

Bologna | 25 marzo 2013

Materia Paesaggio: saperi ed esperienze a confronto

BRENNONE21: UN RECUPERO CARBON ZERO

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THE PAST.....
FROM BALANCED BUILDINGS
TO STUPID BUILDINGS



foto Giorgio Teggi

**THE PRESENT.....
FROM ENERGY CONSUMPTION
TO NEARLY ZERO ENERGY BUILDINGS...**



FIRST «A» BUILDING ENERGY+MOBILITY
TRENTO TRIESTE 15, REGGIO EMILIA, 2005-08



SUSTAINABLE SOCIAL HOUSING
CASANOVA EA8, BOLZANO, 2006-11



FIRST CARBON ZERO BUILDING
TIL, REGGIO EMILIA, 2008-09

foto PdP

.....FROM THE NEW CONSTRUCTION
TO REFURBISHMENT

FIRST CARBON ZERO REFURBISHMENT
BRENNONE 21, REGGIO EMILIA, 2009-10





● PORTA BRENNONE 21 ● VERDE PUBBLICO ● VIALI ALBERATI ● MINIBUS LINEA "G" ● PERCORSI CICLO-PEDONALI



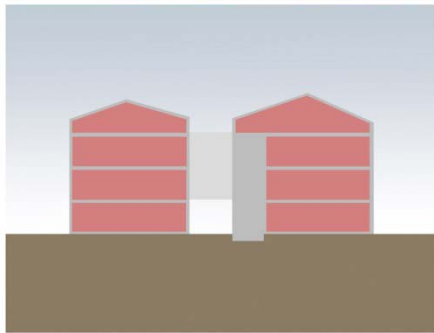
241 kW/mqa



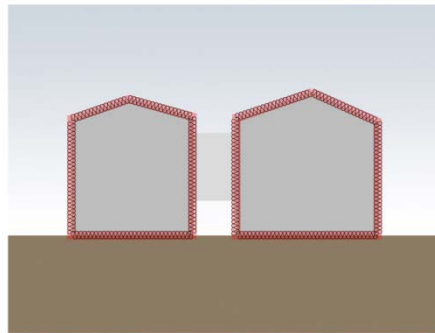
14,5 kW/mqa / 5,0 kW/mca



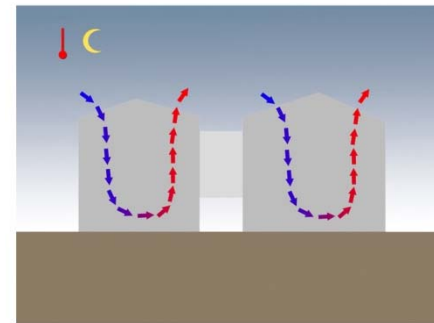
IMMAGINI STATO DI FATTO



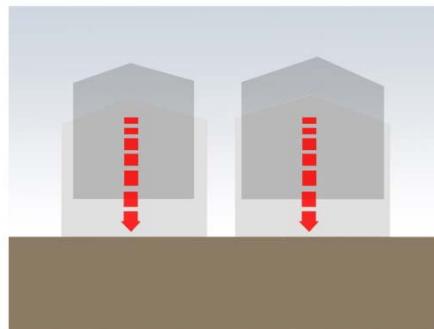
RECUPERO TIPOLOGICO E COMPATTEZZA



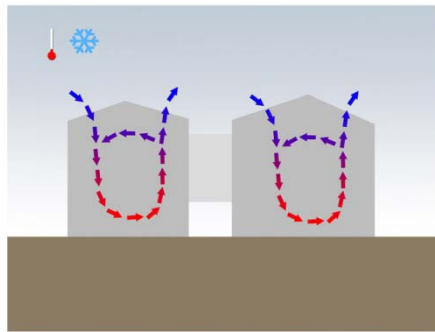
ALTO ISOLAMENTO



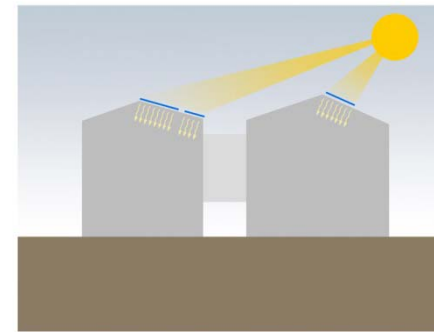
VENTILAZIONE NOTTURNA



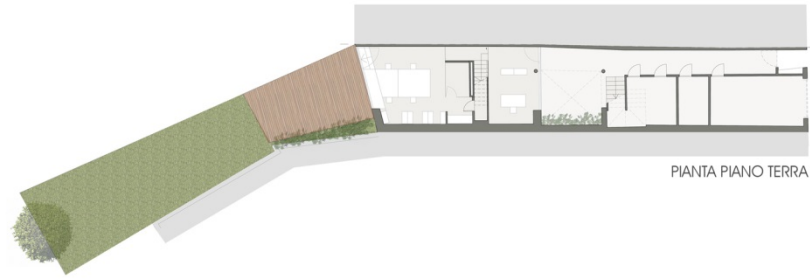
COSTRUZIONE A SECCO



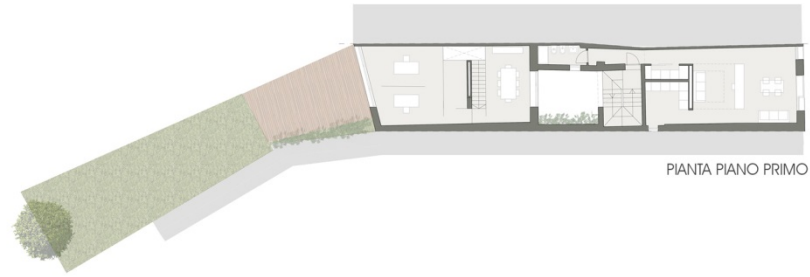
RECUPERO DI CALORE



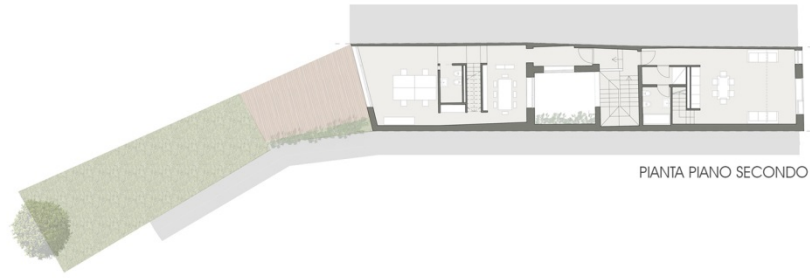
CARBON ZERO



PIANTA PIANO TERRA



PIANTA PIANO PRIMO



PIANTA PIANO SECONDO



PIANTA PIANO TERZO



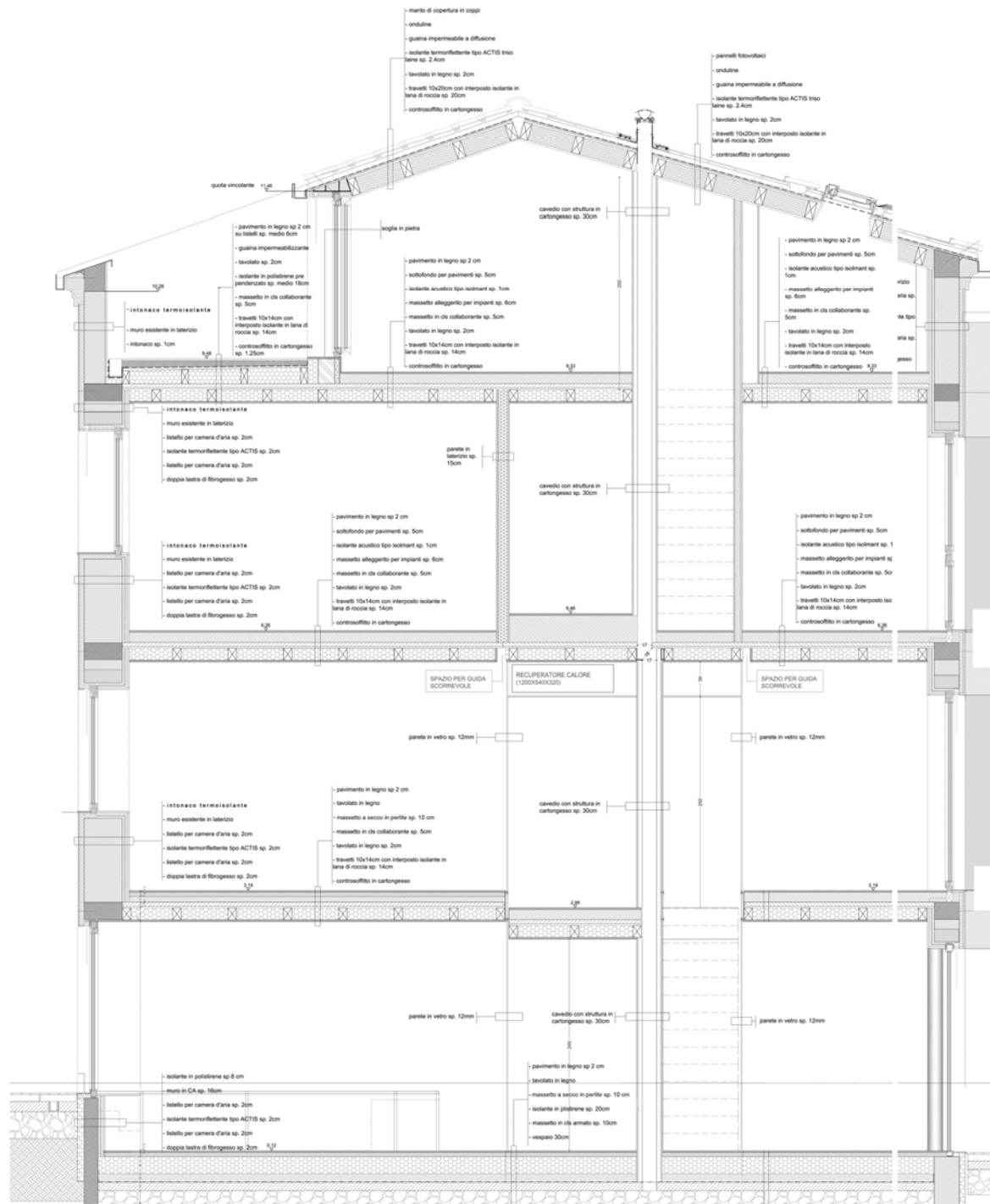
























foto PdP



foto PdP





foto PdP









foto PdP



THE FUTURE
FROM CONSUMPTION
TO USE



SMART BUILDING

quality of life

zero energy

last mile logistic

sustainable mobility

from consumption to use

costi & benefici

analisi costi

Superficie lorda	→	136,40 mq
Demolizioni e ricostruzioni strutturali (quota parte complessiva)	→	68.609,00 €
Isolamenti involucro	→	34.735,00 €
Infissi a triplo vetro	→	15.443,00 €
Impianti termoidraulici	→	21.780,00 €
Impianti elettrici/fotovoltaici	→	22.100,00 €
Finiture	→	25.345,00 €
costi di ristrutturazione complessiva	→	187.824,00 €
costi di riqualificazione energetica (escluso costi strutture e oneri urbanistici)	→	119.403,00 €
Costo/mq ristrutturazione	→	1377,00 €/mq
Costo/mq riqualificazione energetica e finiture	→	875,00 €/mq

costi e benefici

analisi benefici

recuperi fotovoltaico
1,5kWp > 1460 kWh/anno → 684,00 €/anno

recuperi risparmio
energetico
(costo kWh/t=0,086 €/kWh
Incremento 2,5% annuo) → 1943,00 €/anno

recuperi 55% (primi 5 anni) → 13665,00 €/anno

tempo di ritorno → 16,6 anni

recupero in 25 anni → 30.020,00 €

risparmio CO₂ → 5,12 T/anno

costi e benefici

grafico costi-benefici

