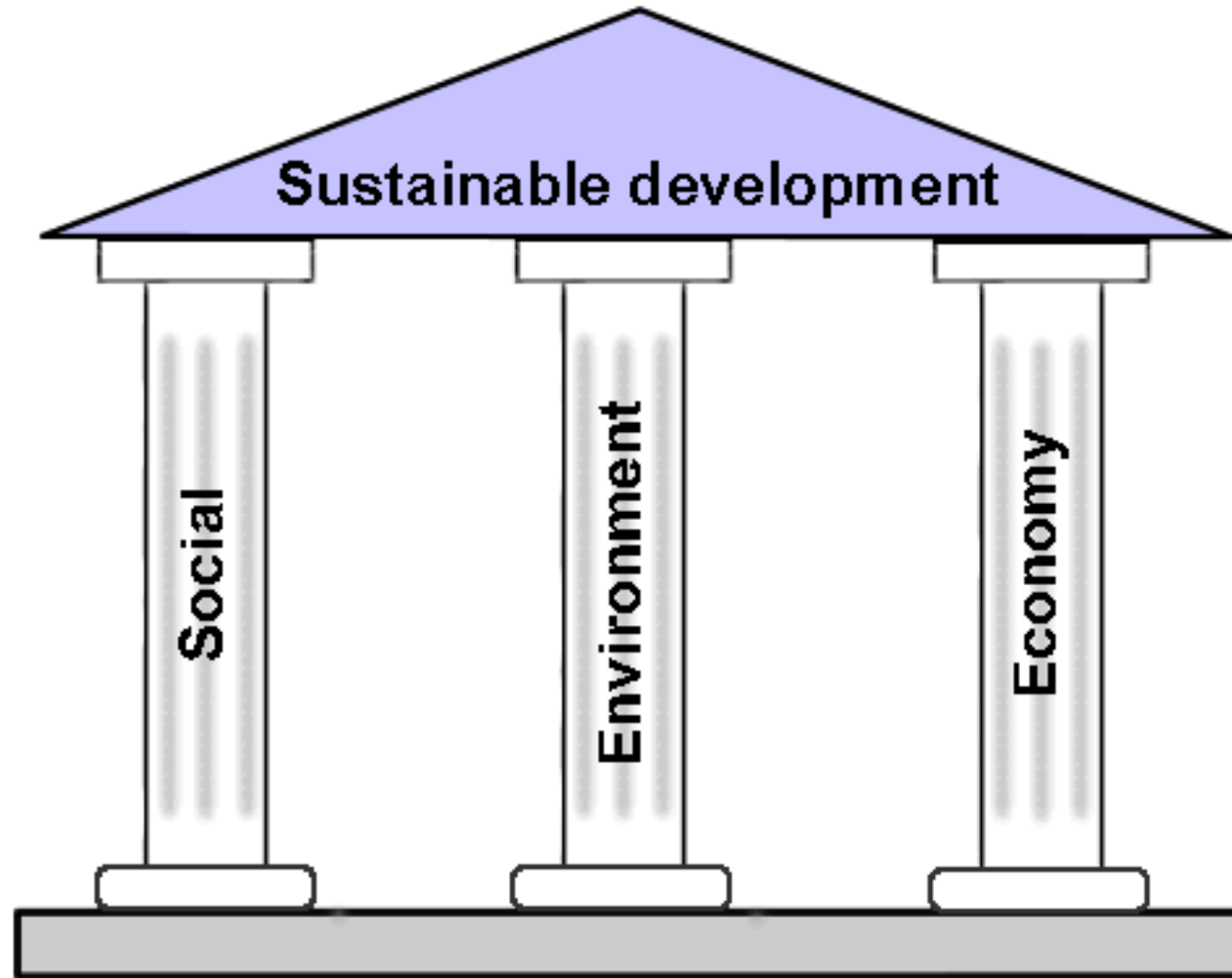


# Allentown Sustainability: Green Building Initiatives

Kyle Ropski, SEA, LEED GA

# What is Sustainability?



Cred: University of Guelph

# What is Green Building?

- Efficiently using energy, water, and other resources
- Reducing waste, pollution, and environmental degradation
- Protecting occupant health and improving employee productivity



# Green Building Rating System

- Leadership in Energy and Environmental Design (LEED)
- Internationally recognized as the standard in green building
  - 150,000+ and growing
- Opportunities for new and existing buildings



Kyle Ropski and Heidi Kunka at DEP Building in Harrisburg, PA - 2019

# Example Scorecard

- Pre-Requisites that are mandatory
- Flexible guidance for projects
- Transparency and clarity on progress



0	0	0	Indoor Environmental Quality		17
Y			Prereq	Minimum Indoor Air Quality Performance	Required
Y			Prereq	Environmental Tobacco Smoke Control	Required
Y			Prereq	Green Cleaning Policy	Required
			Credit	Indoor Air Quality Management Program	2
			Credit	Enhanced Indoor Air Quality Strategies	2
			Credit	Thermal Comfort	1
			Credit	Interior Lighting	2
			Credit	Daylight and Quality Views	4
			Credit	Green Cleaning- Custodial Effectiveness Assessment	1
			Credit	Green Cleaning- Products and Materials	1
			Credit	Green Cleaning- Equipment	1
			Credit	Integrated Pest Management	2
			Credit	Occupant Comfort Survey	1



# Benefits - PEOPLE

- 27% higher occupant satisfaction
  - 1.8 times more willing to get job done
  - 26.4% higher cognitive test scores
  - 6.4% higher Sleep Quality scores
- Health of employees
  - EX: Green Cleaning

Cred: iStock - Getty Images

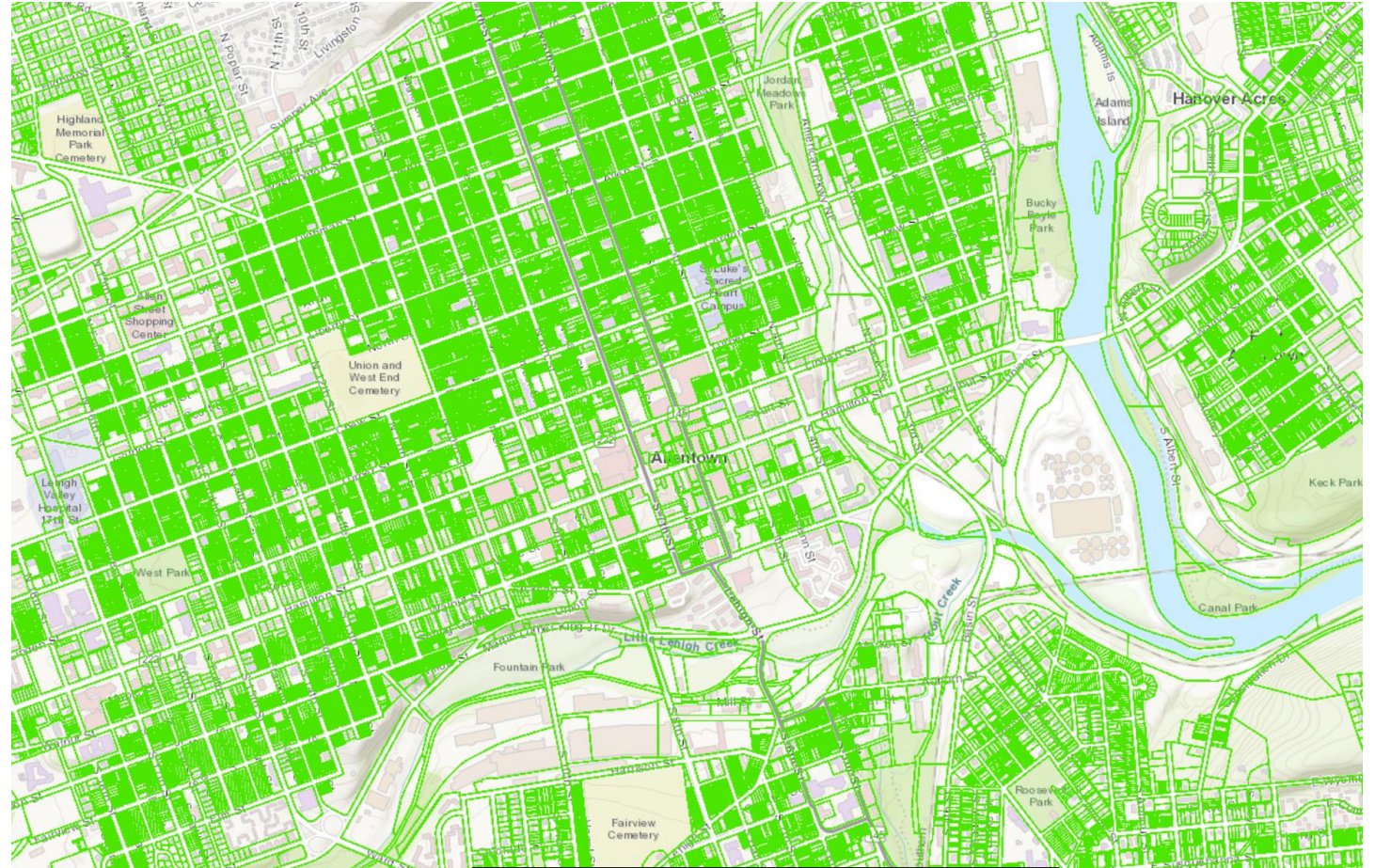


Cred: Ethical Design Co.



# Benefits - PLANET

- 36% fewer carbon emissions
- Construction and demolition waste
- Stormwater management

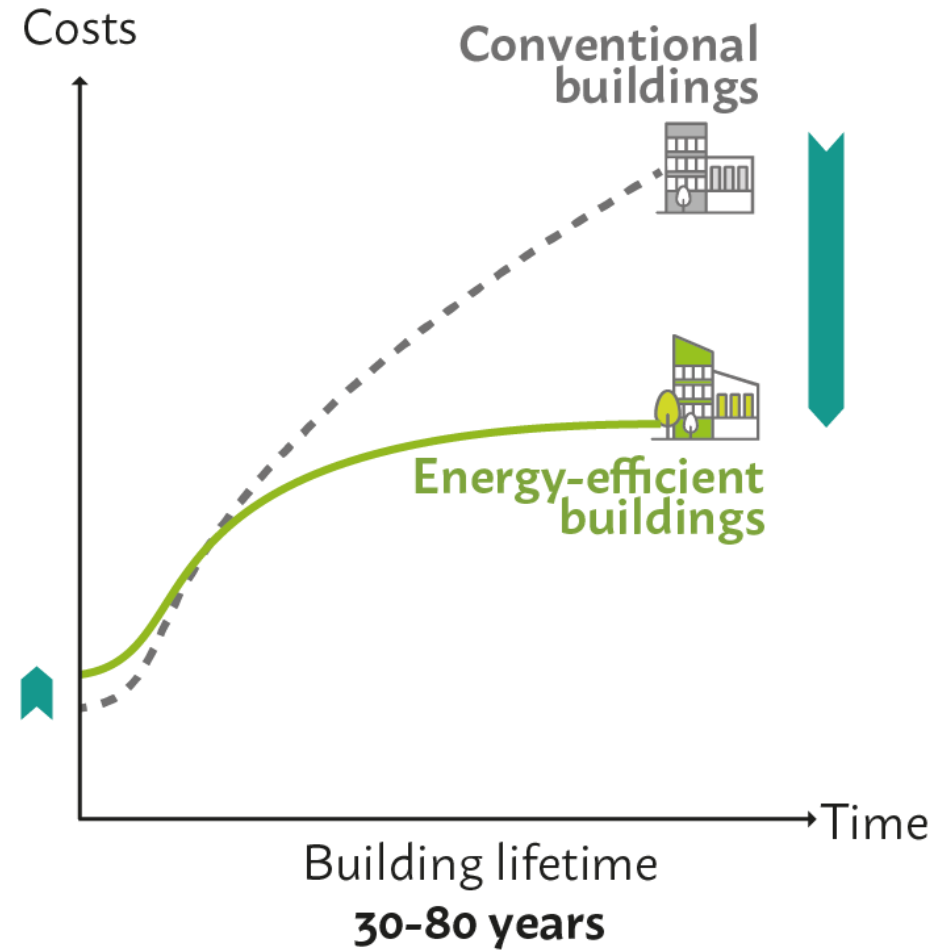


Cred: GISPortal – City Impervious Area Parcels

# Benefits - **PROFIT**

- 25% lower energy use
- 19% Lower operational costs
- 82% of Fortune 200 companies use LEED

**Goldman  
Sachs**



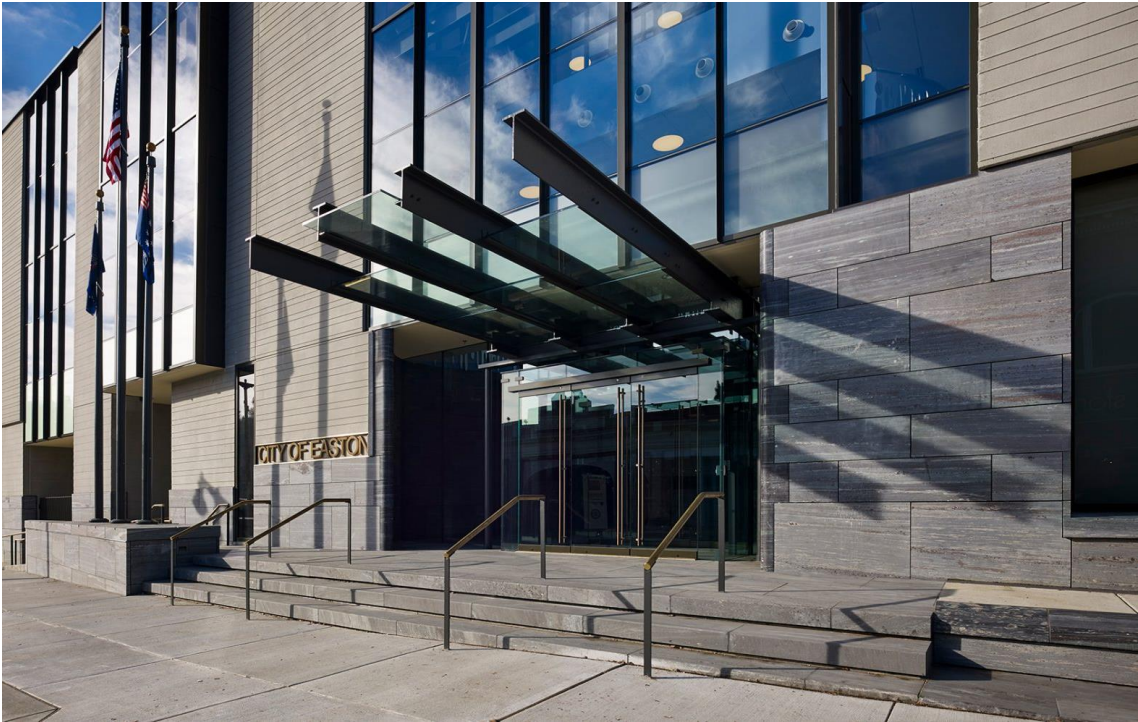
Cred: [ideasfordevelopment.com](http://ideasfordevelopment.com)



# Community Highlights



Muhlenberg College's Parkway Boulevard Building  
*Cred: Vision Architecture + Muhlenberg Sustainability*



Easton City Hall  
*Cred: Boyle Construction*



# Community Highlights



4% added to construction cost  
=  
40% in annual energy savings



The Plaza at PPL Center -  
Green Roof  
*Cred: Robert A.M. Stern  
Architects*

# Support - Our Community

## Allentown Vision 2030

- LS3f Energy Efficiency Programs and Policies (pg 173)
  - “Consider the adoption of high-performance building goals for city construction projects and evaluate incentives for others to adopt energy efficiency measures in new and existing buildings.”
- LS1a Climate Action Plan
  - “Many of the reduction strategies affect land use and transportation systems...energy efficiency for buildings and infrastructure.”





# Support – Regional Cities



*Cred: City of Bethlehem*

## Objective and goals

The primary objective of the Buildings section of the Bethlehem Climate Action Plan is to reduce GHG emissions from buildings by 30% by 2030. This objective will be accomplished through strategies that target four specific impact goals:

- Expand public disclosure of building energy use
- Decrease buildings' fuel carbon intensity
- Increase the energy efficiency of existing buildings
- Increase the energy efficiency of new buildings

# Support – Regional Cities



Cred: City of Easton  
/ Nurture Nature  
Foundation



MO-1B

Continue to invest in energy efficiency measures whenever possible, including LED lightbulbs, system upgrades, programmable thermostats, etc.

Public Works

Decrease in municipal electricity consumption

MO-1C\*

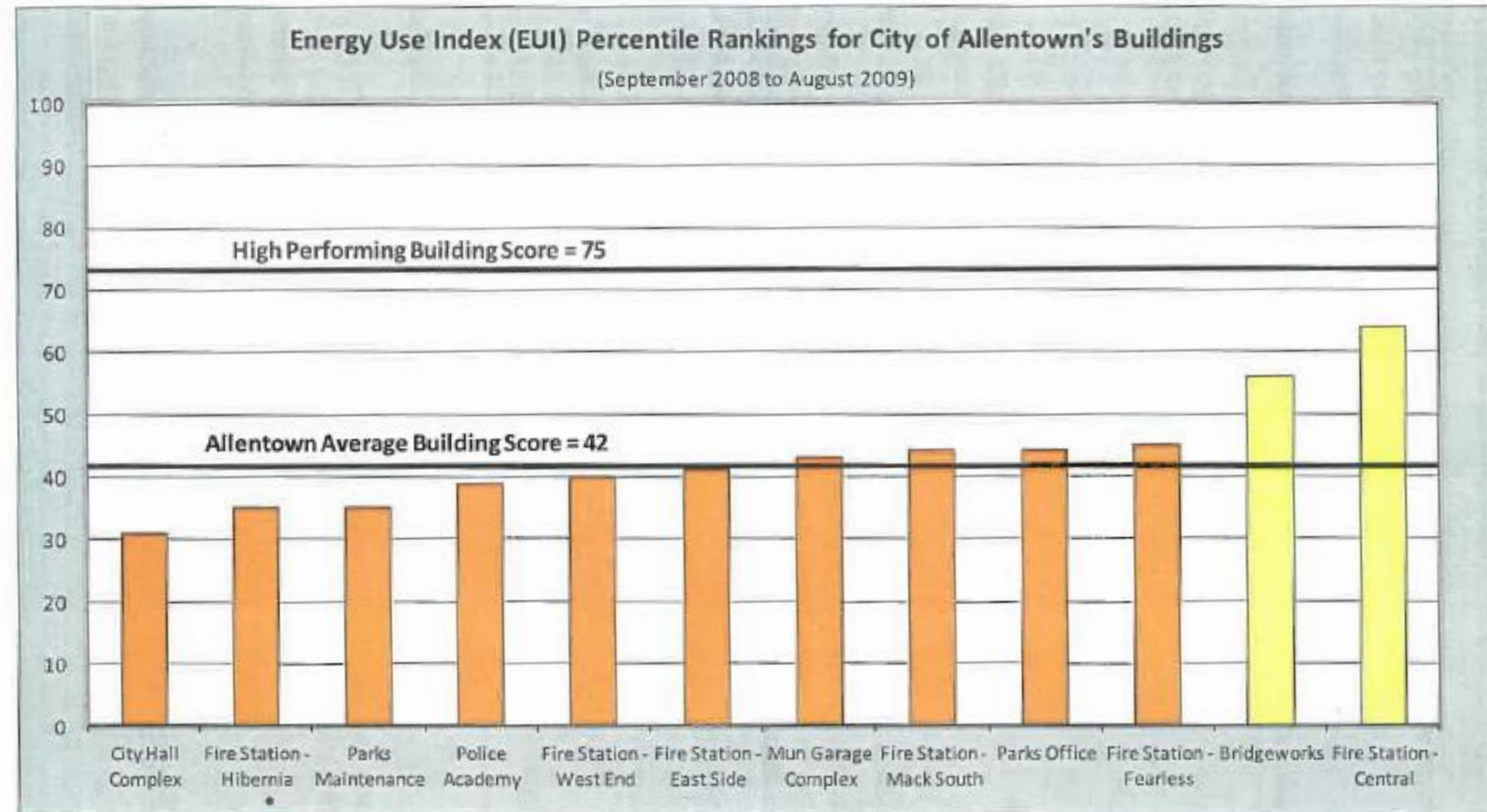
Lead by example and require all city buildings to meet higher energy efficiency standards and consider LEED certification for those not certified.

Public Works

Percentage of city-owned buildings with energy efficiency better than mandated by code

# Pursuing LEED in City Buildings

- Guidance and flexibility on available options
- Detailed accountability of initiatives already in place
- Transparency for stakeholders backed by respected 3<sup>rd</sup> party



*CLEAResult Consulting Inc. is under contract to PPL to implement the CitySmart Pilot Project.*



# What are the first steps to take?

- Energy Audits on existing buildings
  - Dashboard-goals-GESA
- Awareness and Education
- “Low Hanging Fruit”
- Green Infrastructure Projects Funding



# Key Takeaways

- Considering Green Building strategies in new and existing buildings is not only good for environmental and community health, but also for the budget long term (**saving money for the taxpayer**)
- Utilizing a widely accepted 3<sup>rd</sup> party rating system such as LEED helps guide the process as well as hold operations and maintenance accountable/transparent to ensure **achievable sustainability goals continue to be met**
- Private business, educational institutions, and our sister cities in the Lehigh Valley have already engaged in green building certification and climate action. The City of Allentown needs to **recognize, organize, and prioritize** sustainability initiatives where/when we can

# Sources + Avenues of Further Research

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<https://sustain.wisconsin.edu/sustainability/triple-bottom-line/>

[https://www.are.admin.ch/dam/are/en/dokumente/nachhaltige\\_entwicklung/dokumente/bericht/our\\_common\\_futurebrundtlandreport1987.pdf.download.pdf/our\\_common\\_futurebrundtlandreport1987.pdf](https://www.are.admin.ch/dam/are/en/dokumente/nachhaltige_entwicklung/dokumente/bericht/our_common_futurebrundtlandreport1987.pdf.download.pdf/our_common_futurebrundtlandreport1987.pdf)

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[http://www.whitehouse.gov/administration/eop/ceq/Press\\_Releases/June\\_15\\_2012](http://www.whitehouse.gov/administration/eop/ceq/Press_Releases/June_15_2012)

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[FACT SHEET: The Recovery Act Made The Largest Single Investment In Clean Energy In History, Driving The Deployment Of Clean Energy, Promoting Energy Efficiency, And Supporting Manufacturing | whitehouse.gov \(archives.gov\)](#)

<https://allentownvision2030.org/plan/>

<https://www.bethlehem-pa.gov/Public-Works/Climate-Action-Plan>

The City of Easton's Climate Action Plan | Nurture Nature Foundation  
(nurturenaturecenter.org)

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2021: Muhlenberg to Break Ground for Parkway Boulevard Building | Muhlenberg College

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