

ZERO ENERGY
TOWN BUILDING BYLAW
ARTICLE 15
FALL 2017 TOWN MEETING

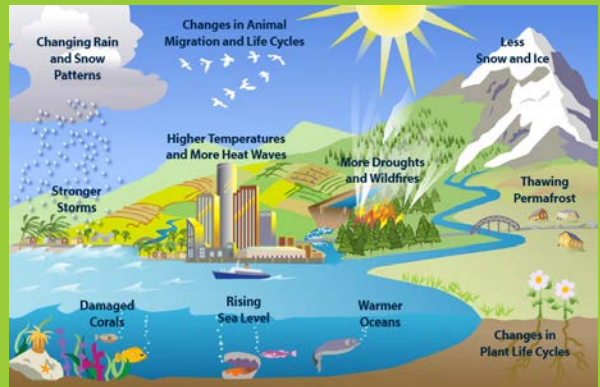
OVERVIEW

WE ARE A GROUP OF AMHERST RESIDENTS AND
MOTHERS OUT FRONT VOLUNTEERS WHO ARE
URGENTLY CONCERNED ABOUT OUR CLIMATE
CRISIS AND WANT TO SEE OUR TOWN COMMIT TO
ZERO ENERGY FOR ALL NEW MUNICIPAL
BUILDINGS AND MAJOR ADDITIONS



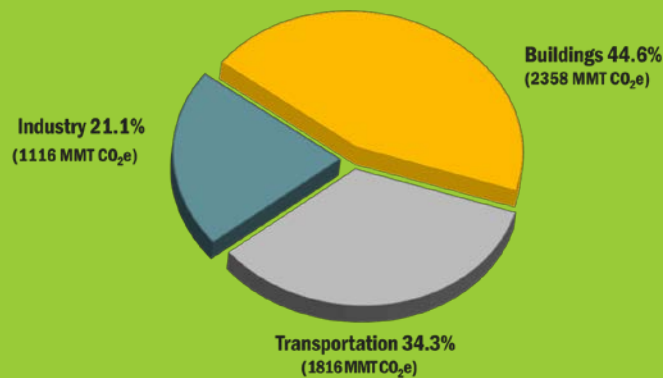
THE CLIMATE FACTS

- GREEN HOUSE GASES AS A RESULT OF THE BURNING OF FOSSIL FUELS ARE WARMING OUR EARTH AND OCEANS
- WE ARE AT RISK OF PUSHING OUR CLIMATE SYSTEM TOWARD ABRUPT UPREDICTABLE AND POTENTIALLY IRREVERSIBLE CHANGES WITH HIGHLY DAMAGING IMPACTS
- THE SOONER WE ACT THE LOWER THE RISK AND COST.
- THERE IS MUCH WE CAN DO



WHY ZERO ENERGY(ZE) BUILDINGS?

BUILDING SECTOR RESPONSIBLE FOR NEARLY HALF OF CO₂ EMISSIONS



U.S. CO₂ Emissions by Sector

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Data Source: U.S. Energy Information Administration (2012).

WHAT IS A ZERO ENERGY BUILDING?

An energy-efficient building that produces enough on-site renewable energy to meet its own annual energy consumption requirements.



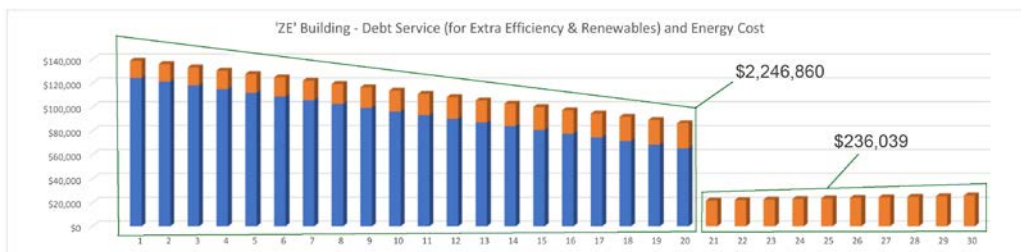
KERN CENTER
HAMPSHIRE COLLEGE
AMHERST, MA

HOW DO YOU ACHIEVE ZERO ENERGY?

1. ZE GOAL FROM THE START OF THE PROJECT
2. ASSEMBLE KNOWLEDGABLE DESIGN TEAM
3. DESIGN FOR LOW ENERGY USE
 - HIGH LEVELS OF INSULATION AND SEALING
 - HIGH PERFORMANCE WINDOWS AND DOORS
 - EFFICIENT LIGHTING, APPLIANCES, ELECTRONICS
 - SMART DESIGN AND BUILDING ORIENTATION
4. OBTAIN ENERGY FROM RENEWABLE SOURCES

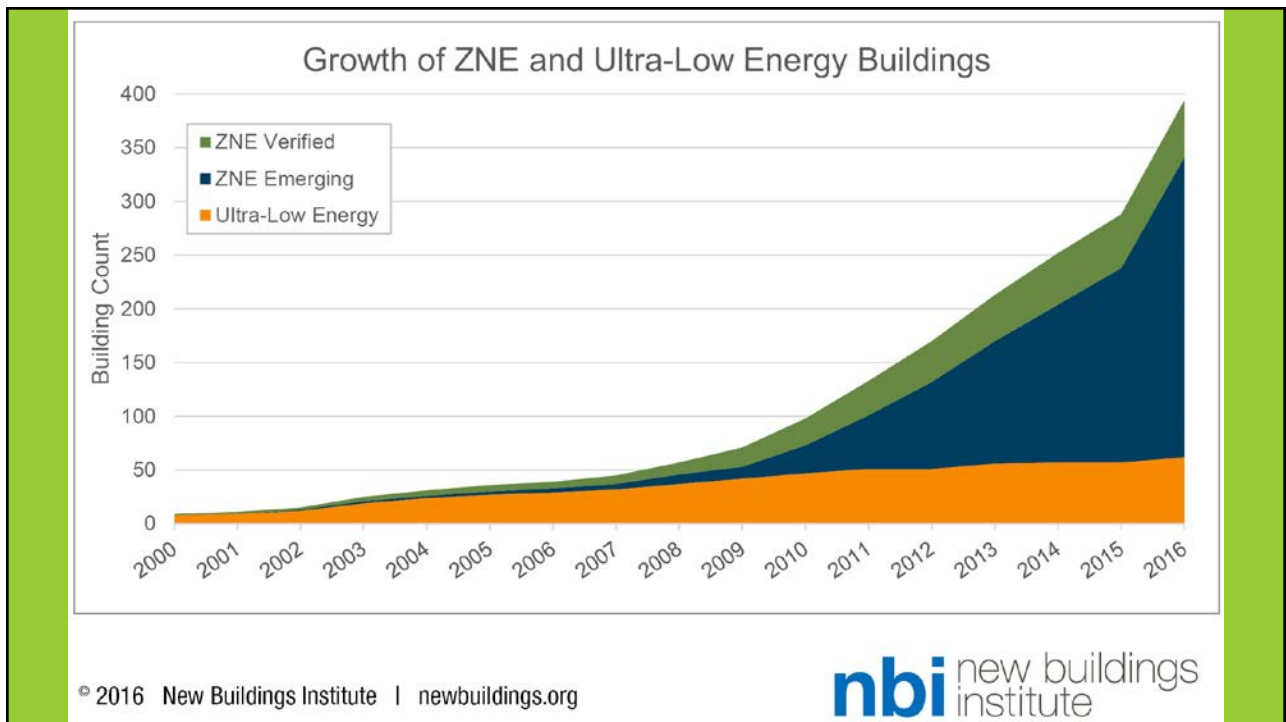
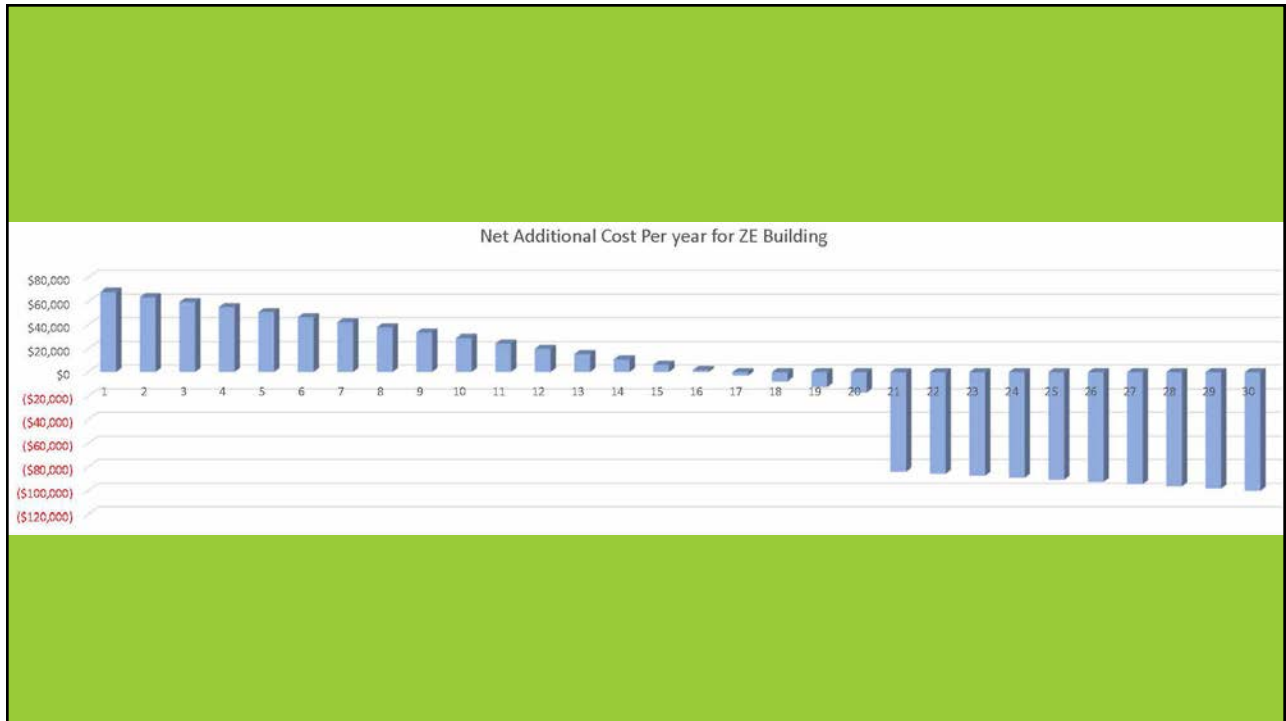
HOW MUCH DOES ZERO ENERGY COST?

- ZE COSTS MORE TO BUILD
- EXTRA COST IS RECOUPED FROM ENERGY SAVINGS
- AFTER EXTRA ZE COST IS REPAID (20 YEAR TERM), ENERGY SAVINGS CONTINUE FOR LIFE OF BUILDING
- CONSERVATIVE ENERGY COST INCREASE AND NO INCENTIVES USED IN CALCULATION



LEGEND:

- Annual Debt Service for Extra Efficiency & Renewables:
- Annual Energy Cost



WHAT DO ZE BUILDINGS LOOK LIKE?



HITCHCOCK CENTER AMHERST , MA



CROTTY HALL, UMASS AMHERST



FIELD HOUSE, THE PUTNEY SCHOOL, PUTNEY, VT



SOUTH CONGREGATIONAL CHURCH

FALL 2017 TOWN MEETING WARRANT ARTICLE

- ZERO ENERGY NETS ON AN ANNUAL BASIS
- INTERGRATED ZE DESIGN PROCESS FROM PROJECT CONCEPT TO COMPLETION
- NO ON-SITE BURNING OF FOSSIL FUELS
- START OF ANNUAL COMPLIANCE PERIOD REQUIRED WITHIN 12 MONTHS OF OCCUPANCY

EXCEPTIONS:

- PROJECT COST LESS THAN 1 MILLION
- RENOVATIONS

AMENDMENTS:

- BACK UP POWER *
- OFF-SITE, BUT PART OF BUILDING PROJECT ALLOWED

ZERO ENERGY AMHERST

- **MORE COMFORTABLE, HEALTHIER BUILDINGS**
- **MORE AFFORDABLE TO OPERATE**
- **HELPING PROTECT OUR PLANET FOR FUTURE GENERATIONS**

QUESTIONS, COMMENTS?

PLEASE VISIT OUR WEBSITE FOR MORE INFORMATION:

ZEROENERGYAMHERST.WEBLY.COM

**Unless someone like
you cares a whole
awful lot,
nothing is
going to get
better.
It's not.**

