ESTIMATE OF PROPERTY TAX REVENUE ASSOCIATED WITH THE OPERATION OF THE PROPOSED VISTRA SOLAR PLANT IN PULASKI COUNTY, ILLINOIS

A Report to

VISTRA CORPORATION

from

GRUEN GRUEN + ASSOCIATES
Urban Economists, Market Strategists and Land Use/Public Policy Analysts
Pre-Development Services

February 2024

C1658

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APPLYING KNOWLEDGE
CREATING RESULTS
ADDING VALUE

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GRUEN GRUEN + ASSOCIATES
M E M O R A N D U M

Date:	February 6, 2024
To:	Kathy Dietz, Director Development and Strategy – MISO/PJM
From:	Gruen Gruen + Associates
RE:	**C1658: Estimate of Property Tax Revenue Associated with the Operation of the Proposed Vistra Plant in Pulaski County, Illinois**

INTRODUCTION AND SUMMARY OF PROPERTY TAX FORECAST

This report by Gruen Gruen + Associates ("GG+A") presents the property tax revenues forecast to be generated by the proposed Vistra Solar Plant in Pulaski County, Illinois. This report presents the methodology and assumptions, property tax rates, and forecast of the property tax revenues from the Vistra Solar Plant over a 25-year period.

As described below, the amount of property tax revenue over the 25-year period is estimated to total approximately $57 million to all taxing districts.[1]

For Pulaski County, the total annual property tax revenue is estimated to range from over $1.3 million in tax year 2027 to over $742,000 by tax year 2051. The amount of property tax revenue over the 25-year period is estimated to total approximately $23.5 million.

For Unit School 100, the total annual property tax revenue is estimated to range from about $1.5 million in 2027 to about $818,000 in 2051. The amount of property tax revenue over the 25-year period is estimated to total approximately $26.7 million.

For the Junior College, the total annual property tax revenue is estimated to range from nearly $271,000 in 2027 to nearly $147,000 in 2051. The amount of property tax revenue over the 25-year period is estimated to total approximately $4.8 million.

For the County Unit Road, the total annual property tax revenue is estimated to range from $73,330 in 2027 to nearly $40,000 in 2051. The amount of property tax revenue over the 25-year period is estimated to total nearly $1,299,000.

The estimated property taxes associated with the proposed solar plant far exceed the current property taxes for the farmland property totaling $62,000.

The estimated equalized assessed value of the proposed solar plant of approximately $39,431,000 in the first year would increase the total assessed value of properties in Pulaski County by approximately 75 percent. The current equalized assessed value for Pulaski County is approximately $52,907,000. With the Vistra solar plant, the equalized assessed value would increase to a total of approximately $92,338,000.

[1] The estimate of property tax revenue reflects the current tax rate. To the extent taxing entities determine that not all of the additional tax revenue is needed, the resulting reduction of tax rates would lighten the tax burden on existing property taxpayers.

SOLAR PLANT CAPACITY

Table 1 describes the acreage and nameplate capacity of the proposed Vistra Solar Plant in Pulaski County, Illinois. The 405 MWac plant will be constructed on approximately 2,969 acres of agricultural land in Pulaski County.

TABLE 1: PULASKI COUNTY SOLAR PLANT CAPACITY	
Land Area (# Acres)	2,969.87
Solar MWac	405
Source: Vistra Corporation	

According to Vistra Corporation, the plant is anticipated to be operational by late 2026.

PROPERTY VALUATION METHODOLOGY

The Illinois General Assembly state statute under Public Act 100-0781 (SB0486 Enrolled) under Section 5 of the Property Tax Code describes the methodology used to value solar energy systems.

Table 2 summarizes the factors used based on Public Act 100-0781 to value the solar energy system.

TABLE 2: PROPERTY TAX FACTORS FOR VALUATION	
	Pulaski County
REAL PROPERTY COST BASIS	
Initial cost basis	$218,000 per MWac
TRENDING FACTOR[1]	
2018 - 2023	24.4%
2024 and beyond (annual)	2.5%
ALLOWANCE FOR PHYSICAL DEPRECTIATION	
Depreciation period	25 Years
Minimum trended real property cost basis	30%
[1] Based on Consumer Price Index (U.S. city average, all items) published by the Bureau of Labor Statistics immediately preceding the assessment date, divided by the Consumer Price Index (U.S. city average, all items) published by the Bureau of Labor Statistics for December 2017.	
Sources: Illinois General Assembly, Illinois General Assembly - Full Text of Public Act 100-0781 (ilga.gov); Gruen Gruen + Associates.	

Public Act 100-0781 sets a standardized formula for fair cash values and a depreciation schedule for commercial solar energy systems. The market value of the system including "the land within project boundaries and real property improvements" is set at $218,000 per

MW of nameplate capacity of the solar system. Under Public Act 100-0781, the market value is defined as the "(c)ommercial solar energy system real property cost basis". The market value including land valuation is not subject to any equalization factor applied by local jurisdictions.

The market value of the system increases over time with inflation based on the Consumer Price Index ("CPI") offset by allowable depreciation on a 25-year basis. This increase is described below in Table 3 as the "trended real property cost basis". The market value net of depreciation cannot be less than 30 percent of the trended real property cost basis.

According to the Illinois Department of Revenue, the CPI-U (U.S. city average, all items) between 2017 and 2023 increased by 24.4 percent. To make an estimate of the trended real property cost basis over a 25-year period, GG+A reviewed historical CPI-U from 1998 to 2023. Appendix A summarizes historical CPI-U from 1998 to 2023. Over the 1998 to 2023 period, CPI-U increased by about 2.5 percent annually. To estimate the assessed value of the property when it is placed in service, GG+A used the 24 percent increase in CPI-U between 2017 and 2023 to set the initial real property cost basis as of assessment year 2024 (payable in 2025). Beyond 2024, GG+A utilized the long-term historical annual inflation rate of 2.5 percent to estimate the trended real property cost basis over a 25-year period.

According to Vistra, the plant is estimated to be placed in-service beginning in late 2026. Table 3 on the following page summarizes the 25-year forecast period of trended real property cost basis, annual depreciation, trended real property cost net basis (net of depreciation), and assessed value of the Pulaski County Solar Plant. For simplicity, we assume the plant is fully operational by January 1, 2027, and the first tax year begins in 2027.

TABLE 3: FORECAST TRENDED REAL PROPERTY COST BASIS AND ASSESSED VALUE					
Period Tax Year/ Calendar Year	Trended Real Property Cost Basis[1] $	Depreciation $	Trended Real Property Cost *Net* Basis[2] $	Assessed Value[3] $	Trended Real Property Cost Net Basis as Percentage of Trended Real Property Cost Basis
Yr 1 (2027/28)	118,304,902	-	113,304,922	39,431,031	100%
Yr 2 (2028/29)	121,262,546	4,850,502	116,412,044	38,800,134	96%
Yr 3 (2029/30)	124,294,109	9,943,529	114,350,580	38,113,048	92%
Yr 4 (2030/31)	127,401,462	15,288,175	112,113,286	37,367,358	88%
Yr 5 (2031/32)	130,586,498	20,893,840	109,692,659	36,560,563	84%
Yr 6 (2032/33)	133,851,161	26,770,232	107,080,929	35,690,074	80%
Yr 7 (2033/34)	137,197,440	32,927,386	104,270,054	34,753,209	76%
Yr 8 (2034/35)	140,627,376	39,375,665	101,251,711	33,747,195	72%
Yr 9 (2035/36)	144,143,060	46,125,779	98,017,281	32,669,160	68%
Yr 10 (2036/37)	147,746,637	53,188,789	94,557,848	31,516,131	64%
Yr 11 (2037/38)	151,440,303	60,576,121	90,864,182	30,285,032	60%
Yr 12 (2038/39)	155,226,310	68,299,577	86,926,734	28,972,680	56%
Yr 13 (2039/40)	159,106,968	76,371,345	82,735,623	27,575,783	52%
Yr 14 (2040/41)	163,084,642	84,804,014	78,280,628	26,090,933	48%
Yr 15 (2041/42)	167,161,758	93,610,585	73,551,174	24,514,606	44%
Yr 16 (2042/43)	171,340,802	102,804,481	68,536,321	22,843,156	40%
Yr 17 (2043/44)	175,624,322	112,399,566	63,224,756	21,072,811	36%
Yr 18 (2044/45)	180,014,930	122,410,153	57,604,778	19,199,672	32%
Yr 19 (2045/46)	184,515,304	129,160,713	55,354,591	18,449,685	30%
Yr 20 (2046/47)	189,128,186	132,389,730	56,738,456	18,910,927	30%
Yr 21 (2047/48)	193,856,391	135,699,474	58,156,917	19,383,701	30%
Yr 22 (2048/49)	198,702,801	139,091,961	59,610,840	19,868,293	30%
Yr 23 (2049/50)	203,670,371	142,569,260	61,101,111	20,365,000	30%
Yr 24 (2050/51)	208,762,130	146,133,491	62,628,639	20,874,125	30%
Yr 25 (2051/52)	213,981,183	149,786,828	64,194,355	21,395,979	30%

[1] Inflation factor of 24.4% used to increase real property cost basis of $218,000 per MW between 2017 and 2023 (for assessmen051t year 2024). Annual inflation factor of 2.5% used to increase trended real property cost basis beyond 2024.

[2] Depreciation based on 25-year schedule with minimum trended real property cost basis of 30%.

[3] Assessed values based on 33.33% of trended real property cost (net of depreciation).

Source: Gruen Gruen + Associates

The trended real property cost basis of the Pulaski County Solar Plant is estimated at $118.3 million beginning in 2027. By tax year 2051 the trended real property cost basis (inflated at 2.5 percent annually) is estimated at nearly $214 million. Net of depreciation based on a 25-year depreciation schedule, the trended real property cost basis ranges from about $113.3 million in tax year 2027 to $64.2 million in tax year 2051. Note the allowable depreciation cannot be more than 70 percent of the trended real property cost basis which occurs in Year 19. In other words, the property value net of depreciation cannot be reduced to less than 30

percent of the trended real property cost basis. According to the Pulaski County Assessor, the assessed value of property is set at 33.33 percent of property value or in this case, the trended real property cost basis. Assessed value per year ranges from about $39.4 million beginning in tax year 2027 to about $21.4 million in tax year 2051.

PROPERTY TAX ESTIMATE

Based on information obtained from the Pulaski County Assessor's website about current property tax rates, Table 4 presents the current (2022) tax rate structure by taxing district for the parcel identification numbers (PINs) associated with the Pulaski County Solar Plant.[2] Based on the existing allocation of the tax rate applicable to the property, approximately 47 percent of the annual property taxes will accrue to schools. Pulaski County is allocated another 43 percent of the tax rate applicable to the property. The total tax rate is $8.16747 per $100 of assessed value.

TABLE 4: PROPERTY TAX RATE BY DISTRICT

	Tax Rate 2022 $	Share[1] %
Pulaski County	3.47128	42.5
County Unit Road	0.18597	2.3
Junior College	0.68697	8.4
Unit School 100	3.82325	46.8
TOTAL	8.16747	100.0

[1] Based on 2022 tax rate distribution for tax code 3001 and 3002.

Sources: Pulaski County Assessor; Gruen Gruen + Associates.

Appendix B contains the parcel identification numbers ("PINs") of the property tracts associated with the project and the acreage associated with the tracts.

[2] One 80-acre parcel is in tax code area 3004 but for simplicity, we have used the tax rate which applies to 98 percent of the acreage for the project.

Table 5 presents a forecast of annual property tax revenues over a 25 -year period for the our taxing districts collectively; and each taxing district (Unit School 100, Junior College, Pulaski County, and the County Unit Road). We have assumed the current tax structure remains constant over the 25-year forecast period.

TABLE 5: FORECAST PROPERTY TAX ESTIMATE FOR TAXING DISTRICTS

Period (Tax Year/ Calendar Year)	Annual Tax for all Taxing Districts[1] $	Annual Tax for Unit School 100[2] $	Annual Tax for Junior College[3] $	Annual Tax for Pulaski County Taxing District[4] $	Annual Tax for County Unit Road[5] $
Yr 1 (2027/28)	3,220,518	1,507,547	270,879	1,368,761	73,330
Yr 2 (2028/29)	3,168,989	1,483,426	266,545	1,346,861	72,157
Yr 3 (2029/30)	3,112,872	1,457,157	261,825	1,323,011	70,879
Yr 4 (2030/31)	3,051,968	1,428,648	256,703	1,297,126	69,492
Yr 5 (2031/32)	2,986,073	1,397,802	251,160	1,269,120	67,992
Yr 6 (2032/33)	2,914,976	1,364,521	245,180	1,238,902	66,373
Yr 7 (2033/34)	2,838,458	1,328,702	238,744	1,206,381	64,631
Yr 8 (2034/35)	2,756,292	1,290,240	231,833	1,171,460	62,760
Yr 9 (2035/36)	2,668,244	1,249,024	224,427	1,134,038	60,755
Yr 10 (2036/37)	2,574,071	1,204,940	216,506	1,094,013	58,611
Yr 11 (2037/38)	2,473,521	1,157,872	208,049	1,051,278	56,321
Yr 12 (2038/39)	2,366,335	1,107,698	199,034	1,005,723	53,880
Yr 13 (2039/40)	2,252,244	1,054,291	189,437	957,233	51,283
Yr 14 (2040/41)	2,130,969	997,522	179,237	905,689	48,521
Yr 15 (2041/42)	2,002,223	937,255	168,408	850,971	45,590
Yr 16 (2042/43)	1,865,708	873,371	156,926	792,950	42,481
Yr 17 (2043/44)	1,721,116	805,666	144,764	731,496	39,189
Yr 18 (2044/45)	1,568,127	734,051	131,896	666,474	35,706
Yr 19 (2045/46)	1,506,873	735,378	126,744	640,440	34,311
Yr 20 (2046/47)	1,544,544	723,012	129,912	656,451	35,169
Yr 21 (2047/48)	1,583,158	741,087	133,160	672,863	36,048
Yr 22 (2048/49)	1,622,737	759,615	136,489	689,684	36,949
Yr 23 (2049/50)	1,663,305	778,605	139,901	706,926	37,873
Yr 24 (2050/51)	1,704,888	798,070	143,399	724,599	38,820
Yr 25 (2051/52)	1,747,510	818,022	146,984	742,714	39,790
TOTAL	**57,045,718**	**26,703,501**	**4,798,144**	**23,502,451**	**1,298,908**

[1] Annual taxes based on 2022 tax rate of $8.16747 per $100 of Assessed Value. Tax rate held constant for 25 years.
[2] Annual taxes based on 2022 tax rate of $3.82325 per $100 of Assessed Value. Tax rate held constant for 25 years.
[3] Annual taxes based on 2022 tax rate of $0.68697 per $100 of Assessed Value. Tax rate held constant for 25 years.
[4] Annual taxes based on 2022 tax rate of $3.47128 per $100 of Assessed Value. Tax rate held constant for 25 years.
[5] Annual taxes based on 2022 tax rate of $0.18597 per $100 of Assessed Value. Tax rate held constant for 25 years.

Source: Gruen Gruen + Associates

The amount of property tax revenue over the 25-year period is estimated to total approximately $57 million for all taxing districts.

For Pulaski County, the total annual property tax revenue is estimated to range from over $1.3 million in 2027 to over $742,000 in 2051. **For Pulaski County, the amount of property tax revenue over the 25-year period is estimated to total approximately $23.5 million.**

For Unit School 100, the total annual property tax revenue is estimated to range from about $1.5 million in 2027 to about $818,000 in 2051. **For Unit School 100, the amount of property tax revenue over the 25-year period is estimated to total approximately $26.7 million.**

For the Junior College, the total annual property tax revenue is estimated to range from nearly $271,000 in 2027 to nearly $147,000 in 2051. **For the Junior College, the amount of property tax revenue over the 25-year period is estimated to total approximately $4.8 million.**

For the County Unit Road, the total annual property tax revenue is estimated to range from $73,330 in 2027 to nearly $40,000 in 2051. **For the County Unit Road, the amount of property tax revenue over the 25-year period is estimated to total nearly $1,299,000.**

CURRENT PROPERTY TAXES ASSOCIATED WITH FARMLAND

Table 6 shows the total assessed value and total property taxes for the 2022 tax year for the 2,969 acres of farmland on which the proposed solar plant is proposed.

TABLE 6: CURRENT ASSESSED VALUE AND PROPERTY TAXES[1]	
Total Assessed Value	$722,709
Annual Tax for all Taxing Districts	$62,056
[1]2022 tax year (payable in 2023). The majority of the acreage is located in tax code areas 3001 and 3002.	
Sources: Pulaski County Assessor; Gruen Gruen + Associates.	

The current assessed value of the 2,969 acres of land is over $722,000. Current property taxes (for all taxing districts) for the 2022 tax year (payable in 2023) are approximately $62,100.

APPENDIX A

HISTORICAL CONSUMER PRICE INDEX, U.S. CITY AVERAGE, ALL ITEMS (CPI-U)

Table A-1 presents the change in the CPI from 1997 through 2023.

TABLE A-1: HISTORICAL CONSUMER PRICE INDEX, U.S. CITY AVERAGE, ALL ITEMS (CPI-U)		
Year	CPI-U[1]	Annual Increase %
1997	161.3	-
1998	163.9	1.61
1999	168.3	2.68
2000	174.0	3.39
2001	176.7	1.55
2002	180.9	2.38
2003	184.3	1.88
2004	190.3	3.26
2005	196.8	3.42
2006	201.8	2.54
2007	210.036	4.08
2008	210.228	0.09
2009	215.949	2.72
2010	219.179	1.50
2011	225.672	2.96
2012	229.601	1.74
2013	233.049	1.50
2014	234.812	0.76
2015	236.525	0.73
2016	241.432	2.07
2017	246.524	2.11
2018	251.233	1.91
2019	256.974	2.29
2020	260.474	1.36
2021	278.802	7.04
2022	296.797	6.45
2023	306.746	3.35
Average Annual Increase 1998 - 2023	**2.54**	
Average Annual Increase 2017 - 2023	**4.47**	
[1] CPI-U for All Urban Consumers in the month of December.		
Source: Bureau of Labor Statistics; Gruen Gruen + Associates		

Over the long-term 1998 through 2023 period, the CPI has increased an average annual rate of 2.54 percent. The long-term results have been skewed upward by recent inflation.

APPENDIX B

PARCEL IDENTIFICATION NUMBERS AND ASSOCIATED ACREAGE OF TRACTS COMPRISING THE VISTRA SOLAR PLANT IN PULASKI COUNTY

Table B-1 summarizes parcel identification numbers ("PINs") and associated acreage of the tracts included in the Vistra solar plant development.

TABLE B-1 PARCEL IDENTIFICATION NUMBERS OF TRACTS INCLUDED IN SOLAR PLANT DEVELOPMENT

Tracts Included in Solar Plant Development	Number of Acres Leased	Total Acres Leased
03-22-400-004	40	
03-27-400-002	120	160.00
03-27-200-001	52.0	212.00
03-25-400-002	80.0	292.00
03-25-420-006; 03-25-400-001; 03-36-200-001	157	449.00
03-35-100-001	165.33	614.33
03-22-400-003; 03-27-100-001; 03-27-300-004	318.32	932.65
03-35-300-001; 03-35-400-004	144	1076.65
03-35-200-001; 03-25-300-002	156.75	1233.40
03-24-400-004	105.65	1339.05
03-24-200-002; 03-24-200-008; 03-24-200-004; 03-24-200-006; 03-24-100-006; 03-24-300-002; 03-25-100-001; 03-34-400-008; 03-24-400-002	371.47	1710.52
03-22-200-001; 03-22-200-002	200.50	1911.02
03-23-100-001; 03-23-300-003; 03-22-400-001	260.20	2171.22
03-23-300-001; 03-26-100-004; 03-26-100-003-10; 03-25-300-001; 03-26-400-003; 03-26-200-003; 03-36-100-001	718.09	2889.31

Sources: Rosanova & Whitaker, Ltd.; Illinois Property Tax Public Inquiry (propertytaxonline.org); Gruen Gruen + Associates.

Gruen Gruen + Associates (GG+A) is a firm of economists, sociologists, statisticians and market, financial and fiscal analysts. Developers, public agencies, attorneys and others involved in real estate asset management utilize GG+A research and consulting to make and implement investment, marketing, product, pricing and legal support decisions. The firm's staff has extensive experience and special training in the use of demographic analysis, survey research, econometrics, psychometrics and financial analysis to describe and forecast markets for a wide variety of real estate projects and economic activities.

Since its founding in 1970, GG+A has pioneered the integration of behavioral research and econometric analysis to provide a sound foundation for successful land use policy and economic development actions. GG+A has also pioneered the use of economic, social and fiscal impact analysis. GG+A impact studies accurately and comprehensively portray the effects of public and private real estate developments, land use plans, regulations, annexations and assessments on the affected treasuries, taxpayers, consumers, other residents and property owners.

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