

# Synergies in energy efficiency criteria and indoor environment quality in building certification systems

MAIJA KRIZMANE, LEED Green Associate

LATVIAN SUSTAINABLE BUILDING COUNCIL

REHVA Annual Conference 2015

Riga, Latvia



# The broader picture

Global emissions discussion under UNFCCC

- ❑ Montreal Protocol (1987)
- ❑ Kyoto Protocol (1992)
- ❑ ...
- ❑ Paris protocol (pending December, 2015)

The EU goals [20-20-20]

EU Directives

National & local policies [Building codes, minimum requirements, standards, systems]

Goal – transformational goal towards sustainable low carbon pathway

# Systems



# Why?

CLIMATE CHANGE?

HEALTH?

SAVINGS?

ENVIRONMENT?

AIR QUALITY?

BIODIVERSITY?

ENERGY EFFICIENCY?

RESOURCE EFFICIENCY?

ENERGY INDEPENDENCE?

WATER SHORTAGE?

EDUCATION?

SELF SUFFICIENCY?

EQUALITY?

STRATEGIES?

BEAUTY?

...

# Yes!



But also..





Community building project  
Dro, Italy



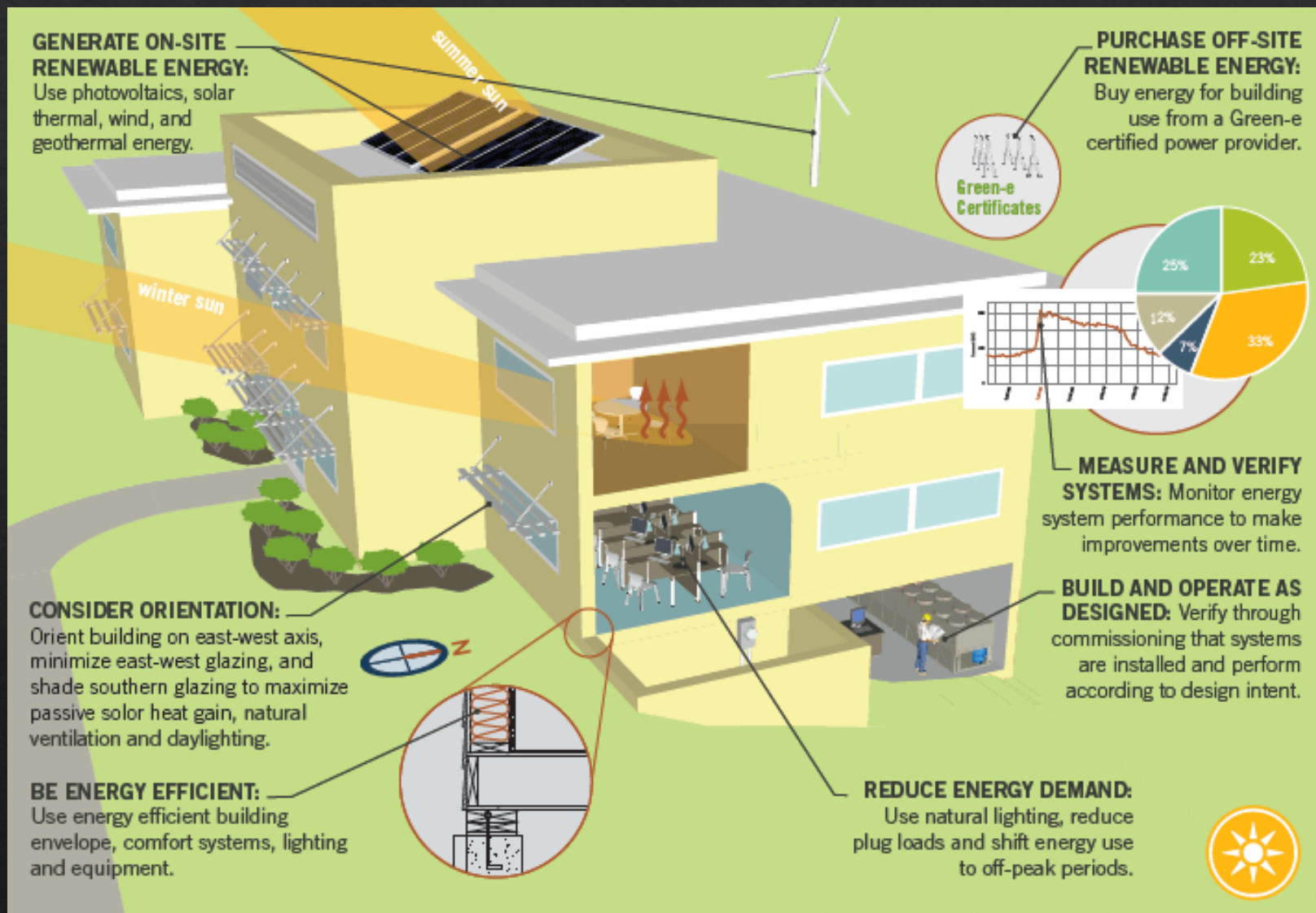
# Back to reality





LEED

# LEED [energy efficiency]



# LEED [indoor air quality]

### PROMOTE GREEN BUILDING OPERATIONS:

Use Best Management Practices to control outdoor air introduction and exhaust systems.

### USE GREEN CONSTRUCTION PRACTICES:

Control spread of construction dust and protect building materials from moisture.

**INTEGRATE PEST MANAGEMENT:**

Create a plan to prevent pests from entering and damaging the building.

**SELECT APPROPRIATE MATERIALS:**

- Use low-emitting materials, furniture and interior finishes to limit off-gassing.

### PRACTICE GREEN CLEANING:

Adopt a Green Cleaning Policy and use sustainable cleaning products and equipment.

**REDUCE OR ELIMINATE CONTAMINATES:**

Protect the indoor environment from VOCs, CO<sub>2</sub>, particulates and tobacco smoke.

**USE LIGHTING CONTROLS:**

- Provide individual lighting controls to adjust to personal preference.

- CONTROL THERMAL COMFORT:

Provide user controls and consider user feedback in operations and maintenance.

**PROVIDE DAYLIGHTING AND VIEWS:**

Utilize natural light for optimal indoor lighting and provide views of scenery..



# LIVING BUILDING CHALLENGE [LBC]



LBC [energy] = net positive energy

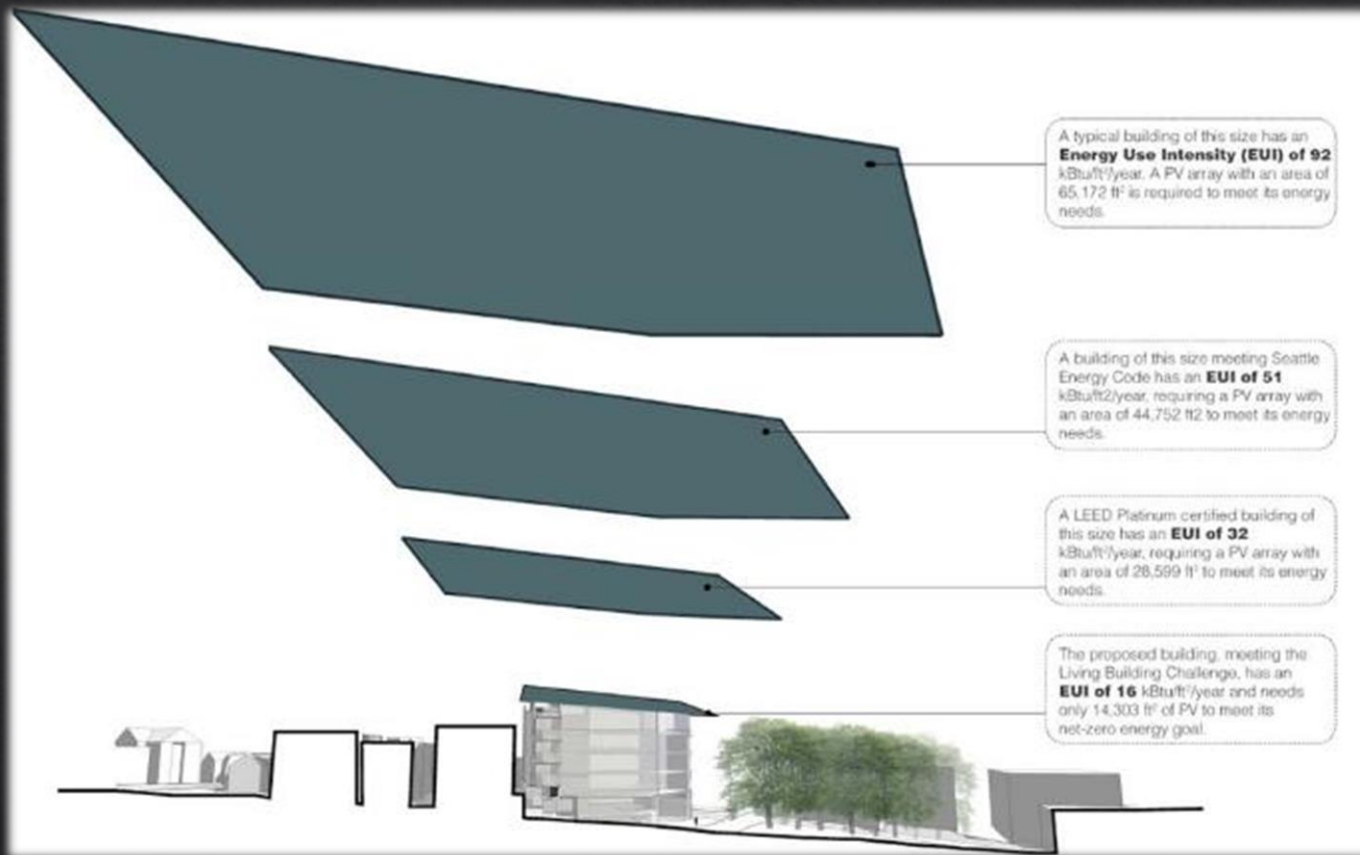


10 kWh/m<sup>2</sup>

Surplus  
90 793 kWh

Bullitt centre, Seattle WA

# LBC [energy] = net positive energy

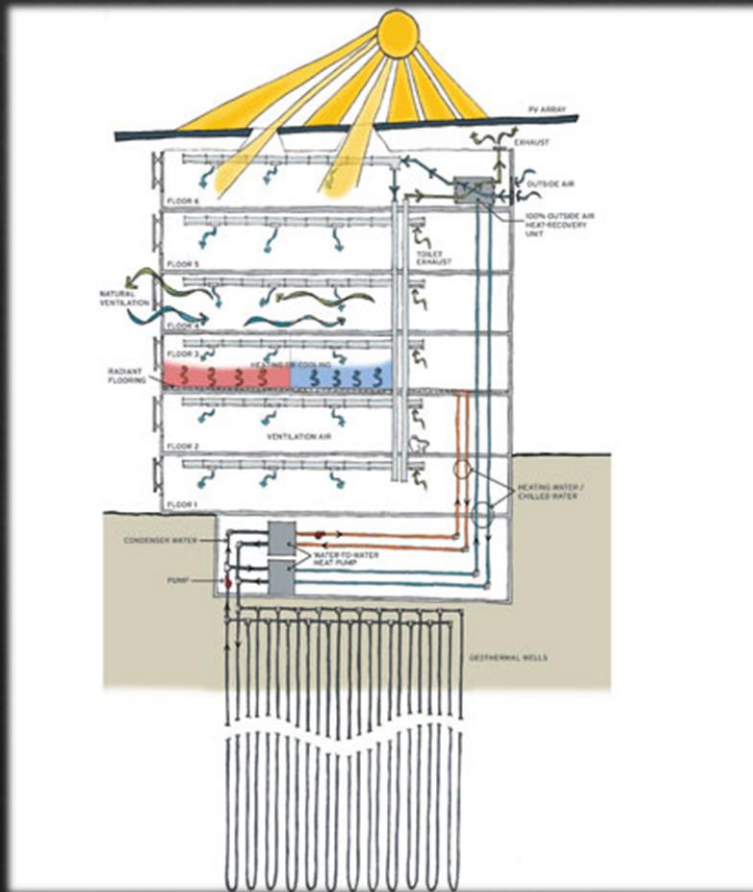


10 kWh/m<sup>2</sup>

Surplus  
90 793 kWh

Bullitt centre, Seattle WA

LBC [energy] = net positive energy



Bullitt centre, Seattle WA



# LBC [healthy indoor environment]

No Smoking 	Air filtering	Extraction from bathrooms 	Particle treatment
Air Exchange 	<b>B</b> uilding <b>M</b> anagement <b>S</b> ystem	Green Cleaning	Eliminating Glare



# How it fits together

Government international responsibility

Society needs

Economy restrictions

Environmental Protection

Innovation

Business

Our answer...

[existing building stock]

# EUROPE REGIONAL NETWORK



WORLD  
GREEN  
BUILDING  
COUNCIL

# BUILD UPON



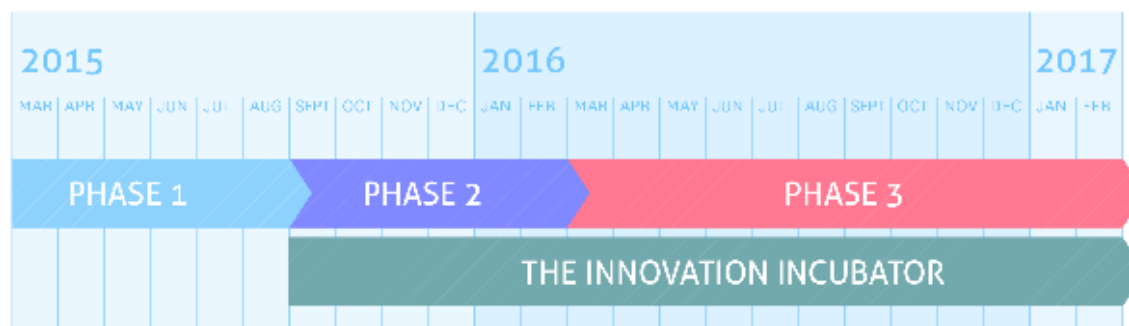
# KEY POINTS

Timeline	2 years
Goal	national renovation strategies in 2017
Partners	Latvia, Spain, UK, Czech Republic, Croatia, Ireland, Turkey, Italy, Slovenia, Sweden, Romania, Bulgaria, Finland, Slovakia
Means	<ul style="list-style-type: none"><li>- collaborative platform</li><li>- stakeholder engagement</li><li>- national priorities</li><li>- knowledge transfer</li></ul>
Milestones in 2 months	<ul style="list-style-type: none"><li>- stakeholder mapping</li><li>- barriers &amp; initiatives review</li></ul>





# OVERVIEW



## PHASE 1

Mapping the existing landscape  
(key stakeholders, initiatives, expertise).



## PHASE 2

Designing a collaborative community  
process to strategically build upon and  
strengthen the existing landscape.



## PHASE 3

Hosting the collaborative community process,  
inputting into v2.0 national renovation strategies  
and generating the buy in to deliver them.



## THE INNOVATION INCUBATOR

Shaping project concepts on Financial Innovation,  
Business Model Innovation, Public Sector Innovation,  
Behavioural Innovation, for launch within the  
BUILD UPON community.



SWEDISH  
GREEN BUILDING  
COUNCIL



# GET INVOLVED



# More info

[maiija.krizmane@gmail.com](mailto:maiija.krizmane@gmail.com)