

The Pennsylvania Energy Development Authority

Annual Report
July 1, 2013 - June 30, 2014



Tom Corbett, Governor
Dana K. Aunkst, Acting Secretary of Environmental Protection & Chairman of the Board

Pennsylvania Energy Development Authority Board

Officers

Chairman

Hon. Dana K. Aunkst
Acting Secretary of Environmental Protection

Secretary

Hon. C. Alan Walker
Secretary of Community and Economic
Development

Treasurer

Hon. Peter J. Daley, II
Pennsylvania House of Representatives

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BlueStar Energy Services

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City of Philadelphia

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North Branch Energy, Inc.

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AFSCME Philadelphia District Council
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Public Utility Commission

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Pennsylvania Senate

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Secretary of Agriculture

Sarah Hetznecker
Hilldale Group, Inc.

Bernie Lynch
Strategic Development Solutions, LLC

Consumer Advocate's Designee:
Tanya McCloskey
Office of Consumer Advocate

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Pennsylvania House of Representatives

Hon. Glenn E. Moyer
Secretary of Banking and Securities

Hon. John N. Wozniak
Pennsylvania Senate

Michael Welsh
IBEW Third District

Vacant

Staff

Hayley L. Book
Executive Director

David A. Althoff, Jr.
Staff

Introduction

This annual report covers the operations of the Pennsylvania Energy Development Authority (PEDA) for the period July 1, 2013, to June 30, 2014. Throughout this fiscal year, PEDA has updated the Energy Development Plan, approved a new grant solicitation and continued to monitor the progress and implementation of existing grant programs.

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, an Executive Order 2004-5 was issued revitalizing PEDA and transferring it to the Department of Environmental Protection (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.

PEDA Board Meeting & Grant Solicitation

Over the course of the last year, PEDA has updated the Energy Development Plan, approved a new grant solicitation and continued to monitor the progress and implementation of existing grant programs.

On April 7, 2014 the PEDA Board convened to elect officers, review and approved an updated Energy Development Plan and ultimately to approve a new grant offering. The Honorable C. Alan Walker, Secretary of the Department of Community and Economic Development, was elected as the 2014 Secretary. The Honorable Representative Peter J. Daley, II was elected as the new Treasurer. Hayley Book was recommended by the Department of Environmental Protection and was subsequently confirmed to serve as the PEDA Executive Director.

A revised Pennsylvania Energy Development Plan was presented by PEDA staff to the Board at the April 7, 2014, meeting. The draft 2014 Energy Development plan included changes to remove outdated references and the incorporation of current data from Governor Corbett's recently published State Energy Plan. The draft plan was approved with several minor changes during the April 7, 2014, PEDA Board Meeting. The plan was then posted on the PEDA website and opened for the receipt of public comments on May 30th. No public comments were received within the 60 day comment period and the plan was published as final on August 16, 2014.

On June 14th, PEDA released a 2014 Financial Assistance Offering making \$12.5 million of funding available, \$10 million to be used for the advanced energy projects and \$2.5

million for clean alternative fuels, alternative energy manufacturing and alternative energy research. The funding was offered as grants and loans and be capped at \$500,000 per project. Applications were received from June 14th 2014 until August 15th 2014. The solicitation resulted in 184 awards, with requests for over \$81M in funding.

Project Implementation

PEDA successfully completed six projects during the year reducing the number of active PEDA grant projects to three: Ultra Poly Corporation, Chatham University and Allentown Commercial and Industrial Development Authority.

Ultra Poly Corporation: This pilot project designed to test a gassifier/genset is complete however, during commissioning the syngas system, the project had been encountering problems with carbon buildup. The plan was to convert, via pyrolysis gasification approximately, 20 tons/day of non-source separated waste plastic that is currently being landfilled energy which will be used at Ultra Poly's facility. The BTU content of the syngas is equal to 3000 gallons/day of liquid fuel meeting ASTM standard for low sulfur diesel fuel." Installation of an upgraded filter system continues. PEDA is currently awaiting receipt of a final report from Ultra Poly so as to financially close out the project.

Chatham University: This project is intended to install a geo-exchange system for heating and cooling as a part of the first phase of the Eden Hall Campus development. The geo-exchange system will be a major contributor to the net positive energy production of this campus and will go beyond traditional geo-exchange system installation. The project had been slowed due to permit issuance and was recently delayed an additional month due to issues with the construction of the building which will be heated and cooled by the geo-exchange building. All of the geothermal wells were recently completed including piping, grouting, hook-in to distribution manifolds, and surface reclamation. It is anticipated this project will be completed and operable by Spring 2015.

Allentown Commercial and Industrial Development Authority: This project was to design and install a waste-to-energy plant co-located with Allentown's waste water treatment facility and power substation. The project planned to take sludge from the waste water treatment plant plus MSW (Municipal Solid Waste) collected from the City of Allentown. The power plant would then process this mixture of waste into a homogenous biomass-like byproduct which would be combusted to produce clean energy (electricity, steam & hot water). This project would provide heat and power the waste water treatment facility as well as sell the excess power to the grid. The project has not met the established milestones, related to permitting and construction financing and is in jeopardy of not being completed.

Closed projects include:

The Whitaker Center Energy Use Reduction Program: The Whitaker Center located in Harrisburg PA replaced major mechanical systems including upgrades to the air and water handling systems and installed steam and electric meter monitoring, which provided for more efficient energy use. Insulation over the loading dock was installed to

preserve conditioned air in the dock area and high-heat-loss doors were replaced with two newly designed energy efficient vestibules. The project also included an on-site green touch screen interface to the control systems allowing over 400,000 annual visitors to the Whitaker Center to see real-time data about energy usage in the Center and to be educated on the energy conservation measures installed.

ARB Torrefaction Project/Terra Green Energy: The ARB torrefaction project resulted in the development of a biomass treatment facility in McKean County. The project consisted of a small scale torrefaction Demonstration Unit consisting of a pre-dryer; a reactor for torrefying the biomass; and a combustor to provide heat to the process and to capture and incinerate the off gases generated by the torrefaction process. The torrefaction technology is a mild pyrolysis process carried out in the absence of oxygen and results in the conversion of biomass such as hardwood, softwood, eucalyptus, willow, grasses, etc. to a substitute coal-like solid. The project will support various end-users; power generation, plastics additive, and pellet production. It is anticipated the results of the demonstration plant will enable a design of a full scale commercial unit capable of producing at least 60,000 tons/year of torrefied biomass.

ARC Landfill Control Device for Total Methane Recovery: ARC Technologies landfill gas recovery system located on the Waste Management South Hills Landfill was utilized as a test bed to verify the ability of a novel vent gas system for the reduction of Non Methane Organic Compounds (NMOC) that previously had been sent to a flare. This project commercially demonstrated for the first time more than 98% reduction of the plant's inlet NMOC versus the vented NMOC. PEDAs funding assisted in practical design of the system, in the purchasing of equipment and in performing modifications to the existing facility.

Northumberland County: Northumberland County converted a #2 Fuel Oil Heating system which was a previously converted anthracite coal stove to a high efficiency low emission natural gas furnace with a modern energy efficient control systems. The new more efficient system provides heat to the entire Northumberland County Courthouse.

Franklin Advanced Materials' PV Metallization Paste Production Facility: Franklin Advanced Materials, LLC located in Philadelphia PA, built and equipped a technology and product development plus manufacturing and warehousing space for the development, sale and support of advanced solar cell metallization pastes. Franklin Materials entered the market place with its product by selling in excess of 1,000kg of pastes and created 14 additional jobs. Franklin Advanced Materials sold its assets to DaeJoo U.S. LLC, a PA company in September 2013.

Stable Flats: Stable Flats, located in Philadelphia, endeavored to build a Passive House Certified Net-Zero-Energy-Capable housing community. The \$700,000 grant provided in 2008 was to support 235kw of solar PV to be deployed on 27 housing units. Only 3 of the 27 units were constructed by the expiration of the grant contract in October 2013. The financing of the project after the recession of 2008 proved to be a significant challenge which was not overcome. Only \$32,169 of the grant funding was expended. The remaining funding was liquidated and is available for use in the 2014 PEDAs financial assistance solicitation.

Financial Report

As of June 30, 2014, the Energy Development Fund contained a total of \$4,741,968.31 in funds. The funds include designated administrative funds, revenue from interest on securities, Duquesne Light settlement funds and the repayment of loan principal and interest from one remaining loan to Community Energy Inc,. The loan is due to be paid in full by February 2016. Financial information for the Energy Development Fund is described in the Fund Balance sheet, attached as Appendix B, the Unreserved Fund Balance Sheet, attached as Appendix C, and the Duquesne Light Settlement funds as described in Appendix D.

Growing Greener II had provided PEDDA 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. PEDDA grantees utilizing Growing Greener II monies are paid from this larger fund. A statement of commitments and expenditures for PEDDA's allocation of Growing Greener II funding is attached as Appendix E. An uncommitted balance exists in this fund of \$ 8,378,992.43. Available Growing Greener II funding has increased during this reporting year due to the claw back of funding from projects that did not fully expend the awarded grant amount or projects which returned funding to PEDDA due to non-performance.

Activities Going Forward

The Board plans to meet in October 2014 to select and award grants and loans to applicants who proposed projects in response to the 2014 financial assistance opportunity. PEDDA will continue to manage existing grants as well as select and begin to manage the new financial assistance projects with the entities selected from the 2014 financial assistance opportunity.

Conclusion

PEDA continues to work with Governor Corbett, 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, PEDDA's board and staff look forward to the award of \$12.5 Million of new financial assistance for advanced energy projects so as to continue the work to foster growth in the energy sector.

Appendix A

GRANT PROGRAM	PROJECT NAME	FUNDING RECIPIENT or VENDOR	COUNTY	PROJECT STATUS	TOTAL PROJECT COST	TOTAL PEDA FUNDING	TOTAL AMT INVOICED	COMPL DATE
PEDA 2010 - GGII	Franklin Advanced Materials PV Metallization Paste Production Facility	American Refining and Biochemical, Inc.	Montgomery	Completed Closed	\$700,000	\$315,000	\$294,563	11/12/2013
PEDA 2011-GGII	Whitaker Center Energy use Reduction Program	Whitaker Center for Science & the Arts	Dauphin	Completed Closed	\$205,626	\$102,813	\$102,813	10/09/2013
PEDA 2011-GGII	Landfill Control Device for Total Methane Recovery	ARC Technologies Corporation	Allegheny	Completed Closed	\$247,000	\$120,000	\$120,000	09/17/2013
PEDA 2008 - GGII	ARB Torrefaction Project (Terra Green Energy)	American Refining & Biochemical, Inc.	McKean	Completed Closed	\$1,600,000	\$400,000	\$400,000	5/21/2014
PEDA 2010 - GGII	Gasification of Plastics to Alternative Energy Project	Ultra-Poly Corporation	Northampton	Healthy	\$3,100,000	\$750,000	\$675,000	09/15/2014
PEDA 2007 - GGII	Stable Flats; Stable Flats, LLC	Stable Flats, LLC	Philadelphia	Completed Closed	\$1,779,975	\$700,000	\$32,169	10/14/2013
PEDA 2010 - Duquesne Light	Installation of a Geoexchange System - Phase I of Eden Hall Campus Development	Chatham University	Allegheny	Healthy	\$756,658	\$250,000	\$0	06/30/2015
PEDA 2011-GGII	Waste to Energy Using Hydrothermal Decomposition	Allentown Commercial and Industry Development Authority	Lehigh	Healthy	\$42,000,000	\$500,000	\$280,846	10/04/2014

Appendix B

ENERGY DEVELOPMENT FUND

BALANCE SHEET

June 30, 2014

ASSETS

Cash in Transit	\$ (887,208.92)
Temporary Investments	\$ 5,328,756.67
Long-term Investments	<u>300,420.56</u>
Loans Receivable	
	<u><u>\$ 4,741,968.31</u></u>
Total Assets	

LIABILITIES AND FUND BALANCE

LIABILITIES

Total Liabilities	<u>0.00</u>
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FUND BALANCE

Reserved for Loans Receivable	\$ 300,420.56
Reserved for Encumbrances - Restricted Revenue	250,000.00
Reserved Non-Lapsable Balance	6,179.41
Reserved - Restricted Revenue	259,694.91
Unreserved/Undesignated	<u>3,925,673.43</u>

Total Fund Balance	<u>4,741,968.31</u>
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Total Liabilities and Fund Balance	<u><u>\$ 4,741,968.31</u></u>
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Appendix C

ENERGY DEVELOPMENT FUND UNRESERVED FUND BALANCE STATEMENT June 30, 2014

Unreserved Fund Balance, July 1, 2013	\$3,645,147.73
Reserved for Encumbrances - Restricted Revenue, July 1, 2013	1,969,471.97
Reserved for Restricted Revenue, July 1, 2013	243,548.71
	1,016,698.82
Revenue:	
PEDA Application Fees	
Loan Repayment	0.00
Interest Payments	105,876.94
Late Fees	12,084.74
Interest on Securities	0.00
Duquesne Light Settlement	
	218,486.23
Total Revenue	0.00
Pending Prior Year Lapses	336,447.91
Total Funds Available	1,878.51
Deductions:	\$7,213,193.65
Expenditures - Current	
Reserved for Non-Lapsable Balance	
Expenditures - Restricted Revenue	51,621.31
Commitments - Current	6,179.41
Commitments - Restricted Revenue	1,703,325.77
Reserved for Restricted Revenue	0.00
General Fund Lapse	250,000.00
Reserved for Loans Receivables	259,694.91
	1,016,698.82
Total Deductions	
Unreserved Fund Balance, June 30, 2013	3,287,520.22
ENERGY DEVELOPMENT FUND UNRESERVED FUND BALANCE STATEMENT June 30, 2014	\$3,925,673.43

Appendix D

ENERGY DEVELOPMENT FUND
DUQUESNE LIGHT SETTLEMENT
June 30, 2014

BALANCE JULY 1, 2007	\$ -
FY 2007-08 REVENUE	\$ 3,000,000.00
FY 2008-09 REVENUE	\$ -
FY 2009-10 REVENUE	\$ 1,500,000.00
FY 2010-11 REVENUE	\$ 1,500,000.00
FY 2011-12 REVENUE	\$ -
FY 2012-13 REVENUE	\$ -
FY 2013-14 REVENUE	\$ -
TOTAL REVENUE	\$ 6,000,000.00
COMMITMENTS	\$ 250,000.00
EXPENDITURES	
FY 2009-10	\$ 729,166.16
FY 2010-11	\$ 1,101,352.84
FY 2011-12	\$ 1,956,460.32
FY 2012-13	\$ 1,703,325.77
FY 2013-14	\$ -
TOTAL EXPENDITURES	\$ 5,490,305.09
TOTAL COMMITMENTS AND EXPENDITURES	\$ 5,740,305.09
BALANCE JUNE 30, 2014	\$ 259,694.91

Appendix E

GROWING GREENER II BOND FUND
EXECUTIVE AUTHORIZATION STATEMENT
June 30, 2014

BALANCE JULY 1, 2005	\$ -
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
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TOTAL EXECUTIVE AUTHORIZATIONS	\$ 50,000,000.00
COMMITMENTS	\$ 319,128.39
EXPENDITURES	
FY 2005-06	\$ 323,562.07
FY 2006-07	\$ 2,925,987.35
FY 2007-08	\$ 3,596,835.59
FY 2008-09	\$ 4,967,237.88
FY 2009-10	\$ 7,389,308.92
FY 2010-11	\$ 10,734,584.94
FY 2011-12	\$ 6,887,968.37
FY 2012-13	\$ 3,790,487.65
FY 2013-14	\$ 685,906.41
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TOTAL EXPENDITURES	\$ 41,301,879.18
TOTAL COMMITMENTS AND EXPENDITURES	\$ 41,621,007.57
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BALANCE JUNE 30, 2014	\$ 8,378,992.43
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