Green/Sustainable Design

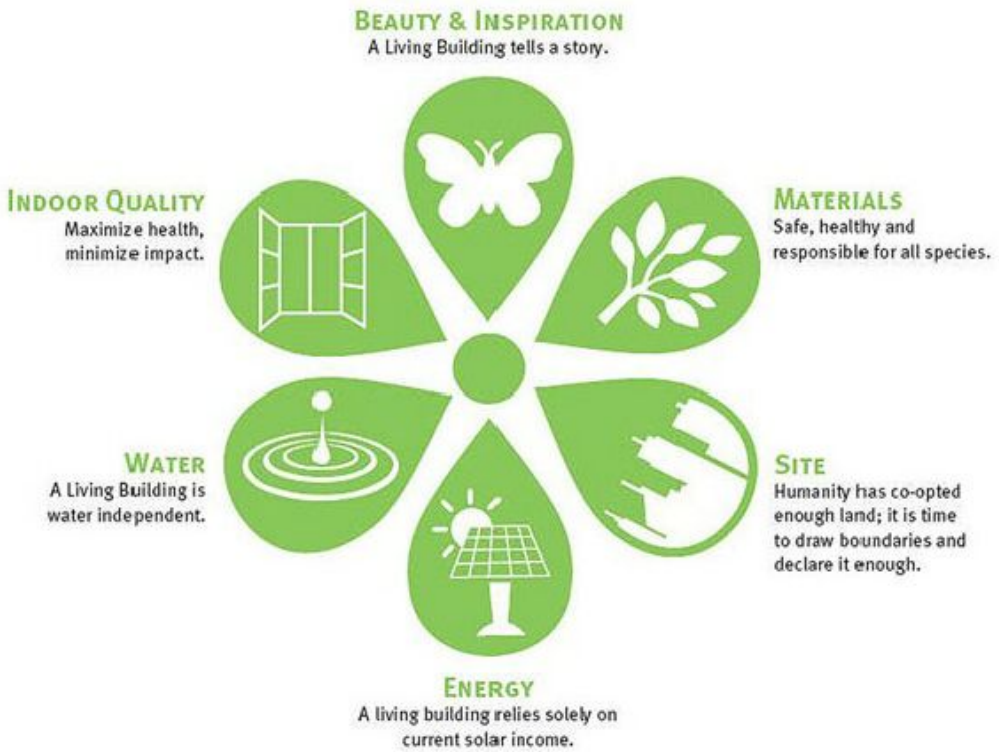
Architects in Schools - Lesson 4

What would life be like if we couldn’t heat our buildings with oil, electricity, or natural gas?

How many ways can you think of that rely on electricity?

If we were required to restrict our water usage year-round, which of the ways that you use water be most important to you?

What is green architecture?

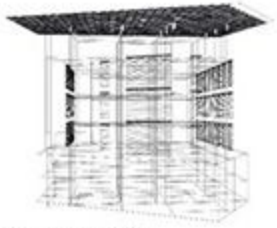


New Construction | Bullitt Center in Seattle, WA

BUILDING LIFE CYCLE

250 YEAR STRUCTURE
HEAVY TIMBER, CONCRETE & STEEL

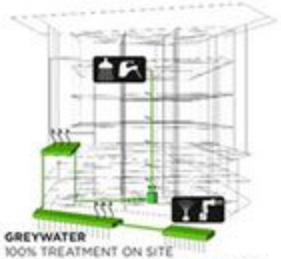
50 YEAR SKIN
HIGH PERFORMANCE ENVELOPE



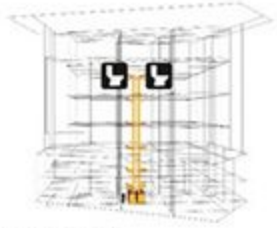
25 YEAR TECHNOLOGY
ACTIVE SOLAR CONTROL
PHOTOVOLTAICS

NET ZERO WATER

RAINWATER COLLECTION
100% DEMAND MET ON SITE
50,000 GALLON CISTERN

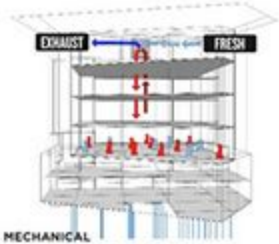


GREYWATER
100% TREATMENT ON SITE
EVAPOTRANSPIRATION & INFILTRATION



WASTE COMPOST
100% TREATMENT ON SITE

NET ZERO ENERGY



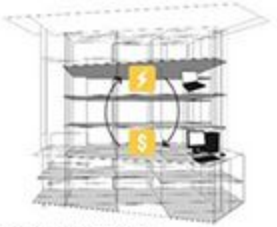
MECHANICAL
GROUND SOURCE HEAT EXCHANGE
RADIANT HEATING/COOLING
HEAT RECOVERY AIR SYSTEM

NATURAL VENTILATION
NIGHT FLUSH & OPERABLE WINDOWS

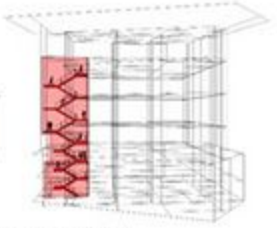
ENERGY
100% RENEWABLE ON SITE
GRID USED AS BATTERY

OCCUPANT

PROGRAM
OCCUPANCY
PRIVATE USERS ABOVE, PUBLIC FOCUS
USERS AT GRADE



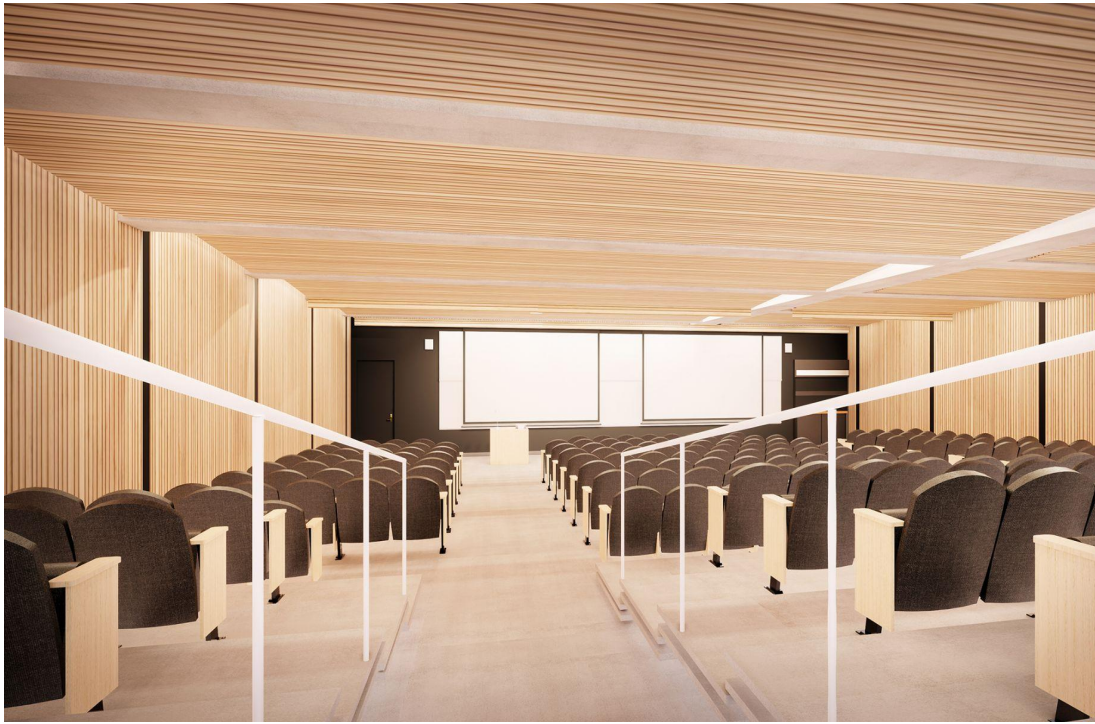
INTERNAL CAP & TRADE
EACH TENANT HAS AN ENERGY BUDGET;
UNUSED ENERGY CAN BE TRANSFERRED



IRRESISTIBLE STAIR
ELEVATOR ALTERNATIVE, HEALTHIER
OCCUPANTS, ENGAGEMENT WITH STREET

Renovation | Cordley Hall in Corvallis, Oregon

Cordley Hall in Corvallis, Oregon

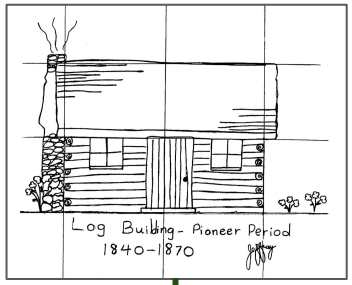


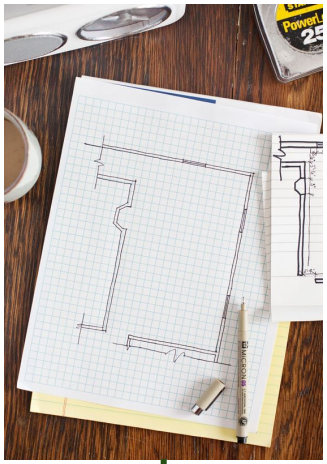
Project - Sustainable Building Renovation

Your house/garage/treehouse, your school/classroom, grocery store, favorite restaurant/ice cream shop, museum

Adapt at least two sustainable items to that building

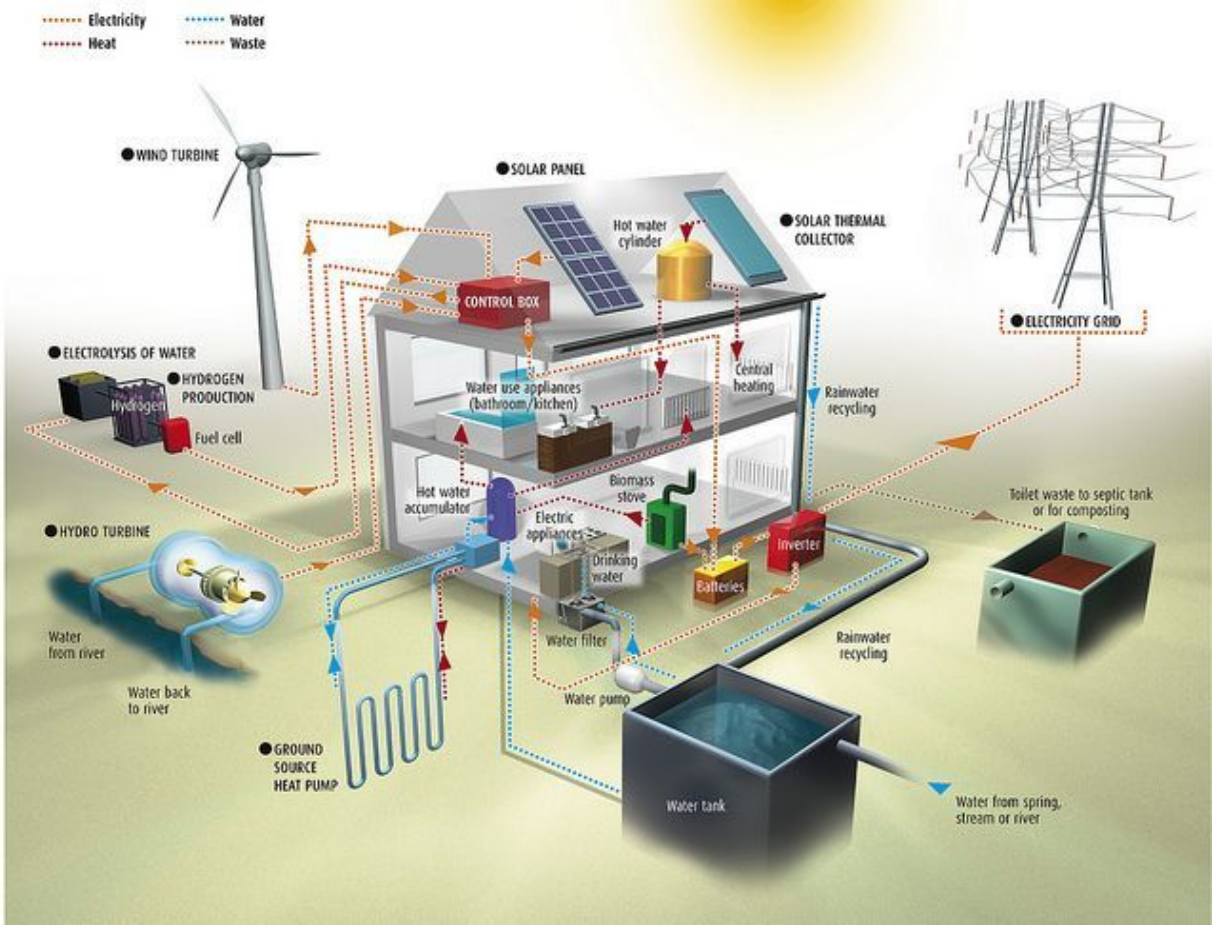
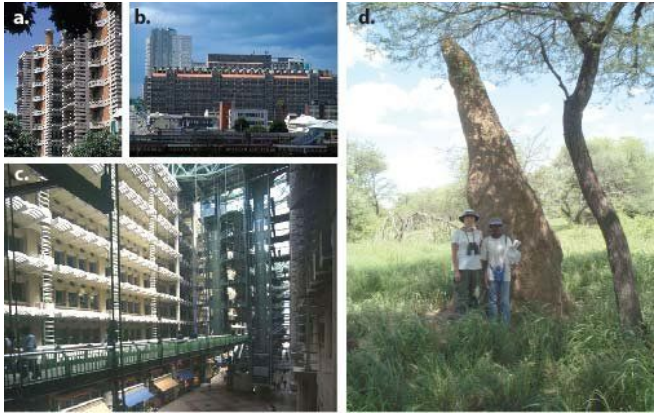
Eco friendly house model - DIY
school
project


Log Building- Pioneer Period
1840-1870



GOING IT ALONE

With enough renewable technologies you will only need the grid to help pay your bills



Some of the coolest Sustainable Designs in the World!