

Pennsylvania Sustainable Energy Board  
Annual Meeting – February 23, 2017

## The Sustainable Development Fund in 2016

Roger E. Clark  
Reinvestment Fund



# Why Does Energy Matter?

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REINVESTMENT  
FUND

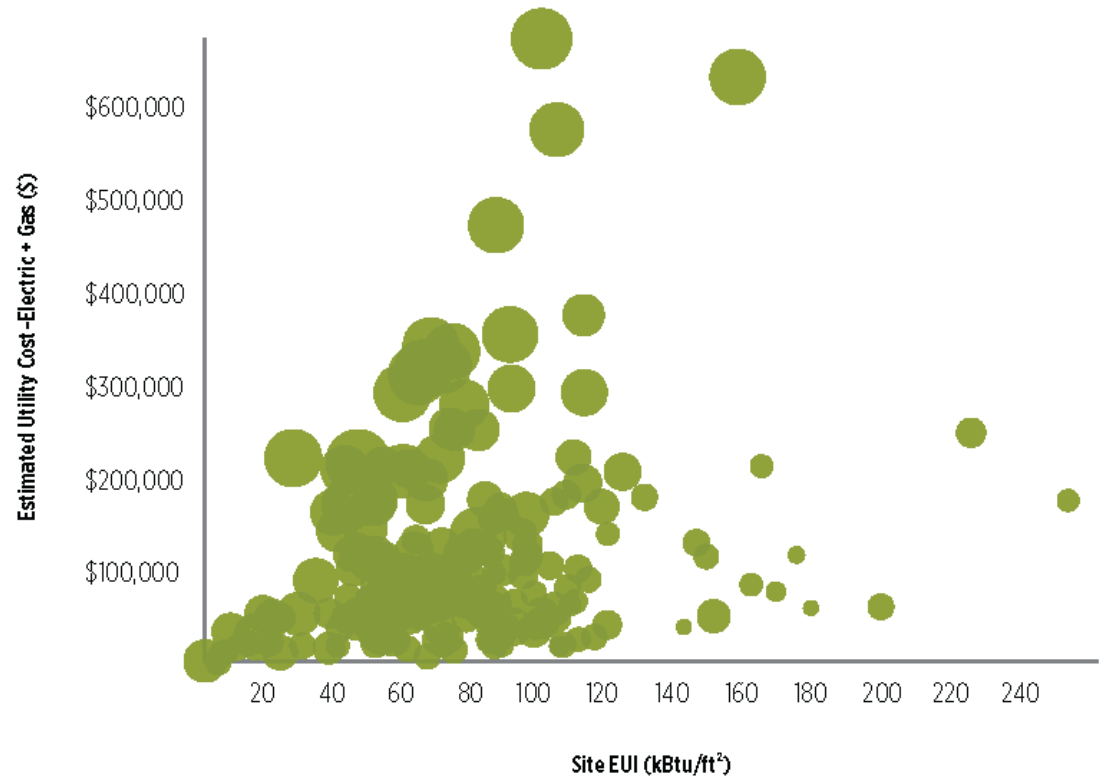
# Why Energy Matters – Building Operating Costs

## Operating Costs

Affordability does not end at the ribbon cutting.

*Energy Usage Intensity (EUI)* – the amount of energy a building uses per square foot per year, expressed in thousand British Thermal Units (kBtu).

FIGURE 12 Estimated Utility Costs/Site EUI for K-12 Schools



# Why Energy Matters – Occupant Health

## Health

Asthma is a leading cause of school absenteeism, accounting for about 14 million absences each school year, or one-third of all school days missed.

*Healthy Schools Campaign*

All federal agencies shall "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

*Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, February 11, 1994*

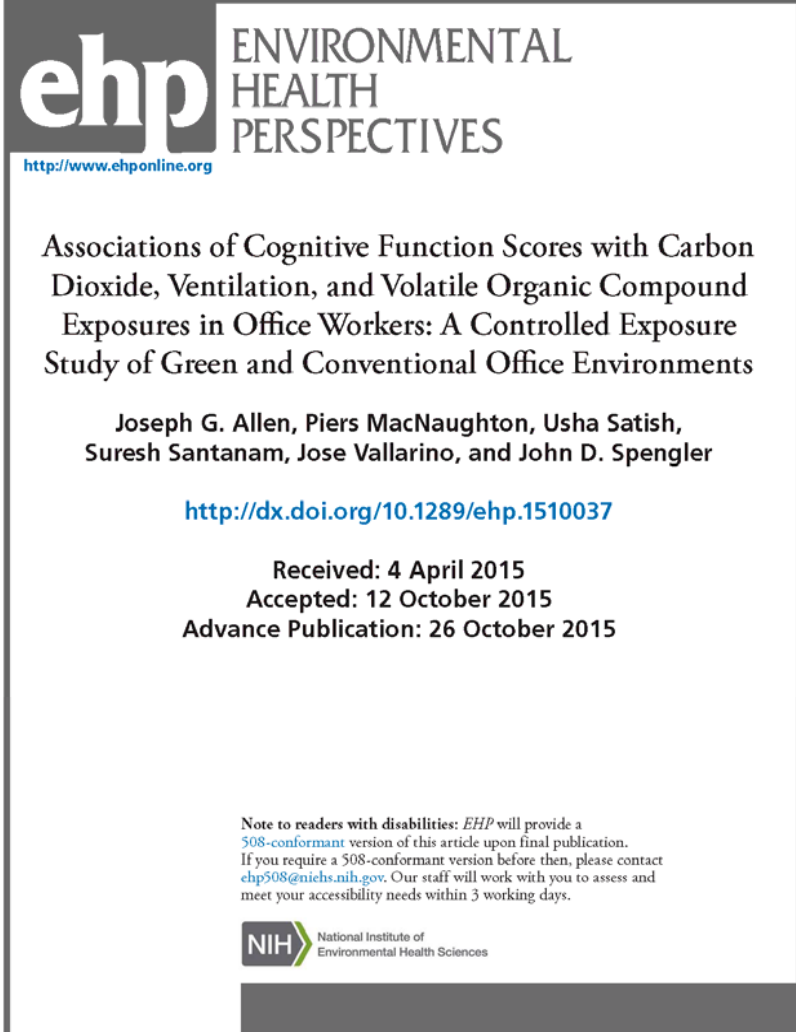


# Why Energy Matters – Occupant Productivity

## Indoor Air Quality

On average, cognitive scores were 61% higher after a day in the Green building compared to the scores after a day in the Conventional building.

Where there were two Green Building days in a row, the cognitive scores were 101% higher.



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Associations of Cognitive Function Scores with Carbon Dioxide, Ventilation, and Volatile Organic Compound Exposures in Office Workers: A Controlled Exposure Study of Green and Conventional Office Environments

Joseph G. Allen, Piers MacNaughton, Usha Satish, Suresh Santanam, Jose Vallarino, and John D. Spengler

<http://dx.doi.org/10.1289/ehp.1510037>

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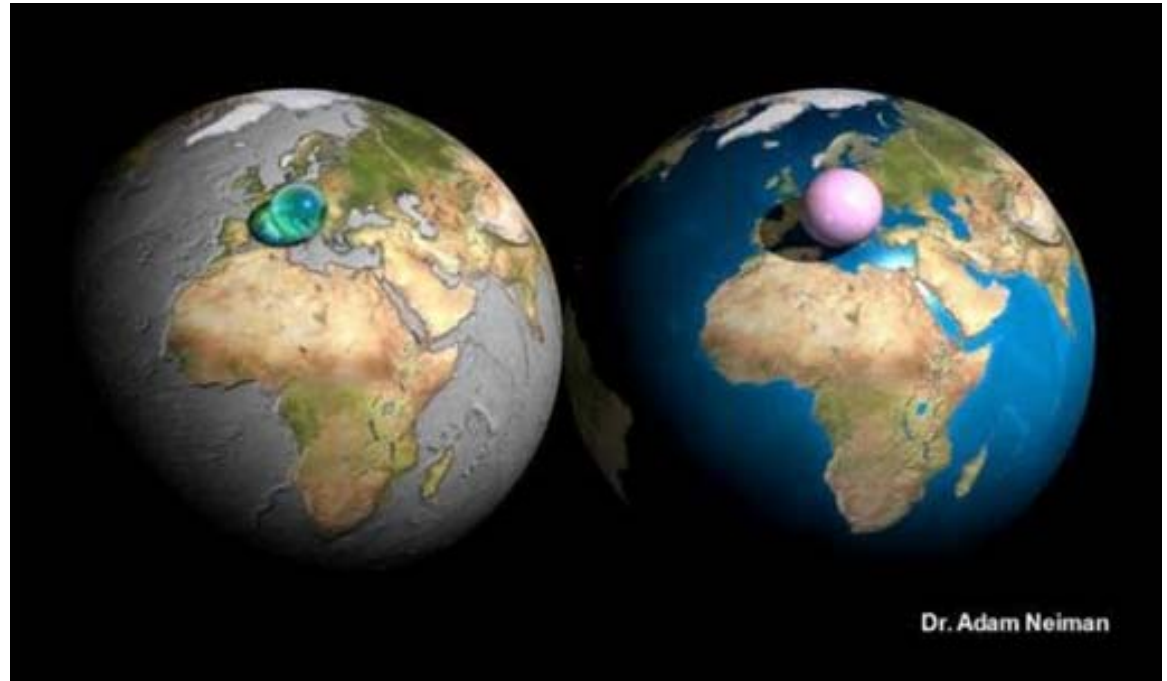
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 National Institute of Environmental Health Sciences

# Why Energy Matters – An Inhabitable Planet

## Environment

Environmental consequences of how we acquire, refine, distribute and use energy include acid rain, smog, particulates, mercury pollution, water pollution, global warming and earthquakes.



The total volume of Earth's water (left) and atmosphere (right).

# Why Energy Matters – Resiliency to Disaster

## Resiliency

Resilient design is the intentional design of buildings, landscapes, communities, and regions in order to respond to natural and manmade disasters and disturbances—as well as long-term changes resulting from climate change—including sea level rise, increased frequency of heat waves, and regional drought.

*Resilient Design Institute*



*Goldman Sachs during the Manhattan blackout caused by Superstorm Sandy.*

# SDF Highlights in 2016

- Six loans closed in 2016 using SDF capital - \$6,654,981 in lending (Reinvestment Fund closed a total of \$12,644,242 of energy lending in 2016).
- Navy Yard Community Solar project loan closed – construction starts in March on first phase
- First CHP project began commercial operation – Rittenhouse-Claridge
- Expanded lending to Ecosave for four new projects – possible new ESCO transactions with other established ESCOs



# Six SDF Energy Loans Closed in 2016

PROJECT	LOAN CLOSING DATE	PROJECT COMPLETION DATE	SDF LOAN AMOUNT	SUPPORTED WORK
Ecosave - 1530 Chestnut	02/12/16	06/27/16	\$615,000	New chiller for a mixed-use building used as retail and student housing. 15 year ESA.
Ecosave – Maplewood Office	02/12/16	06/27/16	\$421,140	New LED lighting (1,396 fixtures), new roof-top unit, HVAC controls, building energy management system for an office building. 16 year ESA.
Ecosave – Racquet Club	02/12/16	10/20/16	\$268,841	Thermostatic radiator valves, new motors with VFD on chiller loop, chiller optimization and building energy management system. 15 year ESA.

# 2016 Lending

PROJECT	LOAN CLOSING DATE	PROJECT COMPLETION DATE	SDF LOAN AMOUNT	SUPPORTED WORK
Keystone Academy Charter School	04/07/16	6/2017	\$1,700,000	Full range of energy measures in the gut rehab of an existing historic school building (the Mary Disston School) and the new construction of a classroom wing.
Aloft Philadelphia Downtown	04/26/16	6/2017	\$3,000,000	Full range of energy measures in the gut rehab of a former office building into a hotel.
Navy Yard Community Solar Project (Phase 1)	12/28/16	6/2017	\$650,000	490 kW Phase 1 (750 kW total) of a community solar PV system with virtual net metering of output to Navy Yard tenants and a cost-of-service study of local distribution impacts.

# SDF's Cumulative Financial Activity

Type of Support	# of Closed Transactions	Total \$
Debt Financing	38	\$23,903,839
Equity Investments	6	\$3,788,770
Grants	<u>375</u>	<u>\$20,845,078</u>
<b>TOTALS:</b>	<b>419</b>	<b>\$48,537,687</b>

Total funding SDF received from PECO was \$31,815,216.

Total financial support Reinvestment Fund has made to clean energy has been \$95,784,638.

# SDF Funding is now Fully Deployed (until 2018)

**From:** Matt Soloff

**Date:** January 23, 2017 at 9:41:11 AM MST

**To:** Andrew Rachlin, Christina Szczepanski, Roger Clark

**Cc:** Nancy Wagner-Hislip

**Subject:** SDF

Just an FYI that **the SDF capital is fully utilized** and per the model **will not have any availability until early 2018**. There are currently no deals on the C&P expected to close using SDF.

Thanks.

Matt

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Matt Soloff | Managing Director, Financial Operations & Analysis

**Reinvestment Fund**

# Energy Pipeline in early 2017

## Projects in Underwriting:

- Hale Building gut rehab
- Projects with two new (to us) ESCOs
- Possible lease financing transaction for four hospitals



# SDF Contact Information



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