Creating a Sustain-able Lifestyle

at Ecovillage at Ithaca

This slideshow was developed by:

Dr. Barbara H. Chasin

Ph. D. University of Iowa 1968

Professor Emerita of Sociology at Montclair State University in New Jersey

Resident of Ecovillage at Ithaca

chasinb@mail.montclair.edu

Dr. Richard W. Franke

Ph. D. Harvard University 1972

Professor Emeritus of Anthropology at Montclair State University in New Jersey

Resident of Ecovillage at Ithaca; Treasurer and Board Member of Sustainable Tompkins

franker@mail.montclair.edu

http://msuweb.montclair.edu/~franker

This slideshow
can be accessed online at:

http://msuweb.montclair.edu/~franker/EVI/frankechasinecovillageithacaslideshow.pdf

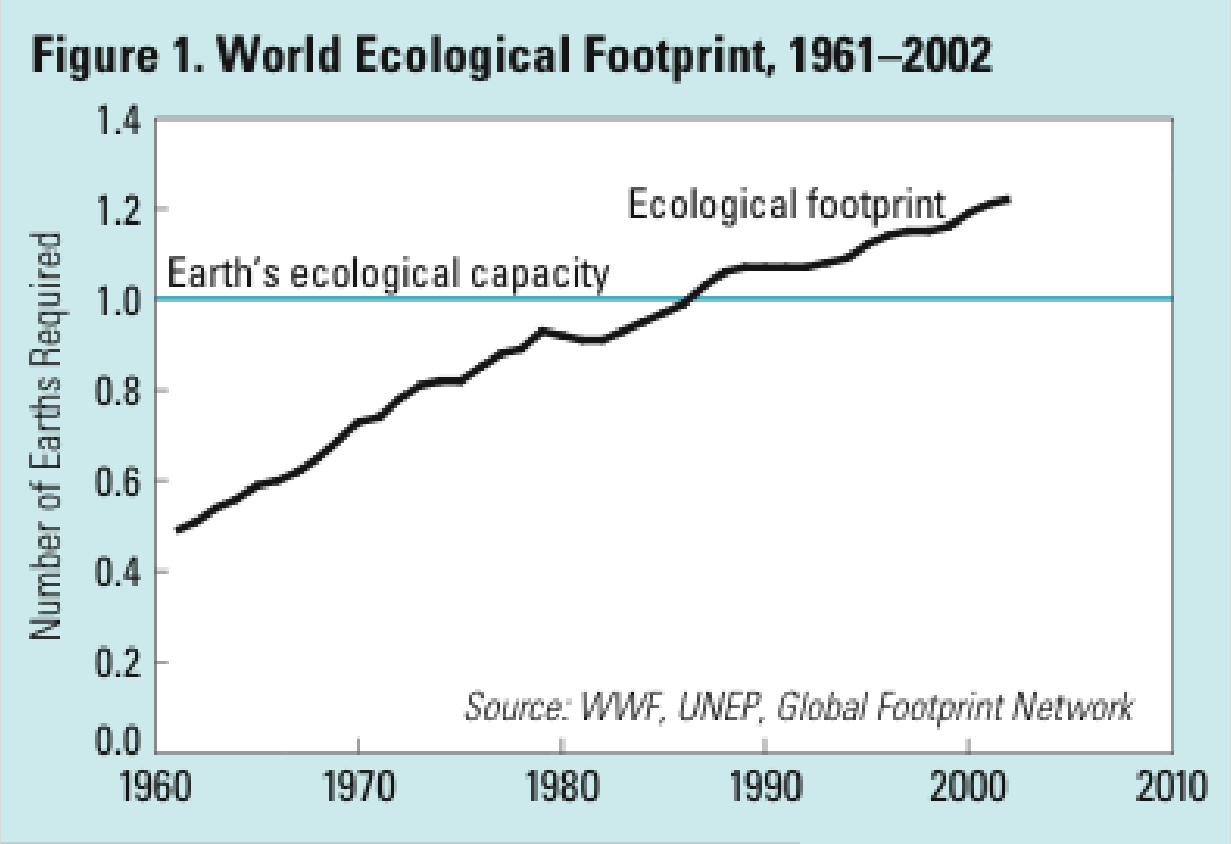
Last Updated 18 June, 2016

Previously Updated 08 March, 2016
Previously Updated 04 January, 2016
Previously Updated 05 February, 2015
Previously Updated 04 April, 2014
Created on 30 October, 2013

Humans are Now Using Earth's Resources Faster than Earth Can Renew Them

Sustainability Indicators: The Ecological Footprint

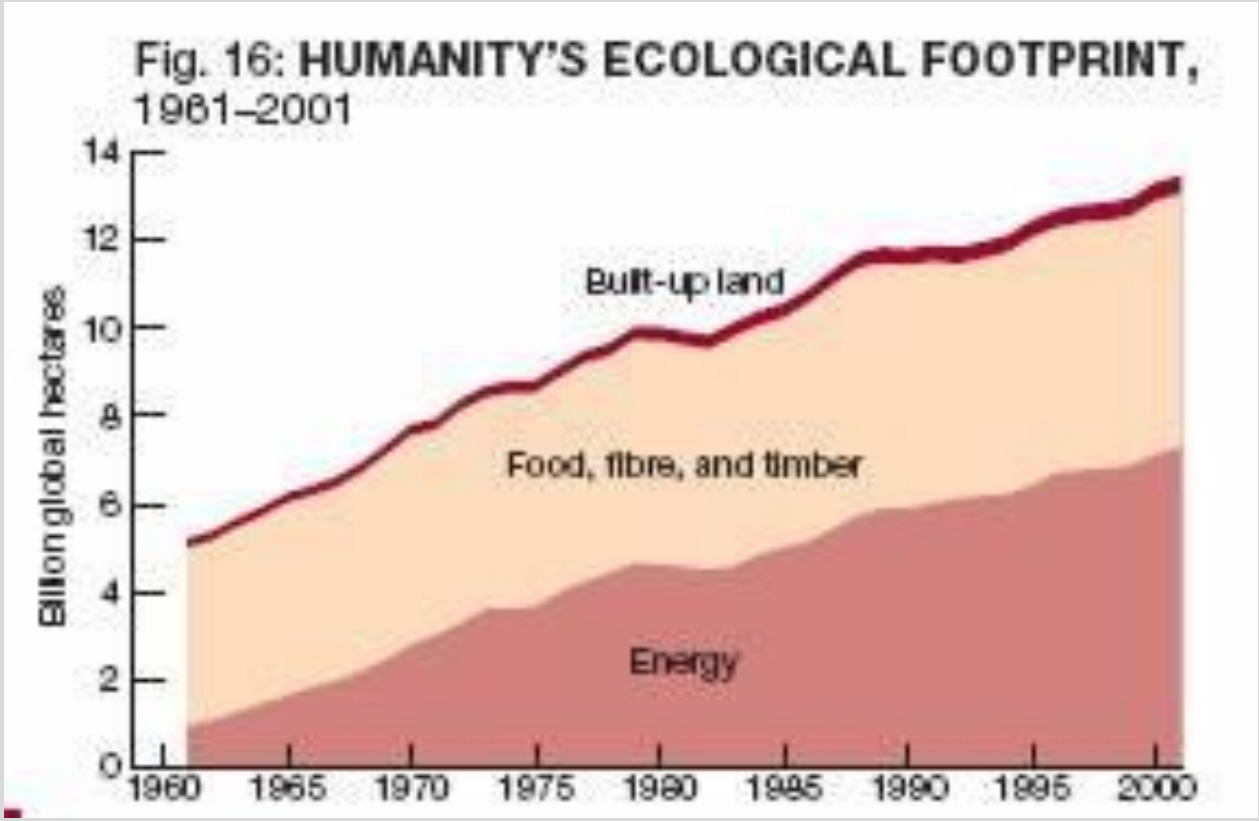
"Overshoot" begins just before 1990 and continues upward even after hitting 1.0, the theoretical maximum…



Source: Wackernagel, Mathis, *et al*. 2002. Tracking the ecological overshoot of the human economy. *Proceedings of the National Academy of Sciences* 99(14):9266–71.

Sustainability Indicators: The Ecological Footprint

The Ecological Footprint is defined as "the area of productive land and water ecosystems required to produce the resources that the population consumes and assimilate the wastes that the population produces, wherever on Earth the land and water is located."



Source: http://www.sustainablescale.org/conceptualframework/understandingscale/measuringscale/ecologicalfootprint.aspx

Ecovillage Ithaca: Laboratory for Sustainability?

World Biocapacity Per Person in 2010 Was 1.8 hectares	EVI Overshoot (Based on local data from the FROG or first neighborhood collected in late 1990s)
World Average EF 2010 = 2.7 ha = 2.7-1.8 = 0.9/1.8 = 50% Overshoot	Overshoot threatens to draw down the life support reserves of the earth…
US overshoot is 439% = 9.7-1.8 = 7.9 ha. = 7.9/1.8 = 439% Overshoot	EVI overshoot is 136% = 4.25-1.8 = 2.45 ha =2.45/1.8 =136% Overshoot

Source for World Average: http://www.footprintnetwork.org/en/index.php/GFN/page/ecological_footprint_atlas_2008/

EcoVillage at Ithaca

The crisis in use of earth's resources is connected to a crisis in values – and uncontrolled and unplanned growth in the modern industrial capitalist economy…

Ecovillage at Ithaca is one response to the sustainability crisis

At the Ecovillage at Ithaca, our 270 residents are attempting to live out a philosophy that values ourselves, our neighbors and all the living elements of our surroundings…a means to grow personally and ethically, not just in terms of acquisitions

This means living within Earth's resource limits.

We're partway there…

Ecovillage Ithaca: Laboratory for Sustainability?

Ecovillage at Ithaca ecological footprint per person in 2002

= 10.5 acres (4.25 ha.)
=**44%** of the 2010 U.S. footprint

U.S. ecological footprint per person in 2010

= 24 acres (9.7 ha)

Sources: Slide 17

Much of Our Progress Has Been in Reducing Heating and Cooking Energy in Our Fairly Cold Northeastern Climate

Ecovillage Ithaca: Laboratory for Sustainability?

Ecovillage at Ithaca	As Percent of	Northeast US Region
Average energy consumption in BTU: 1997—2002 –(natural gas and electricity combined)		Average energy consumption in BTU: 2001
69 million per household	65%	105.9 million per household
50 thousand per sq ft	83%	60 thousand per sq ft
25 thousand per resident	62.5%	40 thousand per resident

Source: slide 17

We've Also Been Able to Reduce Water Use Substantially

Ecovillage at Ithaca: Laboratory for Sustainability?

Ecovillage at Ithaca	New York State
Water use ↓	Water use ↓
= 1,000 gallons per person per month (in 1998–2002)	= 3,400 gallons per person per month
=**29%** of the New York State average	

Sources: Slide 17

Sources for the Footprint, Energy and Water Use Data

Moos, Markus, Jason Whitfield, Laura C. Johnson and Jean Andrey. 2006. Does Design Matter? The Ecological Footprint as a Planning Tool at the Local Level. *Journal of Urban Design* 11(2):195–224. June 2006. Esp. pp. 199, 213—215.

Brown, Jason R. 2004. Comparative Analysis of Energy Consumption Trends in Co-housing and Alternate Housing Arrangements. MS Dissertation in Civil and Environmental Engineering. Cambridge: MIT. Esp. pp. 28–29, 32, 41, 45, 47, 55, 58–59.

Sherry, Jesse. 2014. Community Supported Sustainability: How Ecovillages Model More Sustainable Community. New Brunswick, New Jersey Rutgers University Ph. D. Dissertation in Planning and Public Policy.

Palmer, Michele A. 2014. *Ecovillage at Ithaca: Methodology for Landscape Performance Benefits.* Ithaca: Cornell University Landscape Architecture Foundation. Landscape Performance Series Case Studies Briefs.

Ecovillage Ithaca: Laboratory for Sustainability?

Ecovillage at Ithaca is a community of

- 170 adults
- 100 children
- In 85 houses plus 15 apts.
- On 175 acres (70.8 hectares)
- Old farm
- 2 miles (3.2 km) west of Ithaca, New York

EcoVillage at Ithaca

Ecovillage Ithaca: Laboratory for Sustainability?

A 3rd neighborhood completed in 2015 added 40 units and about 100 people.

EcoVillage at Ithaca
Center for Sustainability Education

Mission Statement:

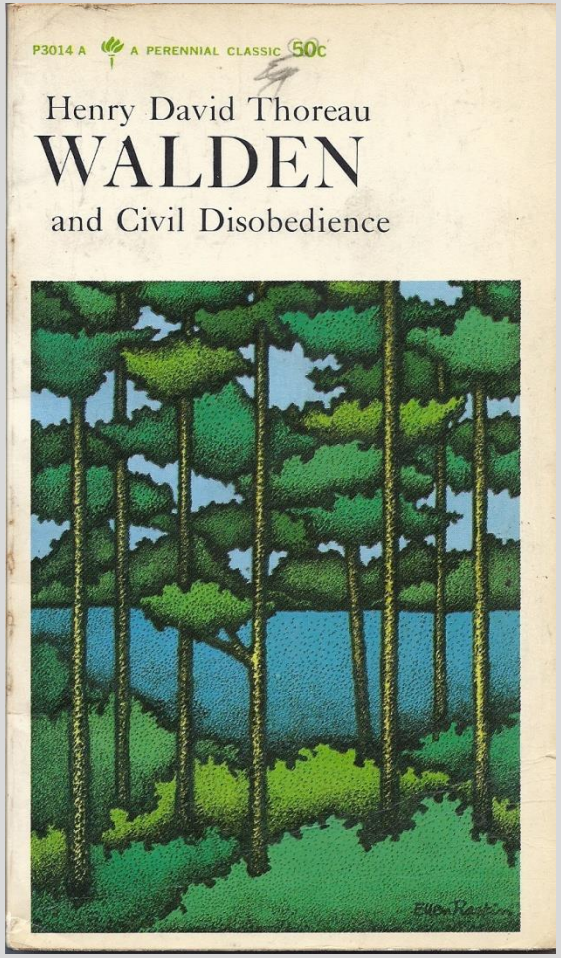
To promote experiential learning about ways of meeting human needs for shelter, food, energy, livelihood and social connectedness that are aligned with the long term health and viability of Earth and all its inhabitants.

Adopted by the EVI Board 28 October 2009

Our mission statement reflects the more fundamental EVI philosophy that derives from the North American environmental movement…

Ecovillage at Ithaca Basic Philosophy

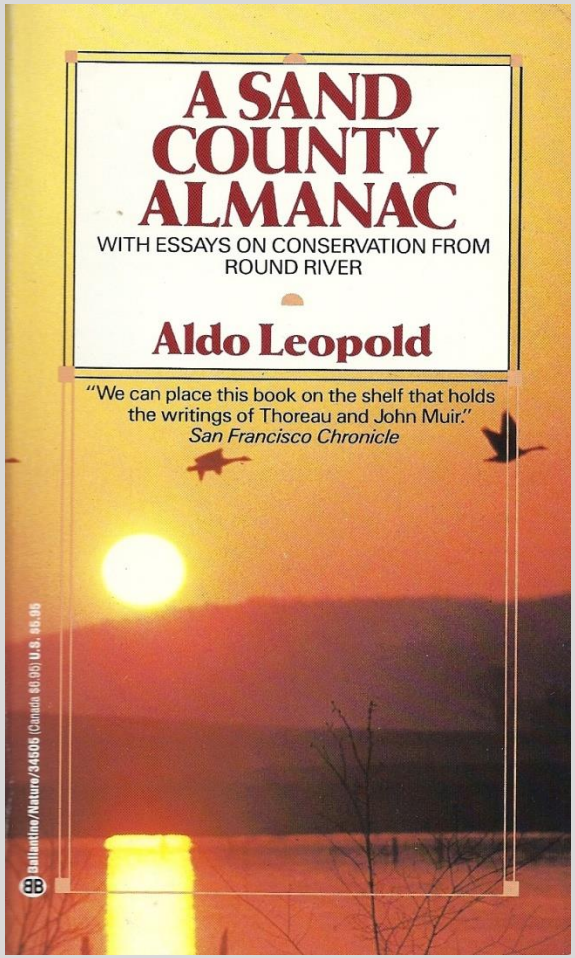
…which began in the 19th Century transcendentalism of Ralph Waldo Emerson and Henry David Thoreau who saw Nature as a language to learn and be connected to…



Ecovillage at Ithaca Basic Philosophy

But was perhaps best expressed by the 20th Century American environmentalist Aldo Leopold in his “land ethic.”

Ecovillage at Ithaca Basic Philosophy



Leopold notes that "the individual is a member of a community" where she/he learns to cooperate with others…

Leopold then adds:

"The land ethic simply enlarges the boundaries of the community to include soils, waters, plants, and animals, or collectively: the land."

Source: Leopold, Aldo. 1966 [1949]. *A Sand County Almanac*. New York: Ballantine Books. Page 239

3 Ways Ecovillage at Ithaca attempts to live out the land ethic, overcome overshoot and carry out its mission:

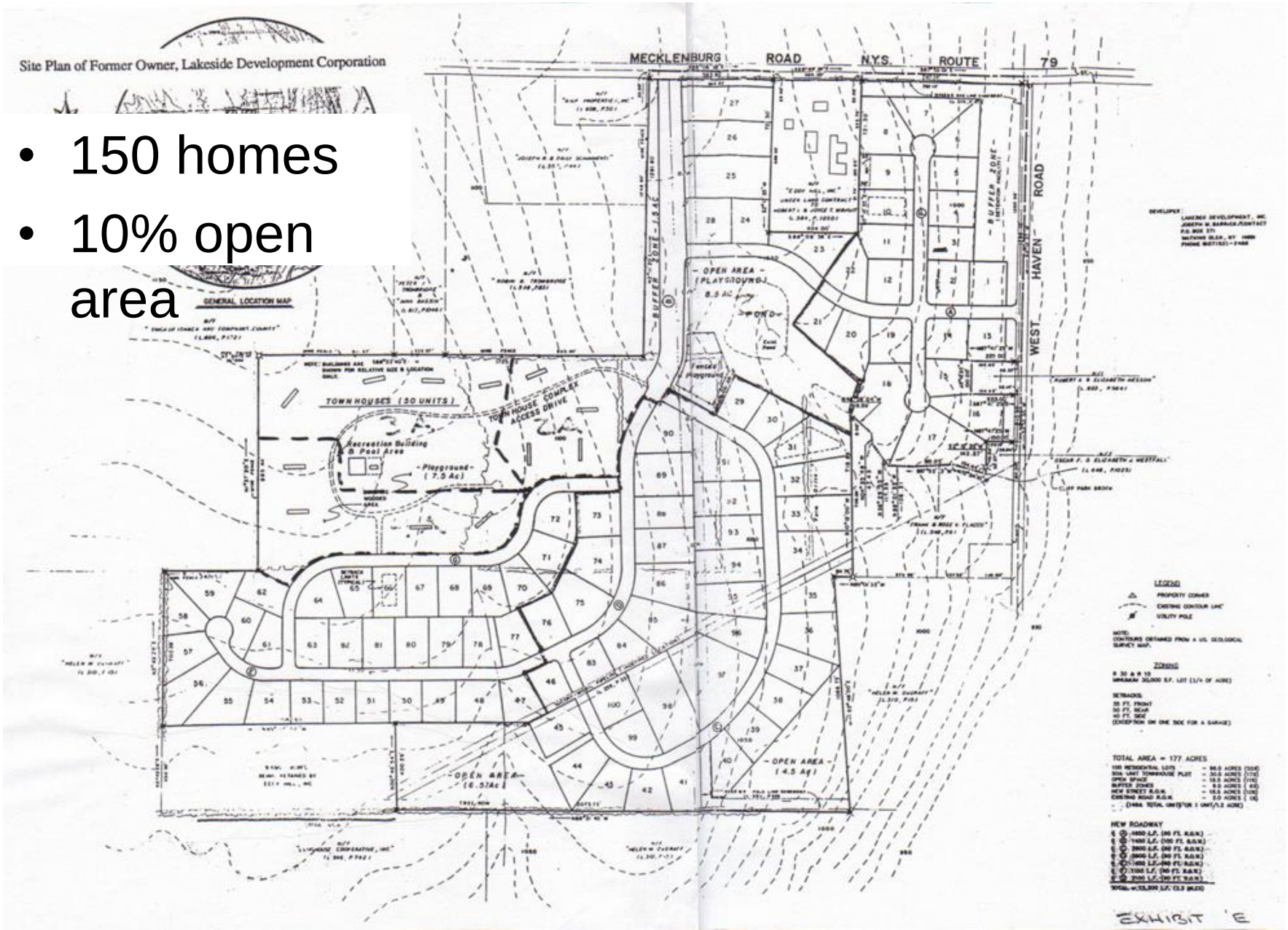
1. Land Use
2. Building Design
3. Community Practices and Ethical Beliefs

1. Land Use and Overall Community Design

Instead of this…

Original Developer's Plan: a Traditional Suburb

- 150 homes
- 10% open area



This [next slide]…a clustered, lower human footprint with same number of people…(eventually)… Only 8–10% of land built up…

Ecovillage at Ithaca and the Land Ethic

- Tightly clustered houses
- 90% of land natural
- Less erosion
- More stored energy from photosynthesis
- Corridors for animals
- Easier maintenance
- Significant on-site food production
- Less concrete/ less asphalt
- More recreational facilities
- More biomass/ more biodiversity
- No loss in comfort

2. Building Design

Ecovillage Ithaca: Laboratory for Sustainability?

We achieve our 40% less energy use in heating in the first neighborhood by:

- Smaller house size: 1,228 sq ft (141.1 m^2) avg vs. US Avg of 2,175 (202 m^2)
- Superinsulation plus 7 inch thick walls instead of 5
- Duplex design with one shared wall
- Large south-facing triple-paned solar gain windows
- District heating system using gas furnaces, with one furnace per 8 houses; hot water delivery of heat and heat exchangers rather than individual house combustion units.

Sources: Slide 17 and 2,175 sq ft from Meltzer, Graham. 2005. *Sustainable Community: Learning from the Cohousing Model. (*Victoria, B.C.: Trafford), page 121 citing American Housing Association data; 1,247 sq ft figure from *Mother Jones*, March-April 2005, citing data from National Association of Home Builders; 1,758 sq ft figure from *Statistical Abstract of the United State: 2007*. Washington, US Dept. of Commerce, Census Bureau, Table 954, page 610.

Ecovillage Ithaca: Laboratory for Sustainability?

All 30 homes in FROG – the first neighborhood – have "great room" designs with cathedral ceilings, 14 foot solar gain windows. The big windows all face south.

Walls are almost double thick and are filled with cellulose insulation made from old newspapers.

Ecovillage Ithaca: Laboratory for Sustainability?

Outside are trellises that let in sunlight during the winter but are covered in vines to cool the front during the warmer summer months. Inside blinds are also used.

Photo taken in May, 2008.

Ecovillage Ithaca: Laboratory for Sustainability?

The houses in our third neighborhood begun in 2006 and completed in late 2015 make use of German "Passiv Haus" design that maximizes heating and cooling efficiency with simple and non-high-tech double wall insulation.

These homes are about twice as efficient as the 1990s FROG designs. With rooftop PV and solar hot water they generate at least 85% of the energy they use – and several may produce 100% or more, meaning they are energy neutral or can sell back energy to the New York State grid.

Their owners could receive income from their houses.

TREE neighborhood is completely fossil free

Ecovillage Ithaca: Laboratory for Sustainability?

For those interested in insulation specs…

TREE homes have –
Foundation R-36
Walls R-52
Attic R-90

For meaning of R-Values, click here and here.

Ecovillage Ithaca: Laboratory for Sustainability?

TREE houses won a 2014 US Department of Energy Award for their sustainability features.

To see the 4-page detailed analysis by an independent evaluator, go to

http://energy.gov/eere/buildings/downloads/doe-zero-energy-ready-home-case-study-aquazephyr

Ecovillage Ithaca: Laboratory for Sustainability?

They require NO furnaces or AC units for comfortable living.

These houses illustrate the possibility that existing technology can produce sustainable housing even in our sometimes cold region. In summer they also stay cool.

3. Community Life and Ethical Practices

Ecovillage at Ithaca Basic Philosophy

We try to build a land-ethic community with each other and with our natural surroundings.

Ecovillage at Ithaca: Laboratory for Sustainability?

3x weekly voluntary community dinners help build community solidarity and save on shopping trips and cooking fuel.

Ecovillage at Ithaca: Laboratory for Sustainability?

Re-use room for ongoing sharing of personal items

Ecovillage at Ithaca: Laboratory for Sustainability?

- Share rides downtown; use email to request
- Share gardening equipment
- Onsite businesses reduce travel and energy waste – strengthen community ties
- Two organic farms, one organic teaching farm, and several community and personal gardens with frequent work exchanges

Community Rituals to enhance solidarity…Mayday maypole dance…

↓

↑

…community garden work day to plant peach trees…

Other community-building activities:

- Community work requirement of 2-4 hours per week;
- Land Partnership Committee plans most environmentally sound land uses such as tree planting;
- Aging discussion and planning group;
- Black Lives Matter and diversity discussion group;
- Support for Save Seneca Lake non violent Protestors;
- ML King book discussion → Occupy discussion group →Race and Racism discussion group;
- Community Thanksgiving

Other community-building activities:

–Winter “spiral” solstice candle-lighting and community musicians

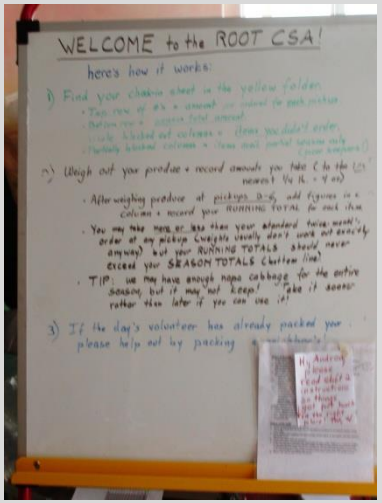
Spontaneous Cooperatives

Residents enact the spirit of cooperation in many ways. One of these is the creation of spontaneous mini-cooperatives: 6 households recently created a chicken coop with a chicken run for free ranging. They share the work and the eggs.

Another group got together and purchased a laser printer that they share, reducing the cost to each household and getting the same amount of printing done as if each had its own unit.

Ecovillage Ithaca: Laboratory for Sustainability?
Spontaneous Cooperatives: Winter Vegetables

In winter 2014 EVI held its 7th winter root vegetables purchasing cooperative. 20 households purchased beets, cabbage, carrots, celeriac, onions, parsnips, potatoes, rutabagas, and turnips, or any one or some of these with alternate Saturday morning pickup at the common house next to the root cellar.



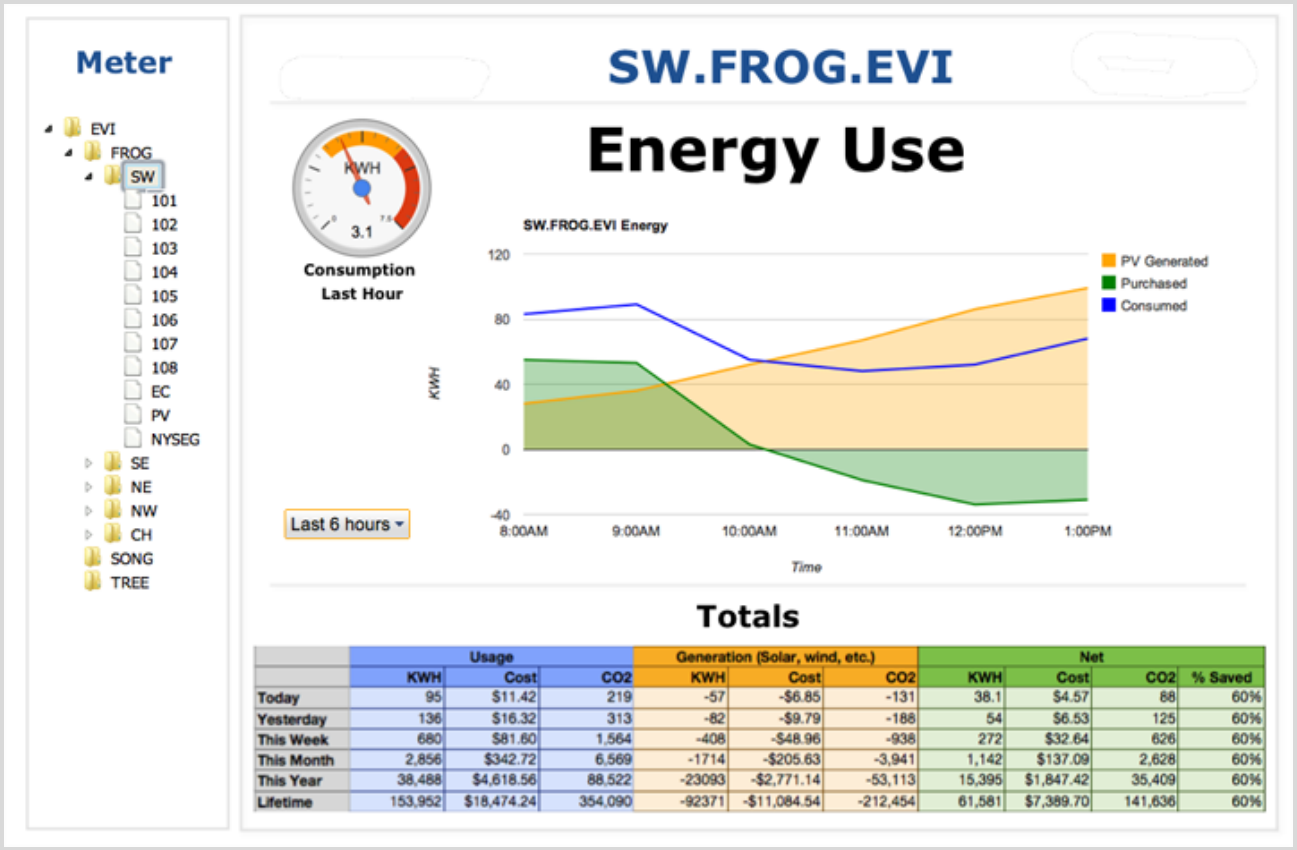
An average size pickup of a sample of various root veggies would cost about $0.73 per pound. Buyers should work 2 hours total across the ten week period, or could pay an extra $15 and not work.

Ecovillage at Ithaca: Laboratory for Sustainability?

Frog Neighborhood Photovoltaic Array

- 52% of electrical needs
- Use inferior farming area
- $270,000
- Use state and federal incentive subsidies
- Self-financed: 6 households lent money for initial investment – payback by all paying electrical bills
- Paid off in 10-15 yrs
- Carbon neutral (or negative) production (doesn't count embedded energy)
- Embedded energy payback in 12-36 months
- Source for estimating embedded payback time: http://sunlightsolar.com/img/PV-Embodied-Energy_Home-Power-mag.pdf

Ecovillage at Ithaca: Laboratory for Sustainability?



Totals

	Usage			Generation (Solar, wind, etc.)			Net			
	KWH	Cost	CO2	KWH	Cost	CO2	KWH	Cost	CO2	% Saved
Today	95	$11.42	219	-57	-$6.85	-131	38.1	$4.57	88	60%
Yesterday	136	$16.32	313	-82	-$9.79	-188	54	$6.53	125	60%
This Week	680	$81.60	1,564	-408	-$48.96	-938	272	$32.64	626	60%
This Month	2,856	$342.72	6,569	-1714	-$205.63	-3,941	1,142	$137.09	2,628	60%
This Year	38,488	$4,618.56	88,522	-23093	-$2,771.14	-53,113	15,395	$1,847.42	35,409	60%
Lifetime	153,952	$18,474.24	354,090	-92371	-$11,084.54	-212,454	61,581	$7,389.70	141,636	60%

We now have online information for improving personal usage habits for electricity

Ecovillage at Ithaca: Laboratory for Sustainability?

- Requires local trust among households
- Use existing community billing system
- Housing cooperative now also an electricity coop

Consensus Decision-Making

–Requires high levels of mutual respect – meetings sometimes begin with ritual of appreciation of each other

–Willingness to compromise

–"deliberative democracy" rather than interest group democracy

✓Can mean lots of long meetings and sometimes frustration at slowness of decisions

✓"fallback" to supermajority possible in some cases

Consensus Decision-Making

EVI's most advanced and most controversial cultural element

- Difficult to bring off
- Multistage process
  - First stage: Idea sharing – no policy outcomes or motions
  - Formal proposals – straw polls
  - Discussion until consensus reached
  - Allow one or more "blocks" annually?
  - In extreme cases, revert to supermajority or majority?
- Ties people together despite difficulties in the process

Still lots to learn and lots to work on to get Ecovillage to become a truly sustainable community that lives out the land ethic…

…and we talk about it a lot

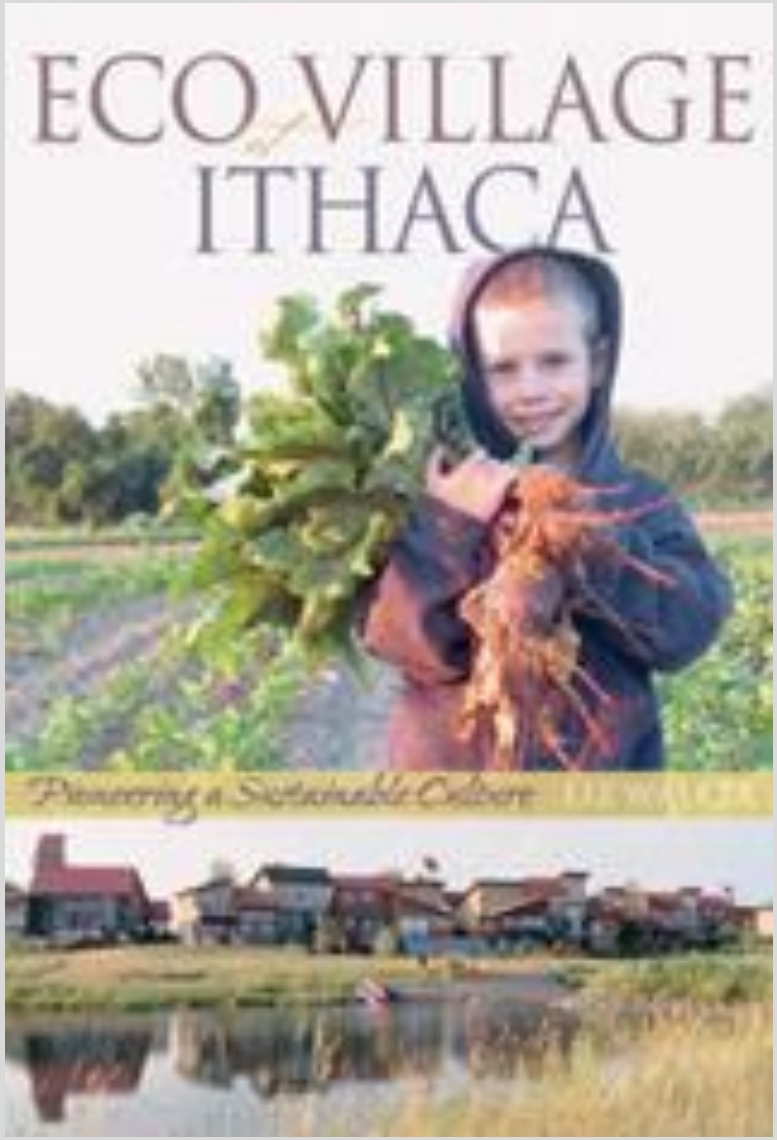
…try to come up with new projects and new understandings

Come visit us and learn more…

FREE 90 minute public tour last Saturday of each month – meet at the FROG Common House just across from visitor parking at 3:00 pm.

Private and group tours easily arranged through our website:

http://ecovillageithaca.org/learn-at-ecovillage-ithaca/tours/



Community Life and the Land Ethic at Ecovillage at Ithaca

And/or read Liz Walker's 2005 book on Ecovillage at Ithaca…($17.95)…

or read any of the several free publications on our website, including a virtual tour with beautiful photos:

http://ecovillageithaca.org/books

Or, plan a longer visit alone or with a group –

Read up first on the many sustainability and social justice projects and experiments underway in the Ithaca area

Most can be examined in depth with a little advance planning

Click on the link below for an annotated list of suggested readings and websites:

http://msuweb.montclair.edu/~franker/EVI/VisitorInfoandReadingsEVIandIthaca.pdf

To read my short introductory articles on

- History of sustainability
- Major sustainability concepts
- International examples of sustainable activities and sustainable cultures

Go to:

http://msuweb.montclair.edu/~franker/frankerecentwritings.htm

Community Life and The Land Ethic at Ecovillage at Ithaca:

End of Slides