



**Ramapo Indian Hills Regional High School District**  
***Energy Savings Improvement Program (ESIP) Project***  
***November 14<sup>th</sup>, 2022***





**1**

**ENERGY SAVINGS  
IMPROVEMENT PROGRAM (ESIP)  
OVERVIEW**

**2**

**RIHRHSD IGA REVIEW &  
ESIP PRIORITIES**

**3**

**PROJECT SCHEDULE**



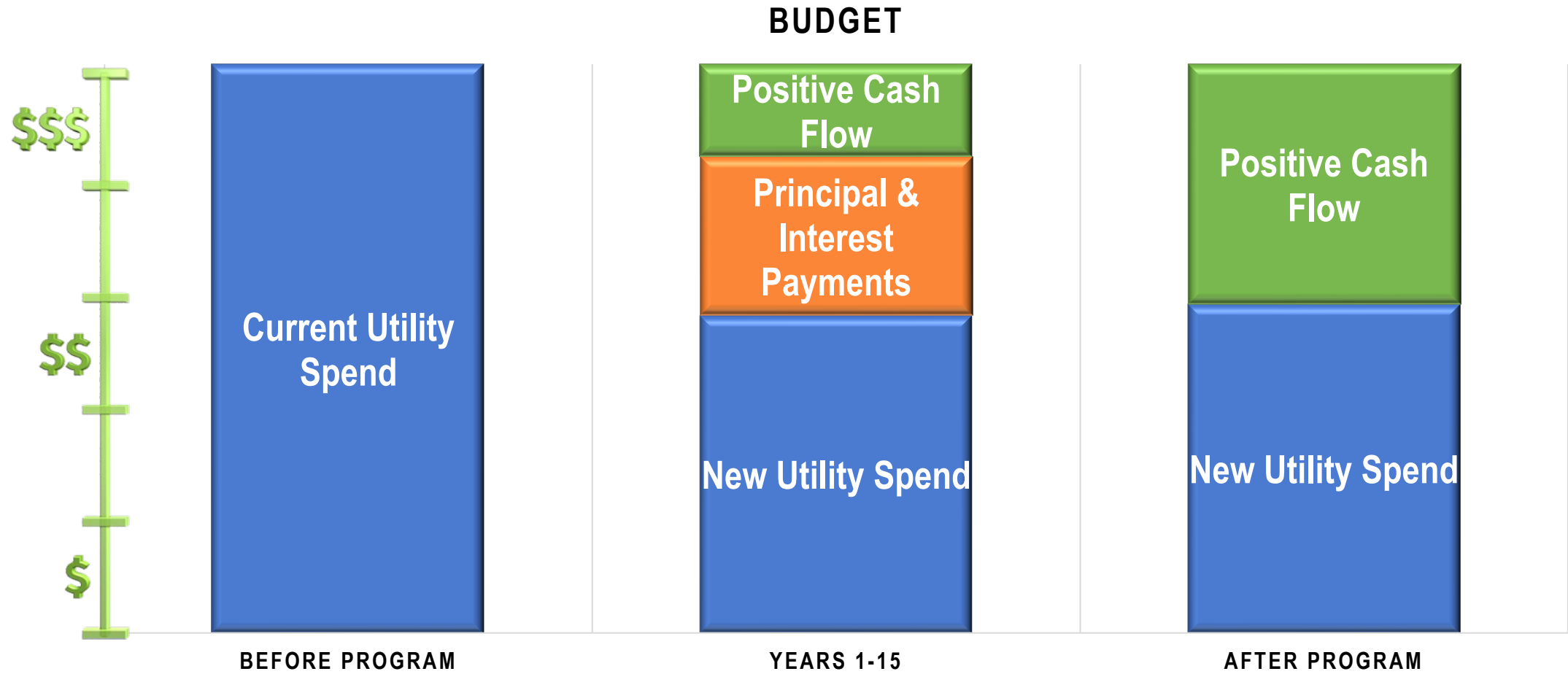
# What is the Energy Savings Improvement Program (ESIP)?

ESIP is a **financing mechanism** that allows school districts to make capital improvements to their facilities in a budget neutral method.





# RIHRHSD ESIP Budget





FORM II				
ESCO's PRELIMINARY ENERGY SAVINGS PLAN (ESP): ENERGY CONSERVATION MEASURES (ECMs) SUMMARY FORM RAMAPO INDIAN HILLS RHSD ENERGY SAVINGS IMPROVEMENT PROGRAM				
ESCO Name: <u>DCO Energy</u>				
Proposed Preliminary Energy Savings Plan		Estimated Installed Hard Costs <sup>(1)</sup> \$	Estimated Annual Savings \$	Est. Simple Payback (Years)
ECM Number	Energy Conservation Measure			
1	LED Lighting Retrofit	\$1,246,175	\$124,374	10.0
2	Lighting Controls	\$121,448	\$9,483	12.8
3	Energy Management System Integration	\$391,748	\$34,994	11.2
4	Boiler Replacement	\$0	\$5,959	0.0
5	Premium Efficiency Pump Motors and VFDs	\$0	\$3,148	0.0
8	Building Envelope Weatherization	\$138,273	\$11,068	12.5
10	Freezer Thermostat Control	\$19,154	\$3,099	6.2
11	Water Conservation	\$31,234	\$3,007	10.4
12	Plug Load Controls	\$30,940	\$2,174	14.2
13	Retro-Commissioning	\$218,000	\$18,371	11.9
14	Solar PPA	\$0	\$147,498	0.0
16	Roofing Upgrades	\$2,245,000	\$1,216	1846.3
-	Construction Contingency	\$206,599	-	-
<i>Add additional lines as needed*</i> Project Summary:		\$4,648,571	\$364,392	12.8



FORM VI																					
ESCO's ENERGY SAVINGS PLAN (ESP): ESCO's ANNUAL CASH FLOW ANALYSIS FORM RAMAPO INDIAN HILLS RHSD - ENERGY SAVING IMPROVEMENT PROGRAM																					
<p>ESCO Name: DCO Energy</p> <p>Note: Respondents must use the following assumptions in all financial calculations:            (a) The cost of all types of energy should be assumed to inflate at 2.4% gas, 2.2% electric per year and</p> <p>1. Term of Agreement: <input type="text" value="15"/> Years</p> <p>2. Construction Period <sup>(2)</sup> (months): 12 Months</p> <p>3. Cash Flow Analysis Format:</p>						<p>Miscellaneous Costs Financed:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td>LAN Associates</td> <td style="text-align: right;">\$403,406</td> </tr> <tr> <td>Cost of Issuance</td> <td style="text-align: right;">\$40,000</td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> </tr> <tr> <td><b>Total</b></td> <td style="text-align: right;"><b>\$443,406</b></td> </tr> </table>		LAN Associates	\$403,406	Cost of Issuance	\$40,000									<b>Total</b>	<b>\$443,406</b>
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Cost of Issuance	\$40,000																				
<b>Total</b>	<b>\$443,406</b>																				
<p>Project Cost<sup>(1)</sup>: <b>\$5,754,474</b></p> <p>Rebates Applied<sup>(3)</sup>: <b>-\$878,665</b></p> <p>Capital Contribution: <b>\$0</b></p> <p>Miscellaneous Costs Financed: <b>\$443,406</b></p> <p>Financed Amount: <b>\$5,319,216</b></p>		<p>Interest Rate: <input type="text" value="3.50%"/></p> <p>Effective Rate: <input type="text" value="3.03%"/></p>																			
Year	Annual Energy Savings	Solar Savings	Annual Operational Savings	Total Annual Savings	Annual Project Costs	Net Cash-Flow to Client	Cumulative Cash Flow														
Installation	\$ 125,866		\$ -	\$ 125,866	\$ -	\$ 125,866	\$ 125,866														
Year 1	\$ 231,704	\$ 165,862	\$ 33,208	\$ 430,774	\$ (428,375)	\$ 2,400	\$ 128,266														
Year 2	\$ 236,864	\$ 168,989	\$ 33,208	\$ 439,061	\$ (436,662)	\$ 2,400	\$ 130,666														
Year 3	\$ 242,140	\$ 172,156	\$ 18,285	\$ 432,581	\$ (430,181)	\$ 2,400	\$ 133,065														
Year 4	\$ 247,535	\$ 175,362	\$ 18,285	\$ 441,182	\$ (438,783)	\$ 2,400	\$ 135,465														
Year 5	\$ 253,051	\$ 178,609	\$ 18,285	\$ 449,946	\$ (447,546)	\$ 2,400	\$ 137,865														
Year 6	\$ 258,691	\$ 181,898		\$ 440,589	\$ (438,189)	\$ 2,400	\$ 140,265														
Year 7	\$ 264,458	\$ 185,227		\$ 449,686	\$ (447,286)	\$ 2,400	\$ 142,664														
Year 8	\$ 270,355	\$ 188,599		\$ 458,954	\$ (456,554)	\$ 2,400	\$ 145,064														
Year 9	\$ 276,384	\$ 192,014		\$ 468,398	\$ (465,998)	\$ 2,400	\$ 147,464														
Year 10	\$ 282,549	\$ 195,471		\$ 478,020	\$ (475,620)	\$ 2,400	\$ 149,863														
Year 11	\$ 288,853	\$ 198,972		\$ 487,824	\$ (485,425)	\$ 2,400	\$ 152,263														
Year 12	\$ 295,298	\$ 202,517		\$ 497,815	\$ (495,415)	\$ 2,400	\$ 154,663														
Year 13	\$ 301,888	\$ 206,107		\$ 507,995	\$ (505,595)	\$ 2,400	\$ 157,062														
Year 14	\$ 308,627	\$ 209,741		\$ 518,368	\$ (515,968)	\$ 2,400	\$ 159,462														
Year 15	\$ 315,517	\$ 213,422		\$ 528,939	\$ (526,539)	\$ 2,400	\$ 161,862														
<b>Totals</b>	<b>\$ 4,199,780</b>	<b>\$ 2,834,946</b>	<b>\$ 121,272</b>	<b>\$ 7,155,998</b>	<b>\$ (6,994,136)</b>	<b>\$ 161,862</b>															
<p><b>NOTES:</b></p> <p>(1) Includes: Hard costs and project service fees defined in ESCO's PROPOSED "FORM V"</p> <p>(2) No payments are made by RIHRHSD during the construction period.</p> <p>(3) As of July 1, 2021, all of former NJ Clean Energy Program incentive programs transitioned over to the investor-owned gas and electric utility companies. Subsequently, the BPU is requiring that all ESIP projects consult with the DCA and follow all DCA guidance regarding the procurement of all subcontractors.</p>																					



<b>ESIP Project Summary</b>	
Total Project Value	\$5,754,474
Amount Financed	\$5,319,216
Energy Savings	\$7,155,998
Total Rebates for RIHRHSD	\$878,665
Total Solar PPA Savings	\$2,834,946
Total Positive Cash	\$161,862

## LED LIGHTING



Entire District  
Code Compliant  
10 Year Warranty

## SOLAR RENEWABLE ELECTRIC GENERATION



95% of Electric Consumption  
Generated On-Site  
\$.0449 per kWh  
Roofing Upgrades w/  
Warranty

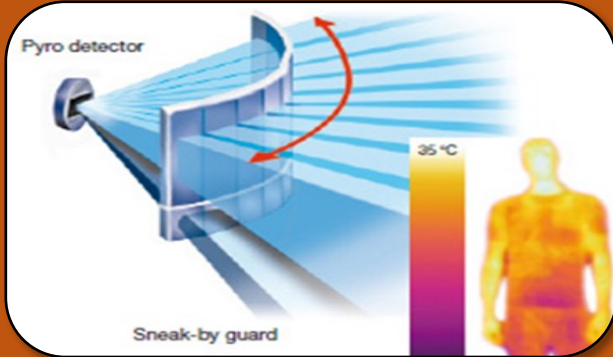
## ENERGY MANAGEMENT SYSTEM



Entire District  
Open Protocol  
Humidity Monitoring  
Upgraded Platform

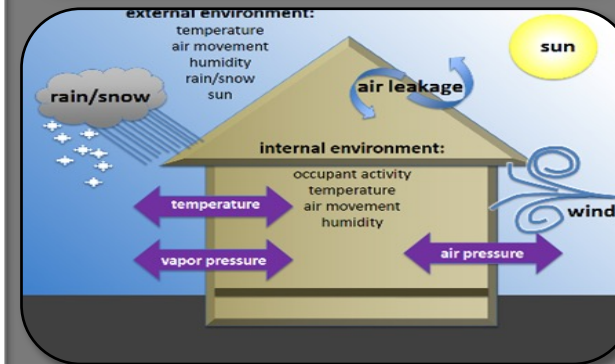


## LIGHTING CONTROLS



Passive Infrared Occupancy  
Detection  
Reduce Lighting Run Hours

## BUILDING ENVELOPE



Reduce Infiltration  
Improved Comfort



- **Approve Resolution to bid Solar PPA (Board Meeting)** **5/9/2022**
- Client Kick-Off Meeting 5/12/2022
- Field Audits 5/12/22 – 7/25/2022
- Advertise Solar PPA Bid 6/9/2022
- Solicit for 3rd Party Engineering Firm 6/13 – 6/23/2022
- **Utility Baseline & ECM Verification Workshop** **6/17/2022**
- **3rd Party Engineering Approval (Board Meeting)** **6/27/2022**
- Solar PPA Bid Due 7/12/2022
- **Award Solar PPA (Board Meeting)** **7/25/2022**
- **Solar PPA Contract Review** **8/1 – 11/15/2022**
- **M&V Workshop and Scope Review** **8/24/2022**
- **Engineered Solutions Peer Review** **9/30 – 10/7/2022**
- **Client Charrette** **10/14/2022**
- **Board of Education Presentation** **10/17/2022**
- **Authorize Financing (Board Meeting)** **10/17/2022**
- 3rd Party Engineering Review of ESP (Whitman Engineering) 10/19 – 10/31/2022
- Solicit Financing Rates for Lease Purchase 10/25 - 11/22/2022
- Submit ESP to BPU for Review 11/2 - 11/23/2022
- BOE Presentation 11/14/2022
- **Award Financing (Board Meeting)** **11/28/2022**
- **Approve Implementation Contract (Board Meeting)** **11/28/2022**
- **Acceptance of ESP – Pending BPU Approval, if necessary (Board Meeting)** **11/28/2022**
- Close on Financing 12/15/2022
- Design ECMs/Implementation January 2023



# Upcoming Board Involvement

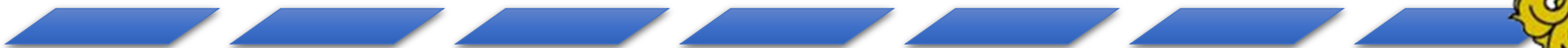
Award Lease Purchase Financing – **November 28<sup>th</sup>**



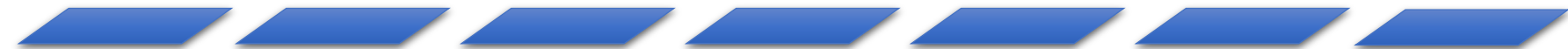
Approve Implementation Contract with DCO Energy – **November 28<sup>th</sup>**



Acceptance of Final ESP – **November 28<sup>th</sup>**



Approve Energy Savings Guarantee – **November 28<sup>th</sup>**





*THANK YOU.*  
**QUESTIONS?**

