



**PARK**  
FOUNDATION

 **PARTNERS**  
FOR PLACES



# Ithaca Green Building Policy

Energy + Water

Advisory Committee Meeting October 20, 2017

  
**STREAM**  
COLLABORATIVE  
architecture +  
landscape architecture dpc

**RANDALL + WEST**

  
**Taitem**

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# Introduction



# Project Timeline

City of Ithaca Green Building Policy Project			
Project Timeline -- Updated October 20, 2017			
Activity and Deliverable	Planned Start Date	Planned End Date	Percent Complete as of 10/2/17
<b>Activity 1 – Green Building Policy Advisory Committee</b>			
1A) List of GBP Advisory Committee members including basic information about members. Summary of selection criteria and process used to appoint Committee members	05/01/17	05/31/17	100%
1B) Agendas, presentations, minutes, and other materials from each Committee meeting (four planned)	06/01/17	02/28/18	25%
<b>Activity 2 –Development Forecasts and Building Stock Survey</b>			
2A) Report featuring development forecasts and building stock surveys for the City and the Town	05/01/17	10/31/17	40%
<b>Activity 3 – Education and Outreach</b>			
3A) Documentation of education and outreach campaign	05/01/17	02/28/18	20%
<b>Activity 4 – Green Building Policy Study and Social Impacts Study</b>			
4A) Green building policy study and integrated social impacts study	09/01/17	02/28/18	40%
<b>Activity 5 – Reporting</b>			
5A) Preliminary Report for the Funders’ Network	09/01/17	09/30/17	100%
5B) Final report for the Funders’ Network	02/01/18	02/28/18	0%
5C) Final report for the Park Foundation	02/01/18	02/28/18	0%



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# What is our goal for energy reduction?

- Support from City & Town for goal of net-zero energy buildings
- Net-Zero Energy Buildings:
  - Highly energy-efficient buildings that use renewable energy technology to produce as much energy as they consume annually.
- Initial thoughts from committee?

## California's Big Bold Goals for ZNE

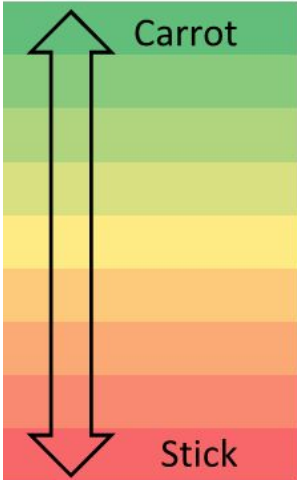


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# Policy Options



# Approaches



	<b>Approach</b>	<b>Examples</b>
Carrot	Incentivize	Tax credits, rebates
	Recognize	Energy Star, LEED, Architecture 2030 / District 2030
	Encourage	Bulk purchasing, Solarize, HeatSmart
	Finance	PACE, performance contracting, other
	Support	Training, Cooperative Extension trainers/advocates
	Advocate	Web sites, Green Building Tour
	Pressure	Require an energy score to be shown on real estate listings
	Shame	Benchmarking, results made publicly available (like NYC)
Stick	Require	Code requirements



# Certification/Policy Options

- NYStretch Energy Code
- PHIUS + 2015 Passive Building Standard
- LEED for Homes
- DOE Zero Energy Ready Home
- Energy Star HERS Index
- EPA Energy Star
- Affordability-Driven Energy Efficiency Measures
- LEED BD+C 17 points (performance path 46% improvement over ASHRAE 90.1-2010)
- LEED BD+C, 5 points (performance path 14% improvement over ASHRAE 90.1-2010)
- Custom - prescriptive path 10% better than code (IDA min. requirement)
- Custom - performance path, for example "40% better than ASHRAE Standard 90.1"



# Affordability-Driven Energy Efficiency





## Could you get three points?

1. Home size: e.g. 3-bedroom - 2000 SF or smaller – 1 point
2. Home size: e.g. 3-bedroom – 1800 SF or smaller – 2 points
3. 20% window-to-wall ratio? (like HOLT office, Ecovillage TREE common house) – 1 point
4. 10% window-to-wall ratio? (like Brooklyn brownstone) – 2 points
5. Low-flow shower heads (1.5 GPM) and faucets – 1 point
6. High-efficiency lighting (commercial buildings) – 1 point
7. No heating equipment in basement, in attic, on rooftop, through-wall – 1 point
8. Simple building shape (e.g. avoid L-shape, cantilever, etc.) – 1 point

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# Affordability-Drive n Energy Efficiency

Some improvements save energy AND save construction cost:

1. Smaller building size
2. Low window-to-wall (WWR) ratio
3. Reduce surface area (simple shape)
4. NO basement or crawl space





# Energy Savings Can Be Big

1. Reduce WWR from 30% to 20%, energy savings ...8%
2. Reduce building size by 10%, energy savings are...10%
3. Place heating/cooling systems inside thermal envelope, energy savings are...9%
4. Reduce hot water energy use by 20%, energy savings are...8%
5. Reduce building surface area by 20%, energy savings are...10%
6. Reduce overlighting by 25%, energy savings are...8%



# Benefits

1. Lower energy use
2. Lower construction cost
3. Complements high-performance energy standards (e.g. LEED, others) very well
4. Promotes best practices
5. Savings persist well over time
6. Adapts to energy code changes well over time
7. Avoids pushback from those who are concerned reducing energy use drives building costs up
8. Innovative



# Implementation Options

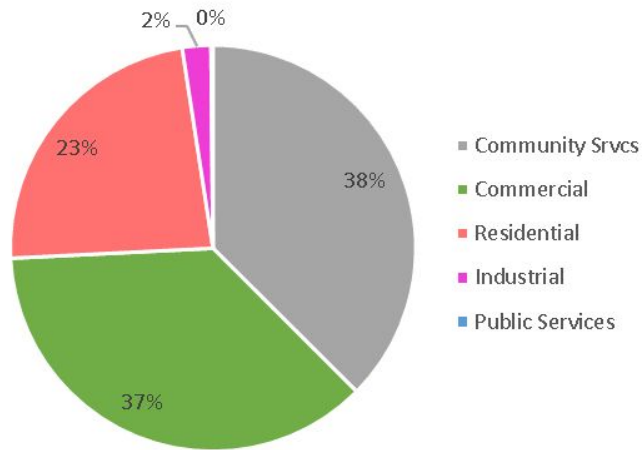
1. Require developers to choose a minimum number of affordability improvements. For example, choose three improvements from among the six energy saving measures, to deliver 15-20% savings.
2. If developers prefer not to implement three such improvements, we could consider requiring compliance with a standard that delivers measurable energy savings, such as the proposed New York State Energy Stretch code, or a custom checklist, or lower HERS score, minimum LEED energy score, etc.
3. To deliver additional savings, such as 40% better than code to reach the efficiency of programs such as Architecture 2030, incentives could be offered (tax breaks, or zoning variances such as an additional story, etc.).

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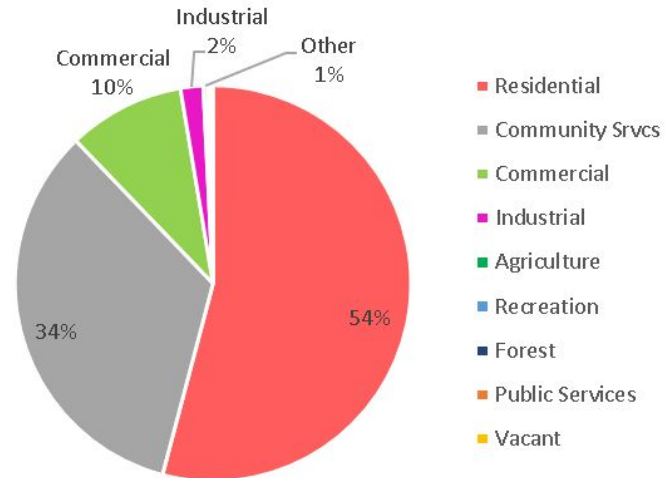
# Inventory and Development Forecast

# All Buildings

City of Ithaca



Town of Ithaca

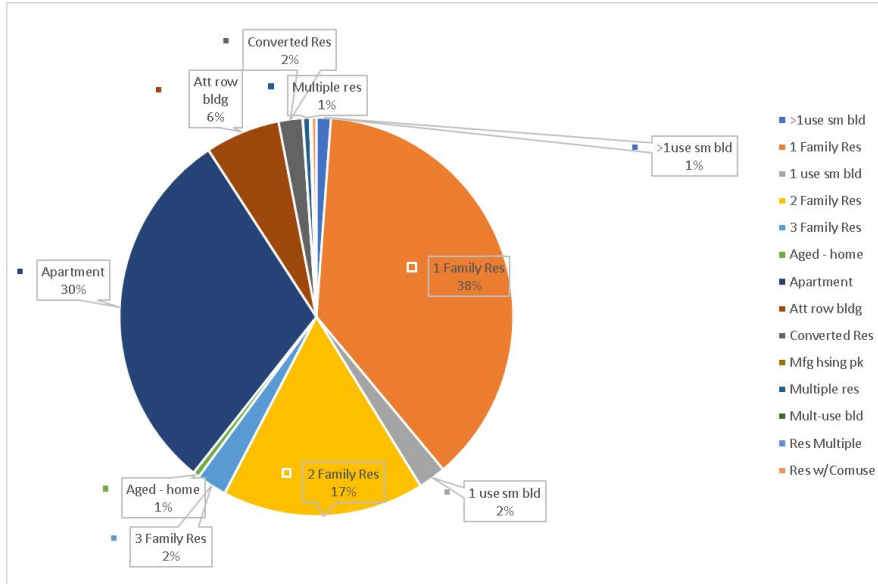


- Residential
- Community Svcs
- Commercial
- Industrial
- Agriculture
- Recreation
- Forest
- Public Services
- Vacant

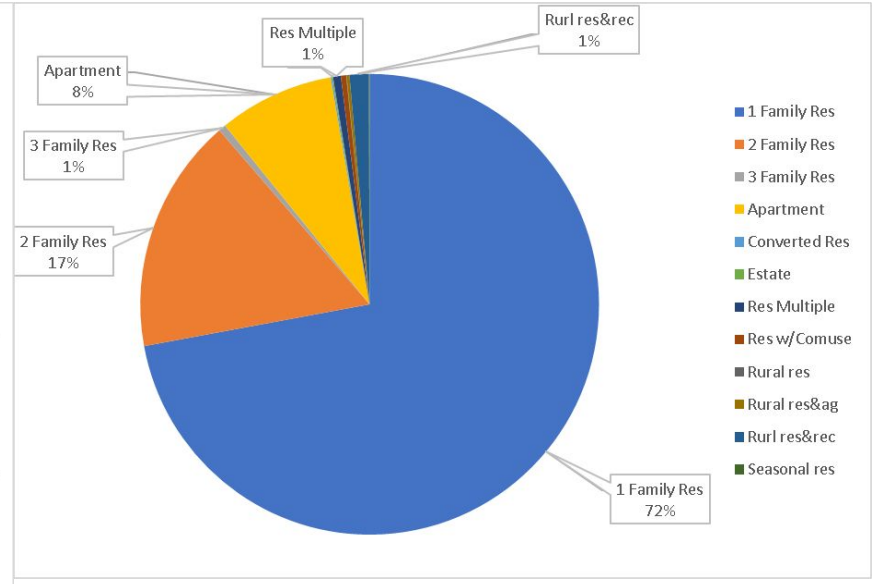


# Residential Buildings

City of Ithaca



Town of Ithaca





# Development Forecast

Additional 2,239,872 sqft Commercial

Additional 2,383,678 sqft Residential

Additional 7,177,043 sqft Community  
Services

# Next Steps

- Next Advisory Committee meeting November 17th at 10:30 to 12:00.
- Start the outreach process by talking to people in your networks about the Ithaca Green Building Policy project.
- Direct people to the website to read more and to sign up for the mailing list.
- Review draft Building Inventory and Development Forecast report prior to next meeting.

