

# The Pennsylvania Energy Development Authority

Annual Report 2018



Tom Wolf, Governor  
Patrick McDonnell, Secretary of Environmental Protection & Chairman of the Board



# Pennsylvania Energy Development Authority Board

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**David A. Althoff, Jr. - Staff**

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## **Introduction/Executive Summary**

This annual report covers the operations of the Pennsylvania Energy Development Authority (PEDA) for the period July 1, 2017 to June 30, 2018. Significant activities include project management of the approved financial assistance awards made in October 2014. PEDA and Pennsylvania Department of Environmental Protection (DEP) staff members continue to monitor progress and implementation of the 2014 awarded grant projects. A listing of all current open projects is provided in Appendix A.

## **Background**

PEDA was created by the Energy Development Authority and Emergency Powers Act of 1982. PEDA is a public corporation governed by a 19-member Board of Directors and managed by an executive director and staff. PEDA became active when its first Board of Directors was confirmed on June 26, 1984, and it remained active until 1995. After a period of dormancy, on April 8, 2004, Executive Order 2004-5 was issued revitalizing PEDA and transferring it to DEP, which now provides staffing for the authority.

PEDA's mission is to promote the development and use of Pennsylvania's clean, indigenous energy resources and to stimulate economic development and job creation in Pennsylvania's growing energy sector in an environmentally beneficial manner.

## **Accomplishments in the 2017-18 Fiscal Year**

**Background:** A total of 184 applications for clean and alternative energy projects were submitted to PEDA on August 15, 2014 to be considered for financial assistance awards. The proposed projects totaled approximately \$81 million in requested funding. PEDA, utilizing available funds from the Energy Development Fund, Growing Greener II, Duquesne Light Settlement Fund and the Growing Greener Community Environmental Initiative fund, selected 28 projects totaling nearly \$12.5 million in financial assistance. PEDA utilized a competitive scoring system to rank the proposed projects. PEDA's Technical Review subcommittee including: Gibson C. Armstrong, Representative R. Lee James, Bernie Lynch, Tanya McCloskey, and Steve Drizos representing Secretary C. Alan Walker, selected the final list of recommended projects for presentation to the PEDA board for approval.

Awarded projects:

- 19 Advanced Energy Projects
- 5 Clean Alternative Energy Projects
- 3 Advanced Energy Projects to be deployed in the Duquesne Light service territory,
- 1 Community Environmental Initiative project

**Results:** Twenty-one PEDA projects were successfully deployed. Seventeen projects have been completed and are operating. Three projects have been constructed but are awaiting administrative close out. One project is still under construction. Seven projects were mutually determined to be unable to move to completion as proposed. Of those seven projects, three projects were withdrawn prior to grant contracting and four were terminated. All funds awarded to the seven projects were liquidated and no grant funds were expended on those projects.

For the 21 projects which have been successfully constructed and deployed, the anticipated energy savings was calculated to be:

- Electricity savings of 13,642 MWh/yr.
- Alternative energy generation of 50,873 MWh/yr.
- Natural Gas Savings of 69,101 Mcf/yr.

Total anticipated savings/generation equals 84,952 MWh/yr. Based on an average consumption of 10,400 kWh per year, this equates to the electricity consumed by 8,168 households each year, for the life of the projects.

Projected carbon dioxide emission savings from the 21 projects is estimated to be 36,954 tons each year. This equates to saving the greenhouse gas emissions from 7,863 typical passenger vehicles for a year.

As a condition of the PEDA grant contract, grantees are required to submit at least one follow-up annual report which details alternative energy generation and energy savings. Fourteen projects have submitted their follow-up annual report: West Branch Area School District, Dairy Farmers of America Inc. Northumberland County Commissioners, Shamokin Area School District, Allegheny County, AIM Ventures LLC, JV Manufacturing Company Inc., Green Building Alliance, Constellation New Energy, Alcoa Inc., Estes Express, Interstate Building Materials LLC, Borough of Monaca, and the City of Harrisburg.

Anticipated and actual annual energy savings for the 14 projects are:

- Electricity savings anticipated: 5,728 MWh/yr, Actual: 8,569 MWh/yr.
- Natural Gas savings anticipated: 23,373 Mcf/yr, Actual: 23,461 Mcf/yr.

To date, total actual energy savings is the equivalent of 15,440 MWh/yr. Based on an average consumption of 10,400 kWh per year, this equates to the electricity consumed by 1,485 households each year, for the life of the projects.

#### **Project Implementation – Projects completed and/or in the process of administrative closeout.**

**Advanced Energy Projects:** Projects which deploy: solar energy, wind, low-impact hydropower, geothermal, biomass, biologically derived methane gas including landfill gas, fuel cells, coal-mine methane, waste coal, coal liquefaction, coal polygeneration, integrated gasification combined cycle, and demand management measures including recycled energy and energy recovery, energy efficiency and load management

**City of Harrisburg (Dauphin County):** The project was to replace 6,161 Metal Halide/Mercury Vapor and High-Pressure Sodium Roadway Luminaires into energy efficient LED Roadway Luminaires.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 3,741,417 kWh/yr., cost savings \$171,113/yr. & emission savings 1,628 tons of CO<sub>2</sub>/yr.

- Anticipated Energy Saved: 3,223,136 kWh/yr. Note: actual energy savings outperformed what was anticipated.

**Constellation New Energy (Montgomery County):** The project installed a locally-manufactured UltraBattery®; a hybrid lead acid battery device containing an ultra-capacitor to be placed in Aqua's Upper Merion Water Treatment Plant and act as a reference project to provide increased grid stabilization and power resiliency at the water treatment plant.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 85,000 kWh/yr., cost savings \$8,500/yr., & emission savings 37 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Saved: 8,500 kWh/yr through frequency regulation and demand management. Note: e actual energy savings outperformed what was anticipated.

**Dairy Farmers of America (Tioga County):** The project was to replace the mechanical burner linkage at the Middlebury facility with an electronic controlled combustion head and diffuser plate, as well as the addition of a variable frequency drive on the blower motor.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 1,303,097 kWh/yr., 13,490 Mcf/yr., cost savings \$172,544/yr., & emission savings 2,286 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Saved: 26,667 kWh/yr. and 11,465 Mcf/yr. Note: actual energy savings far outperformed what was anticipated.

**Estes Express Line (Mercer County):** The project was to design and build a 687.9kW solar PV system in West Middlesex, Pennsylvania on the roof of Estes' terminal.

- Project Status: Project has been completed, received annual report.
- Actual energy generated 795,320 kWh/yr., cost savings \$67,125/yr., & emission savings 346 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Generated: 787,826 kWh/yr. Note: actual energy savings outperformed what was anticipated.

**Green Building Alliance (Allegheny County):** The project installed energy efficiency upgrades focusing on replacing light fixtures with LED and dynamic lighting controls at six free standing parking garages in Pittsburgh, PA.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 2,122,606 kWh/yr., cost savings \$181,950/yr., & emission savings 923 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Saved: 960,150 kWh/yr. Note: actual energy savings far outperformed what was anticipated.

**Shamokin Area School District (Northumberland County):** The project installed a state-of-the art building automation controls, upgrading the HVAC system at the High School, including a new chiller and rooftop units, and installing new campus wide exterior lighting.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 433,774 kWh/yr., 1,805 Mcf/yr., cost savings \$70,253/yr., & emission savings 419 tons of CO<sub>2</sub>/yr.

- Anticipated Energy Saved: 627,620 kWh/yr., and 127 Mcf/yr.

**West Branch Area School District (Clearfield County):** The project installed a biomass boiler system to provide up to 80% of its heating needs, replacing heating oil.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 55,148 Gal/yr. fuel oil, & cost savings \$124,853/yr. through fuel displacement and increased system efficiency.
- Anticipated Energy Saved: 53,832 Gal/yr. fuel oil

**Robert Packer Hospital (Bradford County):** The project involved a broad range of demand side efficiency improvements including: chiller plant retro-commissioning, replacement of inefficient energy recovery ventilation near end-of-life, and conversion of constant volume to variable volume air handlers.

- Project Status: Project was completed in August 2017, awaiting receipt of the annual report.
- Anticipated Energy Saved: 4,663,117 kWh/yr, 13,361 Mcf/yr.

**Westtown School (Chester County):** The project was to upgrade Westtown School's central steam plant to a high efficiency hot water condensing boiler system and convert ten campus buildings (317,000 sq. ft.) from natural gas to electric heating. Additionally, lighting upgrades in Westtown's Lower and Middle Schools, and the Athletic Center will be undertaken.

- Project Status: Project was completed in August 2017, awaiting receipt of the annual report.
- Anticipated Energy Saved: 210,737 kWh/yr, and 9,341 Mcf/yr.

**Aria Health System (Philadelphia County):** The project installed a new 1.1 MW combined heat and power system at the Torresdale Campus, the largest hospital in the Aria Health Systems group of three hospitals.

- Project Status: The project was built and commissioned and is operating, awaiting administrative closeout and receipt of the annual report.
- Anticipated Energy Savings: 8,585,412 kWh through fuel displacement and increased system efficiency.

**Elizabethtown College (Lancaster County):** The project was to design and install a 2 MW ground-mounted solar photovoltaic (PV) array on campus owned property.

- Project Status: 95% completed. The solar construction was completed in 2016; however, due to a heavy snow load, some portions of the solar racking was damaged. The solar project is functioning (generating electricity), but because of the damaged racking, the grantee (Community Energy, LLC. DBA Elizabethtown Solar, LLC) has not made a final payment to its contractor. In turn, DEP has been unable to make a final payment to the Grantee. Currently, the grantee is working on a schedule for repairs to reinforce and replace the damaged racking. This activity should take place over the winter of 2018-19, with final payment and closeout in spring 2019.
- Anticipated Energy Generated: 3,567,000 kWh/yr.
- Actual Energy Generated: 3,268,408 kWh/yr.

**Knouse Foods Co Op (Adams County):** The project was provided grant funding to install a 1,200 kW Combined Heat and Power (CHP) system at its Peach Glen facility to utilize the biologically derived methane biogas to generate electricity, steam, and hot water to support Knouse Foods' on-going operations.

- Project Status: 95% completed. The project is anticipated to be completed in Fall of 2018. Knouse and its contractors are currently wrapping up the Combined Heat and Power (CHP) system testing and commissioning. With successful commissioning and payment to contractors, the grant project will conclude.
- Anticipated Energy Generated: 9,498,016 kWh/yr. and 23,086 Mcf/yr.

**Clean Alternative Energy Projects:** Projects which support manufacture of component parts of the alternative energy sector and projects which support research to advance or commercialize alternative energy projects.

**Alcoa Inc. (Westmoreland County):** The project was to build and test an innovative system to recycle deactivated electrolyte from the Alcoa Al-air battery system.

- Project Status: Project has been completed, received annual report
- The project goal was to increase the commercial viability of the use of the Al-Air battery in extending the range of electric vehicles, and to reduce gasoline/diesel use. Following successful commissioning of the system, a series of trials were conducted. The results of these trials demonstrated that the energy requirements for large-scale deployment outweighed the environmental benefits; consequently, the project was concluded in June 2017.

**Interstate Building Materials Inc. (Luzerne County):** The project included the acquisition of equipment, as well as job training to increase production capacity to support new production lines for development and production of window and door products with insulation values more than two times as efficient as current commercial products.

- Project Status: Project has been completed, received annual report
- The project goal was the reduction of home heating oil, electricity, and natural gas consumption upon full deployment of highly insulated building products. The grantee successfully expanded their energy-efficient window system manufacturing capabilities, and continues to manufacture best of breed energy-efficient composite window systems.

**J.V. Manufacturing Company (Allegheny County):** The project included the construction of dies, which are used to create the component parts in the manufacturing process for fuel cells. The project output increased production of fuel cells by over 30%.

- Project Status: Project has been completed, received annual report. As of April 2017, 282,733 fuel cell anodes and cathodes had been manufactured.
- Manufacturing of parts to contribute to a 20 MW increase in fuel cell deployments.

**Summit Steel & Manufacturing, Inc. (Berks County):** The project developed a solar photovoltaic panel mounting system called Solstice High Profile, which will reduce overall installation time and costs which are not currently possible with conventional mounting systems.

- Project Status: Project was completed in October 2017, awaiting annual report.



**Duquesne Light Settlement Funding:** Duquesne Light funding was provided to PEDAs through a settlement, approved by Order of Dec. 1, 2007 in Pennsylvania Public Utility Commission, et al. v. Duquesne Light Company. The remaining balance of \$259,694.91 in the PEDAs Duquesne Light fund was reserved to be used for grant projects to be deployed in the Duquesne Light service territory. The funding was used for renewable energy projects and/or energy efficiency and education projects benefitting the customers of the Duquesne Light Company.

**AIM Ventures, LLC (Allegheny County):** The project installed a 30.21 kW ballasted PV system on a privately-owned building in the Larimer neighborhood of Pittsburgh.

- Project Status: Project has been completed, received annual report.
- Actual energy generated 34,632 kWh/yr., cost savings \$1,504/yr., & emission savings 15 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Generated: 34,982 kWh/yr.

**Allegheny County (Allegheny County):** The project was to insulate high volume steam traps and monitor performance of the steam system in four County buildings using a Carnegie-Mellon University developed technology, Smart Jackets.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 7,405 Mcf/yr., cost savings \$175,997/yr., & emission savings 943 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Saved: 2,950 Mcf/yr. Note that the actual energy savings outperformed what was anticipated.

**Borough of Monaca (Beaver County):** The project installed a 49.5 kW ground mounted solar array.

- Project Status: Project has been completed, received annual report.
- Actual energy generated 60,166 kWh/yr., cost savings \$7,220/yr., & emission savings 26 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Generated: 59,170 kWh/yr.

**Community Environmental Initiative (CEI) Project (Northumberland County):** CEI Program allows Counties to designate a project under a grant program, which they choose, to utilize the Growing Greener II funds provided to them. Northumberland County Board of Commissioners requested their project as a part of the PEDAs 2014 Program solicitation.

**Northumberland County (Northumberland County):** The project installed a boiler upgrade for the Careerlink Building, home to several state and local agencies which directly service low to moderate income persons in Shamokin, resulting in 30% greater fuel use efficiency.

- Project Status: Project has been completed, received annual report.
- Actual energy savings 762 Mcf/yr., cost savings \$3,000/yr., & emission savings 97 tons of CO<sub>2</sub>/yr.
- Anticipated Energy Savings 762 Mcf/yr.

### **Project Implementation – Projects not completed but underway**

**Hydro Green Energy (Allegheny County):** The project contributes to the development of a 5.2 MW low environmental impact hydropower facility at the U.S. Army Corps of Engineers Braddock Locks and Dam on the Monongahela River.

- Project Status: 30% completed. Geotechnical drilling and analysis is complete. Negotiations were begun in 2018 for a new Power Purchase Agreement to support the project. Discussion is underway to get an agreement in place for project engineer to finish construction drawings. The project is behind the original period of performance schedule, and has requested a grant term extension beyond the June 30, 2019 project completion.
- Anticipated Energy Generated: 32,263,000 kWh/yr.

## **Financial Report**

As of June 30, 2018, the Energy Development Fund contained a total of \$3,468,211.11 in funds. The funds include designated administrative funds, revenue from interest on securities, claw back funds from 2014 grant projects who have returned grant funds. It is expected that the balance of funds in Energy Development Fund may be committed in the coming fiscal year through the action of the PEDa board. Financial information for the Energy Development Fund is described in the Fund Balance Sheet, attached as Appendix B. The Unreserved Fund Balance Sheet is attached as Appendix C.

The Duquesne Light Settlement funds were fully committed and expended through the financial assistance awards made on October 22, 2014. The Duquesne Light Settlement funds are described in Appendix D.

Growing Greener II provided PEDa with up to \$10 million annually for 5 years ending in FY 2009-10. Those funds are a part of the Commonwealth's general obligation bond issuances. As such, the funds are not deposited directly into the Energy Development Fund, but are maintained by the Governor's Office of Budget as a part of the larger fund containing other general obligation bond proceeds. PEDa grantees utilizing Growing Greener II monies are paid from this larger fund. A statement of commitments and expenditures for PEDa's allocation of Growing Greener II funding is attached as Appendix E. An uncommitted balance exists in this fund of \$1,215,857.10 due to prior committed projects returning unspent funds. It is expected, however, that the balance of funds in the Growing Greener II bond fund may be committed in the coming fiscal year through the action of the PEDa board. The Growing Greener Funds are described in Appendix E.

## **Activities Going Forward**

The Board plans to meet in FY 2018-19 to elect officers and plan FY 2018-19 business priorities. PEDa will continue to manage existing grants as well as identify new financial and technical assistance opportunities for projects in accordance with the PEDa Energy Development Plan.

## **Conclusion**

PEDA plans to work with Governor Wolf, the legislature, and the private sector to help finance innovative clean energy projects and companies and to promote clean energy in Pennsylvania. In the coming year, PEDa's board and staff look forward to potential new financial opportunities so as to provide assistance for advanced energy projects and continue the work to foster growth in this important area of Pennsylvania's economy.

## Appendix A

GRANT PROGRAM	PROJECT NAME	FUNDING RECIPIENT	COUNTY	PROJ STATUS	TOTAL PROJECT COST	TOTAL PEDA FUNDING	MATCHING FUNDS	TOTAL AMT INVOICED	EXPECTED COMPL DATE
PEDA 2014	Al-Air Battery Electrolyte Recycling	Alcoa, Inc.	Westmoreland	Complete	\$1,089,830	\$500,000	\$589,830	\$478,032	12/31/2015
PEDA 2014	Career Center Boiler Upgrade	Northumberland County Board of Commissioners	Northumberland	Complete	\$175,887	\$79,944	\$95,944	\$79,944	08/31/2015
PEDA 2014	Estes Express Lines - West Middlesex	Estes Express Lines	Mercer	Complete	\$1,410,195	\$400,000	\$1,010,195	\$400,000	04/30/2017
PEDA 2014	Gaining Ground by Going Green	Shamokin Area School District	Northumberland	Complete	\$4,299,993	\$500,000	\$3,799,993	\$500,000	11/30/2015
PEDA 2014	Interstate Energy Window Manufacturing Expansion	Interstate Building Materials, Inc.	Luzerne	Complete	\$2,170,000	\$470,000	\$1,700,000	\$469,950	10/21/2016
PEDA 2014	Modeling Biomass Excellence: Public Education Advancing the Land of Lumber	West Branch Area School District	Clearfield	Complete	\$1,261,675	\$500,000	\$761,675	\$500,000	10/31/2016
PEDA 2014	Monaca Water Reservoir Alternative Energy Project	Borough of Monaca	Beaver	Complete	\$150,000	\$75,000	\$75,000	\$75,000	12/01/2015
PEDA 2014	New Burner and Economizer for Johnston Boiler	Dairy Farmers of America	Tioga	Complete	\$151,952	\$75,976	\$75,976	\$72,918	10/31/2014
PEDA 2014	NextGen FuelCell Component Manufacturing	J.V. Manufacturing Company	Allegheny	Complete	\$1,486,435	\$500,000	\$986,435	\$500,000	09/30/2016

## Appendix A

GRANT PROGRAM	PROJECT NAME	FUNDING RECIPIENT	COUNTY	PROJ STATUS	TOTAL PROJECT COST	TOTAL PEDA FUNDING	MATCHING FUNDS	TOTAL AMT INVOICED	EXPECTED COMPL DATE
PEDA 2014	Pittsburgh Garage Energy Efficiency Initiative	Green Building Alliance	Allegheny	Complete	\$840,565	\$469,893	\$370,672	\$463,635	10/31/2016
PEDA 2014	Pittsburgh Non-Profit Power Purchase	AIM Ventures, LLC	Allegheny	Complete	\$98,630	\$28,800	\$69,830	\$28,800	05/15/2015
PEDA 2014	Steam System Insulation & Monitoring Project	Allegheny County	Allegheny	Complete	\$400,805	\$174,665	\$226,140	\$174,665	12/31/2017
PEDA 2014	Street Light LED Conversion Project	City of Harrisburg	Dauphin	Complete	\$2,837,653	\$500,000	\$2,337,653	\$500,000	12/31/2015
PEDA 2014	Upper Merion Ultra Battery Project	Constellation New Energy	Montgomery	Complete	\$1,598,840	\$500,000	\$1,098,840	\$500,000	12/15/2015
PEDA 2014	Robert Packer Hospital Energy Conservation Project	Robert Packer Hospital	Bradford	Complete	\$2,181,800	\$500,000	\$1,681,800	\$500,000	04/28/2017
PEDA 2014	Westtown School Comprehensive Conservation Plan	Westtown School	Chester	Complete	\$1,057,790	\$500,000	\$557,790	\$500,000	03/31/2017
PEDA 2014	Advanced Solar PV Panel Mounting Systems	Summit Steel & Manufacturing, Inc.	Berks	Complete	\$1,368,156	\$457,366	\$910,790	\$406,551	10/31/2017

## Appendix A

GRANT PROGRAM	PROJECT NAME	FUNDING RECIPIENT	COUNTY	PROJ STATUS	TOTAL PROJECT COST	TOTAL PEDA FUNDING	MATCHING FUNDS	TOTAL AMT INVOICED	EXPECTED COMPL DATE
PEDA 2014	Elizabethtown College and Clean Energy:	Community Energy Solar, LLC dba Elizabethtown Solar LLC	Lancaster	Healthy	\$4,782,256	\$500,000	\$4,282,256	\$450,000	10/31/2017
PEDA 2014	Aria Health System - CHP	Aria Health System	Philadelphia	Healthy	\$3,864,506	\$500,000	\$3,364,506	\$450,000	02/27/2017
PEDA 2014	Braddock Locks and Dam Low Environmental Impact Hydropower Project	Hydro Green Energy, LLC	Allegheny	Healthy	\$8,428,913	\$499,913	\$7,929,000	\$0	06/30/2019
PEDA 2014	Knouse Foods Peach Glen Biogas CHP System	Knouse Foods Co-Op, Inc.	Adams	Healthy	\$2,028,900	\$1,000,000	\$1,028,900	\$561,439	10/21/2017
PEDA 2014	Anaerobic Digester for Nicholas Meats	Nicholas Meat, LLC	Clinton	Terminated	\$1,797,649	\$500,000	\$1,297,649	\$0	03/15/2016
PEDA 2014	Blue Mountain CHP and Natural Gas Pipeline Project	Blue Mountain Resort Management LLC	Carbon	Terminated	\$1,464,333	\$500,000	\$964,333	\$0	06/30/2016
PEDA 2014	Marywood Solar Project	Community Energy Solar LLC dba Marywood Solar LLC	Lackawanna	Terminated	\$3,675,000	\$500,000	\$3,175,000	\$0	11/01/2015
PEDA 2014	PA Solar Park II - PEDA 2014	PA Solar Park II, LLC	Carbon	Terminated	\$9,000,000	\$750,000	\$8,250,000	\$0	09/15/2017
PEDA 2014	HACC	Juniata Solar Partners	Dauphin	Withdrawn	\$9,089,657	\$484,559	\$8,605,098	\$0	N/A
PEDA 2014	Solar Power on a Sustainable Tree Farm	Advanced Technologies & Land Services	Armstrong	Withdrawn	\$4,068,000	\$500,000	\$3,568,000	\$0	N/A
PEDA 2014	Solar-diesel Hybrid Light Tower	Solar Secured Solutions LLC.	York	Withdrawn	\$4,313,320	\$500,000	\$3,813,320	\$0	N/A

## Appendix B

### ENERGY DEVELOPMENT FUND BALANCE SHEET June 30, 2018

ASSETS	
Cash with Treasurer	\$ -
Cash in Transit	\$ -
Temporary Investments	\$ (1,860,545.56)
Long-term Investments	\$ 5,328,756.67
Loans Receivable	-
<b>TOTAL ASSETS</b>	<b>\$ 3,468,211.11</b>
LIABILITIES AND FUND BALANCE	
LIABILITIES	
Payroll Payable	
Invoices/Accounts Payable	\$ -
Due to Political Subdivisions	
<b>TOTAL LIABILITIES</b>	<b>\$ -</b>
FUND BALANCE	
Reserved for Loans Receivable	\$ -
Reserved for Encumbrances - Restricted Revenue	-
Reserved for Encumbrances	-
Reserved Non-Lapsable Balance	\$ 108,281.20
Reserved for General Fund Lapse	-
Reserved - Restricted Revenue	-
Reserved for General Fund Transfer per Act 44	\$ -
Unreserved/Undesignated	\$ 3,359,929.91
<b>TOTAL FUND BALANCE</b>	<b>\$ 3,468,211.11</b>
<b>TOTAL LIABILITIES AND FUND BALANCE</b>	<b>\$ 3,468,211.11</b>

## Appendix C

### ENERGY DEVELOPMENT FUND UNRESERVED FUND BALANCE STATEMENT June 30, 2018

UNRESERVED FUND BALANCE, July 1, 2017	\$3,700,819.38
Reserved for Encumbrances - Restricted Revenue, July 1, 2017	\$0.00
Reserved for Restricted Revenue, July 1, 2017	\$0.00
Reserve for Transfer to General Fund, July 1, 2012	\$0.00
REVENUE	
PEDA Application Fees 4411316	\$0.00
Transfer from AFIG	\$0.00
Loan Repayment 4529993	\$0.00
Interest Payments 4204137	\$0.00
Late Fees	\$0.00
Miscellaneous Revenue	\$0.00
Interest on Securities 4441025/4580000/4590000	\$104,497.33
Duquesne Light Settlement	\$0.00
<b>TOTAL REVENUE</b>	<b>\$104,497.33</b>
Pending Prior Year Lapses	\$270,613.20
<b>TOTAL FUNDS AVAILABLE</b>	<b>\$4,075,929.91</b>
DEDUCTIONS:	
Expenditures - Current	\$607,718.80
Reserved for Non-Lapsable Balance	\$108,281.20
Expenditures - Restricted Revenue	
Commitments - Current	\$0.00
Commitments - Restricted Revenue	\$0.00
Reserved for Restricted Revenue	\$0.00
General Fund Lapse	\$0.00
Transfer to General Fund per Act 44	\$0.00
Reserved for Loans Receivables	\$0.00
<b>TOTAL DEDUCTIONS</b>	<b>\$716,000.00</b>
<b>UNRESERVED FUND BALANCE, JUNE 30, 2018</b>	<b>\$3,359,929.91</b>



## Appendix D

### ENERGY DEVELOPMENT FUND DUQUESNE LIGHT SETTLEMENT June 30, 2018

BALANCE JULY 1, 2007	<b>\$0.00</b>
FY 2007-08 Revenue	\$3,000,000.00
FY 2008-09 Revenue	\$0.00
FY 2009-10 Revenue	\$1,500,000.00
FY 2010-11 Revenue	\$1,500,000.00
FY 2011-12 Revenue	\$0.00
FY 2012-13 Revenue	\$0.00
FY 2013-14 Revenue	\$0.00
FY 2014-15 Revenue	\$0.00
FY 2015-16 Revenue	\$0.00
FY 2016-17 Revenue	\$0.00
FY 2017-18 Revenue	\$0.00
<b>TOTAL REVENUE</b>	<b>\$6,000,000.00</b>
COMMITMENTS	<b>\$0.00</b>
EXPENDITURES	
FY 2009-10 Expenditures	\$729,166.16
FY 2010-11 Expenditures	\$1,101,352.84
FY 2011-12 Expenditures	\$1,956,460.32
FY 2012-13 Expenditures	\$1,703,325.77
FY 2013-14 Expenditures	\$0.00
FY 2014-15 Expenditures	\$0.00
FY 2015-16 Expenditures	\$434,694.91
FY 2016-17 Expenditures	\$75,000.00
FY 2017-18 Expenditures	\$0.00
<b>TOTAL EXPENDITURES</b>	<b>\$6,000,000.00</b>
<b>TOTAL COMMITMENTS AND EXPENDITURES</b>	<b>\$6,000,000.00</b>
<b>BALANCE JUNE 30, 2018</b>	<b>\$0.00</b>

## Appendix E

### GROWING GREENER II BOND FUND EXECUTIVE AUTHORIZATION STATEMENT June 30, 2018

BALANCE JULY 1, 2005	<b>\$0.00</b>
FY 2005-06 Executive Authorization	\$10,000,000.00
FY 2006-07 Executive Authorization	\$10,000,000.00
FY 2007-08 Executive Authorization	\$10,000,000.00
FY 2008-09 Executive Authorization	\$10,000,000.00
FY 2009-10 Executive Authorization	\$10,000,000.00
<b>TOTAL EXECUTIVE AUTHORIZATIONS</b>	<b>\$50,000,000.00</b>
<b>COMMITMENTS</b>	<b>\$649,913.00</b>
<b>EXPENDITURES</b>	
FY 2005-06 Expenditures	\$323,562.07
FY 2006-07 Expenditures	\$2,925,987.35
FY 2007-08 Expenditures	\$3,596,835.59
FY 2008-09 Expenditures	\$4,967,237.88
FY 2009-10 Expenditures	\$7,389,308.92
FY 2010-11 Expenditures	\$10,734,584.94
FY 2011-12 Expenditures	\$6,887,968.37
FY 2012-13 Expenditures	\$3,790,487.65
FY 2013-14 Expenditures	\$685,906.41
FY 2014-15 Expenditures	\$99,973.89
FY 2015-16 Expenditures	\$3,798,872.59
FY 2016-17 Expenditures	\$2,570,054.59
FY 2017-18 Expenditures	\$363,449.65
<b>TOTAL EXPENDITURES</b>	<b>\$48,134,229.90</b>
<b>TOTAL COMMITMENTS AND EXPENDITURES</b>	<b>\$48,784,142.90</b>
<b>BALANCE JUNE 30, 2018</b>	<b>\$1,215,857.10</b>