulting anticipated revenue is **\$120,054**.

Also, it is assumed that each occupied house has automobiles with a value of \$20,000. The total personal property tax rate is \$4.60 per hundred and this would yield \$920 per household less the county's personal property tax relief percentage of 34 percent. This results in a tax of \$570.40 per vehicle. This amount times 72 households results in a revenue estimate of **\$41,069**.

Population and Households-Costs

The Audit Report for the year ending June 30, 2021, indicates a total expense of \$56,126,659. Two of the major expense line items are set out separately. Education is one of these. According to the Missouri Census Data Center information, 4,105 residents that are 3 years or older are enrolled in K through 12th grade in Dinwiddie County. By using the 10,403 households, this represents 34.8 percent of the occupied households have an average of one student. Based on the projection of 72 occupied households, this gives an average of 25 students. From a review of the Audit Report, it appears, school expenses for the year ending June 30, 2021, included \$16,786,095 of local funds. With 4,105 total students, the average local government cost per student is \$4,089. This amount times 25 students would be **\$102,225**.

The next largest expense was Public Safety. The audit report for year ending June 30, 2021, indicates \$16,413,573 spent on Public Safety. Less operating grants and charges for services,

the amount is \$8,431,299. This divided by the total population of 28,686, results in a cost of \$294 per person and this times 184 new residents equals a cost of **\$54,096**.

Other costs for primary government total \$12,432,028. This amount less, “charges for services” of \$1,648,211 and “grants and contributions of \$4,630,832” results in \$6,152,985. This divided by the population of 28,686 equals a per capita cost of \$214. The estimated population of 184 times \$214 equals **\$39,376**.

Revenues vs Costs

<u>Revenues</u>	<u>Costs</u>	
\$120,054 Property taxes- houses	\$102,225	Education
\$ 41,069 Property taxes – automobiles	\$ 54,096	Public Safety
_____	<u>\$ 39,376</u>	Other Government Services
Total \$161,123	\$195,697	

In conclusion, the residential development as described above would generate a total tax revenue of \$161,123 while creating a cost to provide governmental services to the new residents of \$195,697. This represents **a negative \$34,574 to the unit of local government**.

Economic and Fiscal Impacts

Methodology and Data Inputs

The field of economic impact analysis is generally divided into two camps of methodology. One is to use *direct* output and projected effects of an enterprise while another methodology uses direct *employment* and its projected effects. The RCS Model© uses the direct employment methodology. Thus, its results will differ from those using exclusively output methods. The RCS Model© we believe is a better indicator for fiscal impact analysis as it estimates potential public income based on localized employment/labor growth and its attendant income.

This logically follows as economic and fiscal development impacts actually realized by state and local areas depend on the magnitude of income, economic activity and velocity of money that remains in the local economy, mostly produced by employment, which generates the fiscal income on which public services depend. In short, it is not how much output a firm produces, but rather how much of that output remains in the community.

The RCS Model© focuses on employee compensation estimates that remain in the local community and any expenditures of the company in the community. Since the project is prospective, there is no reliable data to estimate the company's direct expenditures locally other than SHEDC making ad valorem estimate of potential commercial real and personal property taxes.

As such, the RCS Model© does not include in compensation numbers Social Security or other federal tax revenues as those are "leakages" from the region and state; such monies going to the central government in Washington, DC. Secondly, the RCS Model© applies a "leakage" factor to the gross compensation figures to account for employee expenditures that would understandably be outside of the area or state.

Fiscal estimate of the RCS Model© are based upon per capita tax data as reported for each state by respected research from the Tax Foundation, Washington, DC, 2021 Report (the most current version). Economic estimates are made utilizing appropriate multipliers established in prior economic research. RCS' model historically produces outputs that are consistent with other named economic input models and are presented on a conservative basis.

The Lily Pond Project by its nature will develop over a period of time. However, for purposes of analysis, our estimates are a static model³ that aggregates total estimated effects. That is, our estimates assume a fully built out and operational. Actual results may vary based on Energix

³ A *static model* provides a hypothetical fixed "snapshot" in time of the projected economic output, in this case assuming all factors are accurate, and the project is fully constructed and operational.

Renewable’s schedule, completion, national, state, and regional economic conditions, and other unpredictable economic and fiscal factors.

Data Inputs

Energix Renewables provided the following data inputs. We have not independently validated the data and accept it as given.

- Annual Payroll: 1.5 FTE employees at \$84,240 annual gross salary
- Total Project Investment = \$124,800,000
 - 58% Equipment [\$ 72,384,000]
 - 42% Construction [\$ 52,416,000]

It is important to note here that the Construction figure is the only part of the capital investment used for input into the Economic Impact Estimate. This is because the equipment investment does not affect local economic impact insofar as such equipment is outsourced from outside of Dinwiddie County and Virginia, but within the United States. Equipment figures are used solely for business tangible property tax estimating purposes.

Economic Impacts

As noted, RCS and SHEDC’s economic impact methodology is based on the concept that true local economic impact is based primarily, if not exclusively, on the employment created and compensation earned by employees that work and reside in the community. The project’s construction cost and employment provide the basis for economic impact most relevant to the local community and state.

TABLE II
TOTAL ESTIMATED ECONOMIC IMPACT AT COMPLETION
(RCS Static Model)

	Capital	Employment
NET DIRECT	\$42,033,888	\$101,088
INDIRECT AND INDUCTED	\$70,447,104	\$212,285
SUB TOTAL	\$112,480,992	\$ 313,373
TOTAL PROJECT ESTIMATED ECONOMIC IMPACT	\$112,794,365	

**TABLE III
EMPLOYMENT AND COMPENSATION
ESTIMATED ECONOMIC IMPACT
(RCS Static Model)**

	EMPLOYMENT	NET COMPENSATION	5-YEAR NET COMPENSATION
DIRECT	1.5 FTE	\$101,088	\$ 505,440
INDIRECT and INDUCED	3.0 FTE	\$212,285	\$1,061,425
TOTALS	4.5 FTE	\$ 313,373	\$1,566,865

Fiscal Impacts

Our fiscal impact estimates are composed of two components: (1) Fiscal estimate from the RCS per capita model based on employment headcount, and (2) Direct taxes paid by the business such as corporate income, sales, excise taxes, etc.). This provides a total fiscal impact.

In this analysis because the project is *prospective*, the company does not have actual direct state and local tax payments from operations to input into the calculation. The only estimated direct tax in this analysis are the business tangible property taxes which SHEDC calculated using the input data above.

There are two options available to local governments for taxation of solar facilities. The first is a straight calculation of property taxes, and the second is the shared revenues model pursuant to Virginia Code § 58.1-2636: Revenue Share for Solar Energy Projects, and Energy Storage Systems. According to Virginia Code § 58.1-3660: Certified Pollution Control Equipment and Facilities,

If a locality adopts an energy revenue share ordinance under § 58.1-2636, the exemption for energy storage systems greater than five megawatts, as measured in alternating current (AC) storage capacity, shall be 100 percent of the assessed value. If a locality does not adopt an energy revenue share ordinance under § 58.1-2636, the exemption for energy storage systems greater than five megawatts, as measured in alternating current (AC) storage capacity, shall be as set out in subsection G when an application has been filed with the locality prior to July 1, 2030.

Therefore, in the calculations for property taxes the assessed value will be discounted by 80% and in the calculations for shared revenues the assessed value will be discounted by 100%.

Option 1

Per Virginia Code § 58.1-2606, capital equipment owned by utilities is taxed as real property and would be capped at the county's real property tax rate. Dinwiddie County's current real property rate is \$0.79/\$100 of assessed value. The original capitalized cost is the actual cost of the business tangible property and includes all costs associated with putting an asset into use (such as sales tax, delivery and freight charges, installation, labor, etc.). Therefore, the original capitalized cost of the Lily Pond facility as supplied by Energix will be \$124,800,000. Under Virginia Code 58.1-3660, there would be an 80% exemption applied to the value of the solar facility for the purposes of calculating property taxes.

According to information provided by Dinwiddie County, Energix, and research done by SHEDC, property taxes are calculated as follows: the capitalized cost X county assessment factor (88.5%) x Stepdown Exemption (80% exemption), X Depreciation (90%) = Taxable Value. Taxable Value X Tax Rate = Property Taxes

Therefore: \$124,800,000 X .885 X .20 X .90 = \$19,880,640

 \$19,880,640 X \$0079 = \$157,057

The exemption and depreciation remain the same for years one through five and, therefore the property taxes will be the same for the period used in this report.

The real estate will be reclassified to industrial with a new assessed value of \$15,000 per acre. The property taxes for the real estate will be assessed value/acre X acres X county real estate tax rate (\$0.79/\$100 of value). Taxes on the 1,891 acre tract will be:

 \$15,000/acre X 1,891 acres X \$.0079/\$100 valuation = \$224,084

Current taxes on the property are \$6,760. The net change in taxes due to the new use of the property then would be \$217,324. The real estate tax will be the same in both options.

Total net new property taxes on the Lily Pond solar facility will be \$374,381.

TABLE 11
TOTAL ESTIMATED FISCAL IMPACT
TAXES: STATE AND LOCAL
(Per Capita-Static Model + Business Tangible Property Estimate)

TAX	DIRECT	INDIRECT & INDUCED	TOTAL Annual	Total 5-Year Projection
Employment	1.5 FTE	3.0 FTE	4.5 FTE	
PROPERTY (Local)	\$2,549	\$5,097	\$7,646	\$38,230
SALES (State & Local)	\$ 977	\$1,953	\$2,930	\$14,650
INCOME (State)	\$2,489	\$4,977	\$7,466	\$37,330
EXCISE (State & Local)	\$ 815	\$1,629	\$2,444	\$12,220
TOTALS	\$6,830	\$13,656	\$ 20,486	\$102,430
PROPERTY TAX			\$374,381	\$1,871,905
		TOTAL	\$394,867	\$1,974,335

Option 2

Virginia Code § 58.1-2636: Revenue Share for Solar Energy Projects, and Energy Storage Systems states:

“Any locality may by ordinance assess a revenue share of (i) up to \$1,400 per megawatt, as measured in alternating current (AC) generation capacity of the nameplate capacity of the facility based on submissions by the facility owner to the interconnecting utility, on any solar photovoltaic (electric energy) project, or (ii) up to \$1,400 per megawatt, as measured in alternating current (AC) storage capacity, on any energy storage system.”

The Lily Pond facility will produce 80MW. Therefore, assuming Dinwiddie County assesses the revenue at the maximum rate, the revenue share will be:

$$80\text{MW} \times \$1,400/\text{MW} = \$112,000$$

The net change in taxes on the real estate as calculated above, will be \$217,324.

Total net new revenues to Dinwiddie County using the Revenue Share option would be \$329,324.

TABLE 12
TOTAL ESTIMATED FISCAL IMPACT
TAXES: STATE AND LOCAL
(Per Capita-Static Model + Share Revenue Estimate)

TAX	DIRECT	INDIRECT & INDUCED	TOTAL Annual	Total 5-Year Projection
Employment	1.5 FTE	3.0 FTE	4.5 FTE	
PROPERTY (Local)	\$2,549	\$5,097	\$7,646	\$38,230
SALES (State & Local)	\$ 977	\$1,953	\$2,930	\$14,650
INCOME (State)	\$2,489	\$4,977	\$7,466	\$37,330
EXCISE (State & Local)	\$ 815	\$1,629	\$2,444	\$12,220
TOTALS	\$6,830	\$13,656	\$ 20,486	\$102,430
SHARED REVENUE			\$329,324	\$1,646,620
		TOTAL	\$349,810	\$1,749,050

Current Usage and Negative Impacts

The majority of the subject property is utilized for hunting/recreational leases as well as undisturbed wetland, for purposes of this report there were approximately 779 acres of timber and 44 acres of row crops, at present corn identified. The plan would be to harvest the timber and sell it at market price, clearly the property for the development of the solar facility. The corn would be harvested by the farmer and sold for market price as well. Both harvesting and selling of the timber and corn would be a one-time event having little to no economic impact for the county. As both of these agricultural products would likely be sold to concerns outside the county, there would be very minimal residual impact on the local economy. The project itself will not demand any additional fire, rescue, or law enforcement services beyond what is provided currently having no impact on those respective budgets. Water requirements for the facility would be minimal as the operations has no water usage and employee requirements are virtually non-existent as service technicians will be on site only periodically. There will likewise be no impact on existing budgets for other services such as refuse collection and disposal. The only offsite improvements associated with Lily Pond will be

the road improvements for access to the facility and transmission lines and fiber optic cable, all of which will be paid for by Energix.

Conclusion and Summary

Every growing community must have residential development to support population growth. However, as illustrated in the example above, residential property taxes do not generate enough funding to offset the costs of governmental services they demand. Conversely as the Lily Pond Project calculations illustrate, industrial development more than pays for its demanded services. Therefore, it is essential that communities are proactive in their planning to achieve the right balance between residential and industrial.

From the data above, it is evident that the development of the property as a solar facility would be a net positive financially for Dinwiddie County. SHEDC was contracted to create a report focused on the short term (1 year) and the immediate long term (5 year) impacts of the proposed project. That being said, the Lily Pond Solar project is anticipated to have 45 years of useful life. When considering the lifetime of the project and current VA taxing structure for utility grade solar facilities, the direct fiscal impact to Dinwiddie County under Option A would be approximately \$14,000,000, and under Option B, Shared Revenue, the net new tax revenues generated over the lifetime of the project would be nearly \$18,000,000. The contributions to the County's tax base, while creating no need for additional services provides strong financial justification for supporting the project.

The additional dollars would allow Dinwiddie to fund enhancements to current services and add additional ones, improving the socio-economic conditions for its citizens. The shift from current usage to a solar facility would have virtually no negative impacts. Further, the location of a green energy facility could enhance the long-term economic development prospects of Dinwiddie, attracting other companies, increasing the tax base, and creating job opportunities.

In conclusion we believe the Lily Pond Project would be a definite positive to Dinwiddie County and the surrounding area.