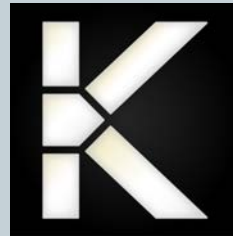


Financial Instruments –Pro’s and Con’s



- Lori Porreca – A1 Energy
- Chad Moore, PE – Square K Energy Solutions
- Roger E. Clark, Esq – Clean Energy Reinvestment Fund



Financing Instruments

Pros and Cons

A1 Energy is committed to develop and deliver creative solutions that optimize energy efficiency, reliability and sustainability for our clients.

Overview - Together with our partners, we combine deep industry knowledge and financial expertise to dramatically lower utility costs through:

- Energy efficiency
- Energy procurement
- Energy generation

Background - Over 14 years experience working with government agencies, industrial and commercial clients to achieve maximum energy efficiency.

- Located in Lancaster County, Pennsylvania
- Primary geographic reach is Mid-Atlantic
- Certified WBENC and Pennsylvania SDB



Financing Instruments

Pros and Cons



- Strategic electricity/gas procurement strategy
- Utility Rebates
- PJM Capacity Markets
- Tax incentives
- GESA/ESCos performance guarantee
- Traditional bank financing
- SEF
- Commercial Lenders focused on EE
- C-PACE



Financing Instruments

Pros and Cons

- Power Purchase Agreement (PPA)
- Energy as a Service Agreement (ESA)
- USDA Grants and loans
- DEP Small Business Advantage grant
- CFA – ACE grant/loan
- Creative Project Development

Lori Porreca

A1 Energy

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179 D Tax Deduction



CHAD W. MOORE, PE
SQUARE K ENERGY SOLUTIONS
215-2-ENERGY



179D Tax Deduction Basics



- **WHAT IS 179D?**
 - 179D is a provision in the tax code that allows for an accelerated tax deduction for installing energy efficient property in your building. There are three categories of property that qualify:
 - ✦ **Building Envelope**
 - ✦ **HVAC/ Hot Water Systems**
 - ✦ **Lighting Systems**

Federal 179D Energy Efficiency Deduction



Business Owners Commercial Properties

Implemented EE projects

Lighting

HVAC/Hot Water

Building Envelope

Retrofit and New Construction Buildings

Retail buildings

Office buildings

Industrial buildings

Apartment buildings (at least 4 stories)

Warehouses



179D Tax Deduction



- Up to \$1.80 per square foot deductions for privately owned buildings or government owned facilities for installing energy efficient equipment
- For a government owned facility (school, military base, government office, etc) deduction can be “assigned” to a design team member
- Must be certified by a 3rd party
- Partial deduction for lighting, HVAC, or envelope
- For full deduction – 50% energy reduction vs ASHRAE 90.1 code (currently 2007).

179D Tax Deductions



- **Currently expired on December 31st, 2017**
- **Tax extenders bill in Congress**
- **All buildings/projects placed into service before 12/31/2017 are still eligible – must take deduction in year of project (amend, file a change in accounting procedure)**

Designers/Builders of Gov't Owned Buildings



- Eligibility:
- • Architects, engineers, contractors, environmental consultants and energy service providers
- • Public Property Only (Government owned facilities)
- Government entities do not traditionally pay tax, the owners of these buildings can allocate the calculated tax savings to the business responsible for the energy-saving enhancements
- • \$1.80/ft²

Related opportunities – PJM Rebates



- **PJM rebates – PJM is the Regional Transmission Organization in this area. Additional rebates for similar projects**
- **Business incentives for permanent load reduction (peak kW) from energy efficiency projects**



Related opportunities – PJM Rebates



- Eligible projects
- EE projects: Lighting, HVAC, chiller, variable speed drives, refrigeration, motors and industrial process improvement retrofits
- New construction EE projects that exceed current efficiency standards, such as LEED buildings, may also qualify
- Retroactive - Up to four years of payments from completion date

Case Example – Santander Arena



- Santander Arena – owned by Berks County Convention Center Authority
- Needs new 500 ton chiller, drives on pumps, control optimization and has funding concerns
- Equipment rep proposed turnkey solution for a new mag drive chiller, drives on pumps, and chiller optimization software.
- Rep leverages 179D (Arena assigned deduction to rep), Met-Ed incentives, and PJM rebates and lowers first cost by ~\$200,000 which is over a 40% discount.

Act 129 Updates



Micah Bucy, Esq.



Purposes of Act 129



- (1) the health, safety and prosperity of all citizens of this commonwealth are inherently dependent upon the availability of adequate, reliable, affordable, efficient and environmentally sustainable electric service at the least cost, taking into account any benefits of price stability, over time and the impact on the environment.
- (2) it is in the public interest to adopt energy efficiency and conservation measures and to implement energy procurement requirements designed to ensure that electricity obtained reduces the possibility of electric price instability, promotes economic growth and ensures affordable and available electric service to all residents.
- (3) it is in the public interest to expand the use of alternative energy and to explore the feasibility of new sources of alternative energy to provide electric generation in this commonwealth.

- *HB2200 of 2008*

Act 129 Phase III

Savings Targets vs. Actual Savings

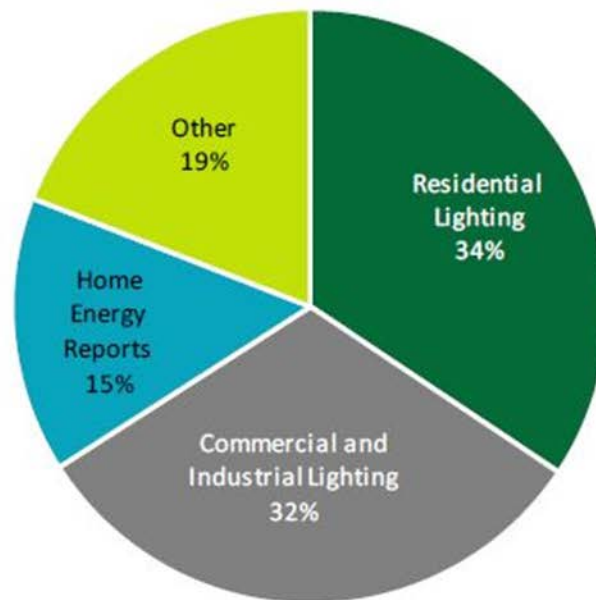


EDC	Phase III Target Savings (MWh/yr)	Phase III Actual Savings (MWh/yr)
Duquesne	440,916	215,998
PECO	1,962,659	799,982
First Energy	1,863,877	1,270,158
Met-Ed	599,352	394,069
Penelec	566,168	361,885
Penn Power	157,371	119,171
West Penn Power	540,986	395,033
PPL	1,443,035	924,565

Popular Act 129 Measures

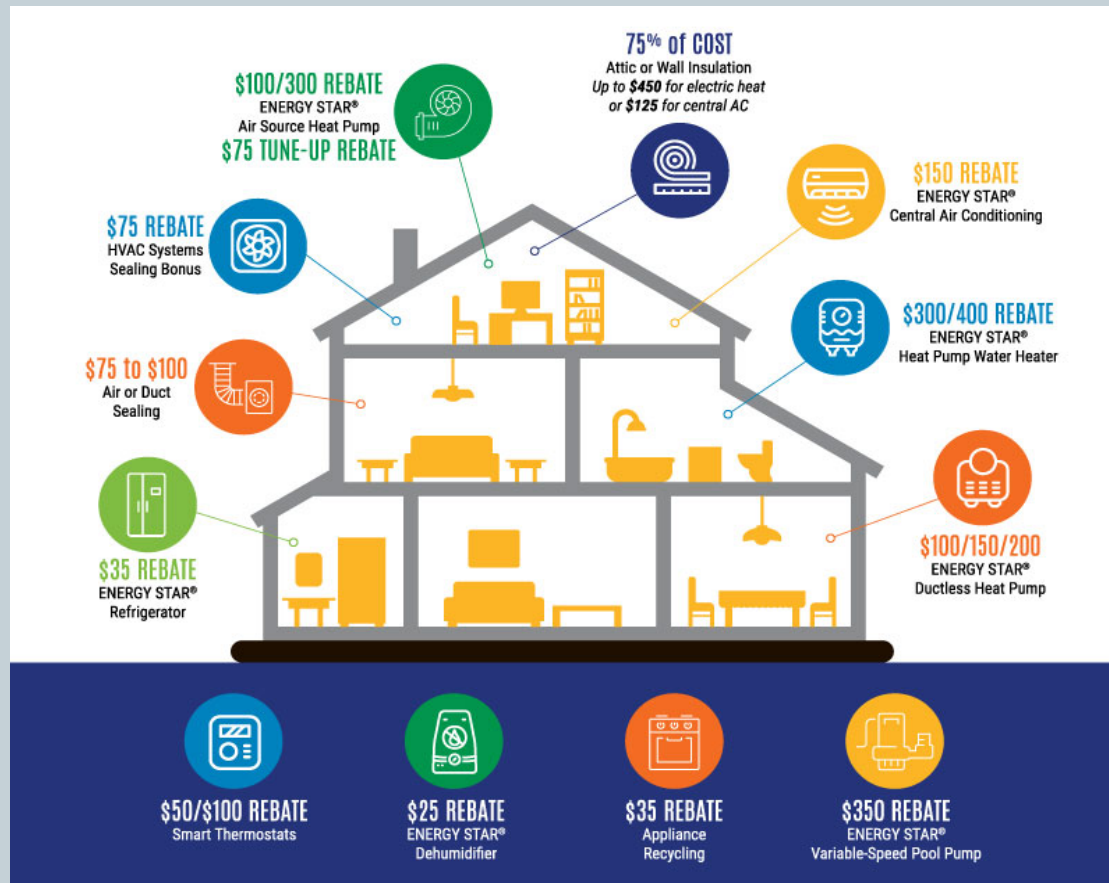


Figure 8: PY9 Distribution of Energy Savings from Top Three and All Other Offerings



Source: SWE Annual Report: Act 129 Program Year 9, NMR Group Inc., et al. (Feb. 28, 2019)

What's In It For Me?



Source: <https://www.ppelectric.com/utility/about-us/connect-newsletter/inserts/2019/march-2019-energy-efficiency-programs.aspx>

The Future of Act 129...



Commission Staff's Tentative Act 129 EE&C Program Phase IV Implementation Schedule

Date	Item
November 2017	Act 129 Statewide Evaluator (SWE) begins Residential and Non-Residential Baseline Studies
March 2018	SWE begins 2021 Technical Reference Manual (TRM) Update
October 2018	SWE begins Demand Response Potential Study
November 2018	SWE begins Energy Efficiency Market Potential Study
January 30, 2019	Stakeholder Meeting on results of SWE's Residential and Non-Residential Baseline Studies
January 31, 2019	Stakeholder Meeting to provide preview of the 2021 TRM update and changes to the existing TRM measure protocols
February 14, 2019	SWE's 2018 Pennsylvania Residential Baseline Study and 2018 Pennsylvania Non-Residential Baseline Study released via Secretarial Letter
March/April 2019	Tentative 2021 TRM Update on Public Meeting Agenda
July/Aug 2019	Final 2021 TRM Update on Public Meeting Agenda
Early 2020	Release of SWE's Energy Efficiency and Demand Response Potential Studies
Spring 2020	Tentative Phase IV Implementation Order and 2021 Total Resource Cost (TRC) Test Order on Public Meeting Agenda
Summer 2020	Final Phase IV Implementation Order and 2021 TRC Test Order on Public Meeting Agenda
Late Summer 2020	Potential Expedited Targets Hearings
Fall 2020	Final Phase IV EDC Targets on Public Meeting Agenda
Fall 2020	Phase IV EDC EE&C Plans due to Commission
Winter 2020/ 2021	Phase IV EDC EE&C Plan Hearings
June 1, 2021	Phase IV begins