



Miami Valley Regional
Planning Commission

Solar Energy

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"Saving You Money While Saving Our Environment"

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Why Solar?

- Stable & Predictable Source of Electricity
- Positive PR for Local Government
- Reduced Electricity Costs
 - Start Saving Immediately
- Control the quality of the power
- Clean for the environment



Understanding Your Electric Bill: Rate Structure

Rate Structures are used to calculate the cost a customer pays to receive energy at the rate they demand. Basic Components:

- Supplier Charge
- Distribution and Transmission Charge
 - Customer Charge
 - Demand Charge (\$/kW)
 - Energy Charge (\$/kWh)
 - Power Factor Charge (\$/kVAR)



Major Electric Distribution Companies in Ohio



Rate Structure Example

Avoided Cost Rate		
Electricity Providers	Energy Rate (\$/kWh Saved)	Demand Rate (\$/kW Saved)
DP&L (Distributor)	\$0.0125	\$5.90
IGS (Supplier)	\$0.0354	\$0.00
Total Rate	\$0.0479	\$5.90

Current Rate Block Structure				
Rate Number: 737		Updated on: 10.6.2017		
	Rate Block	DP&L (Distributor)	IGS (Supplier)	Total Rate
Service Charge (\$/mo)		\$16.00	381.97	\$397.97
Energy (\$/kWh)	0 - 750 kWh	\$0.0343	\$0.0354	\$0.0697
	751 - 1,500 kWh	\$0.0343	\$0.0354	\$0.0697
	1,501 - 2,000 kWh	\$0.0126	\$0.0354	\$0.0480
	2,001 - 15,000 kWh	\$0.0122	\$0.0354	\$0.0476
	15,001 - 125,000 kWh	\$0.0116	\$0.0354	\$0.0470
	125,001 - 833,000 kWh	\$0.0111	\$0.0354	\$0.0465
	833,000+ kWh	\$0.0109	\$0.0354	\$0.0463
Demand (\$/kW)	0-5 kW	\$0.00	\$0.00	\$0.00
	5+ kW	\$5.90	\$0.00	\$5.90



Rate Structure Example

Utility Distributor	Rate	\$/kWh	\$/kW
DP&L	737	\$ 0.048	\$ 5.90
Duke	DS01	\$ 0.043	\$ 12.43
AEP	850	\$ 0.061	\$ 11.64
First Energy	TE-GSD	\$ 0.074	\$ 12.02

*rates may vary if there is the customer has a different supplier

*kVaR is not included as it is a factor of kWh and power factor

Please note the rate number may differ for each building.

DP&L Rate

Rate 117,127	Secondary Single Phase
Rate 137,157	Secondary Three-Phase
Rate 737	Secondary Three-Phase, 3rd party supplier
Rate 168	High Voltage
Rate 187	Primary
Rate 188,198	Primary Substation



How Can Solar Make Sense Financially?

Power Purchase Agreement

- Energy Optimizers, USA:
 - ❖ Design and Construct the Solar Array on School Property
 - ✓ 3rd Party Finances Project Installation
 - ✓ EOU Team Owns, Operates, Maintains & Warranties the system

- School District:
 - ❖ Purchase the electricity produced by the solar array
 - ✓ Set rate with, and sometimes without, escalator
 - *Lower than current electric rate from utility company*
 - *Immediate savings*
 - ✓ *Option to purchase after 7 years (tax incentives exhausted)*
 - ✓ *Rent space for \$1 per year*
 - ✓ *Own the array after 20 – 25 years*



Case Study – Kettering Middle School

- Power Purchase Agreement
- 150 kW Array
- Installed 2016
- 25 Year Warranty on Modules
- 80% rated output at 25 years

- Annual Savings = \$3785.00
- September 2017
- 16,496.7 kWh production



Efficiency First – Why Efficiency First?

- Before proceeding with any solar project, the facilities should be evaluated and address any potential Energy Conservation Measure upgrades or retrofits specifically focusing on the “low hanging fruit.”
- The solar system will be designed for a particular energy usage profile and facility load which will impact the overall solar design.
- This will lead to an oversized solar farm that will be net metered.

Financing Options

HB295(HB300)

- Funding mechanism that allows counties to implement facility upgrades and pay for the project
- Does not count against overall indebtedness
- RFQ/RFP Process
- Does not require passing a levy or bond issue for the loan
- HB295 extends the financing time for HB300 to a maximum of 30 years

HB420

- Funding mechanism that allows local governments to implement facility upgrades and pay for the project
- Does not count against overall indebtedness
- RFP Process
- Allows financing terms from 5-30 years

ESSA

- Energy Savings Services Agreement
- Funding mechanism that utilizes a service agreement to implement facility upgrades and pay for the project.
- Finance project 1-10 years





GOVERNMENT BUILDINGS

CASE STUDY

Greene County Libraries

Ohio



Greene County Libraries

Local Government

Project Cost:	\$ 267,071
Utility Rebates	\$ 59,647
Annual Utility Savings:	\$ 36,797
Annual Payment:	\$ 31,939

Greene County Libraries chose Energy Optimizers, USA to provide lighting retrofits in all seven of their libraries across the county, upgrading them to the latest LED technology. The project was made possible through an Energy Savings Service Agreement (ESSA), which is a funding process that allows local government entities to use on-going energy savings to make the monthly project payment.



Questions?



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