MARCO SALA

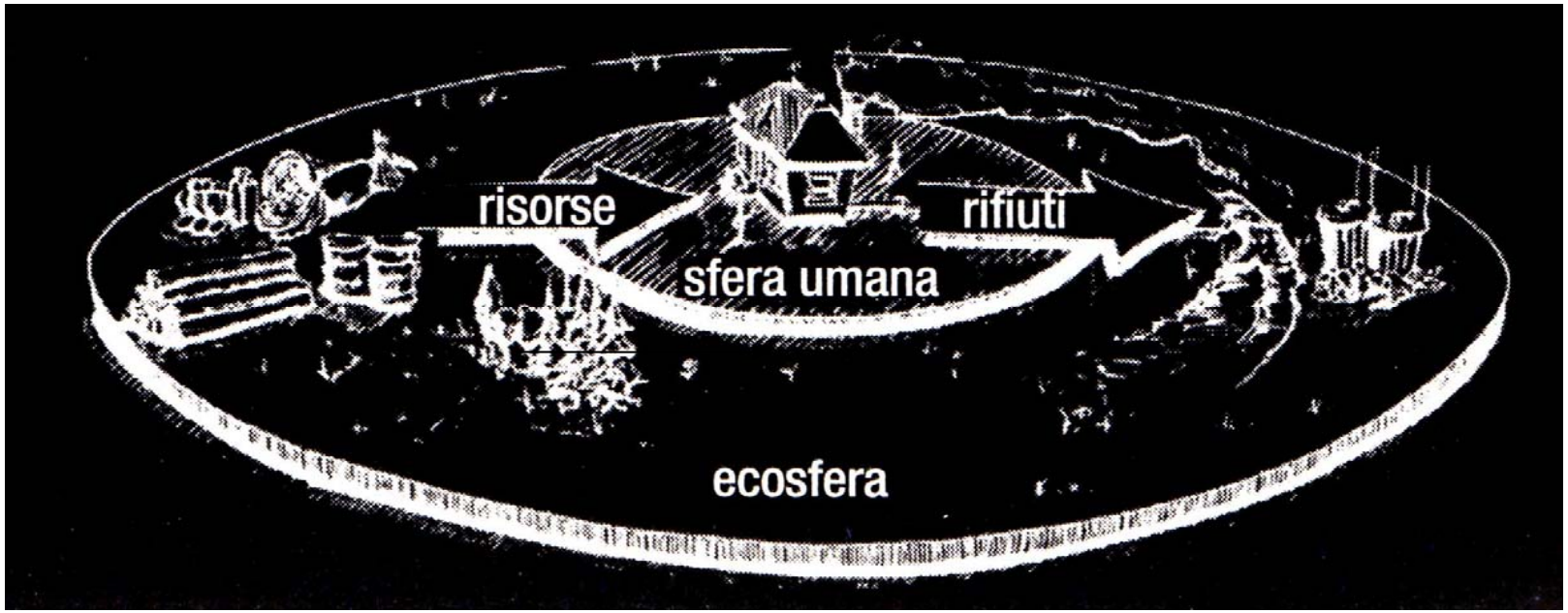
Centro di Ricerca Interuniversitaria

ABITA

Firenze 16-17 novembre 2007
V Edizione Euromeeting
Sviluppo del Turismo Sostenibile

1 La velocità di prelievo di risorse da un ecosistema dovrebbe essere pari alla velocità di rigenerazione propria di quest'ultimo (rendimento sostenibile)

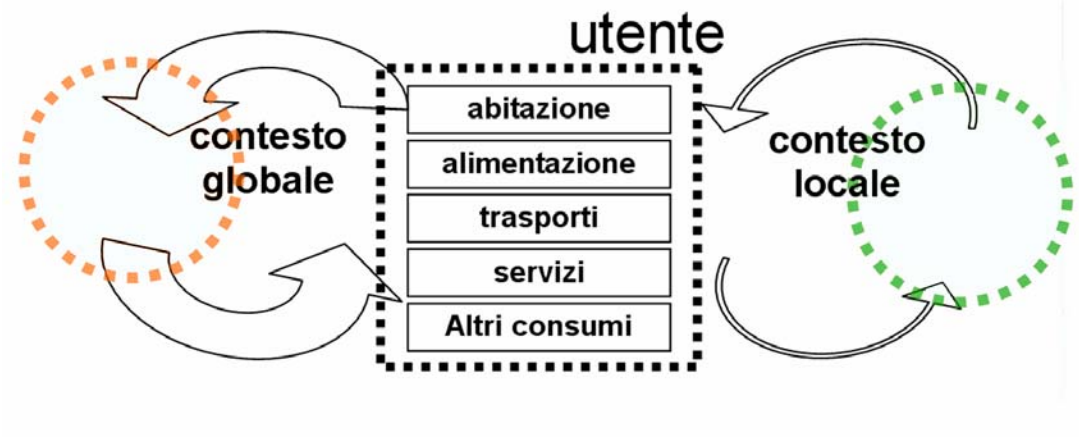
2 La velocità di produzione dei rifiuti dovrebbe essere uguale alle capacità naturali di assorbimento da parte degli ecosistemi in cui i rifiuti vengono immessi. "

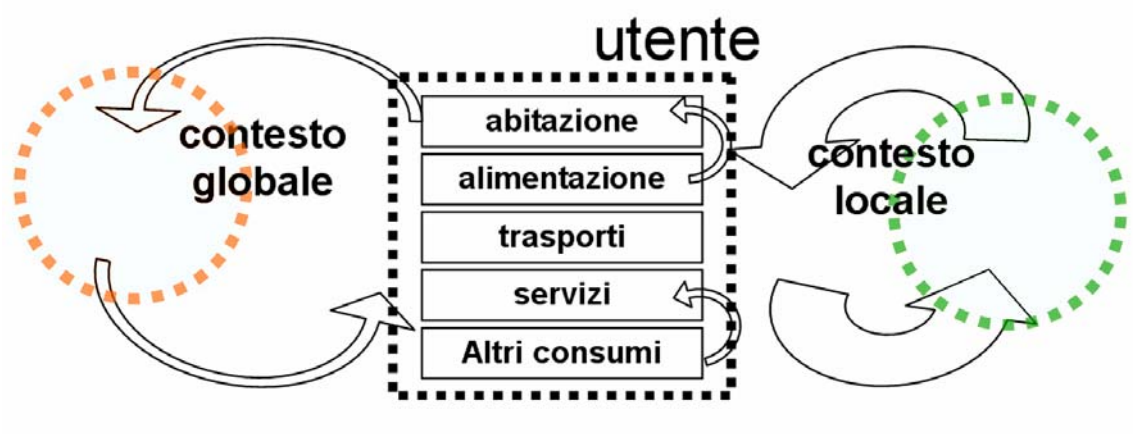


H.E. Daly, *Toward some operational principles of sustainable development, "Ecological Economics", 2, pp.1- 6, 1990.*

La strategia dello sviluppo

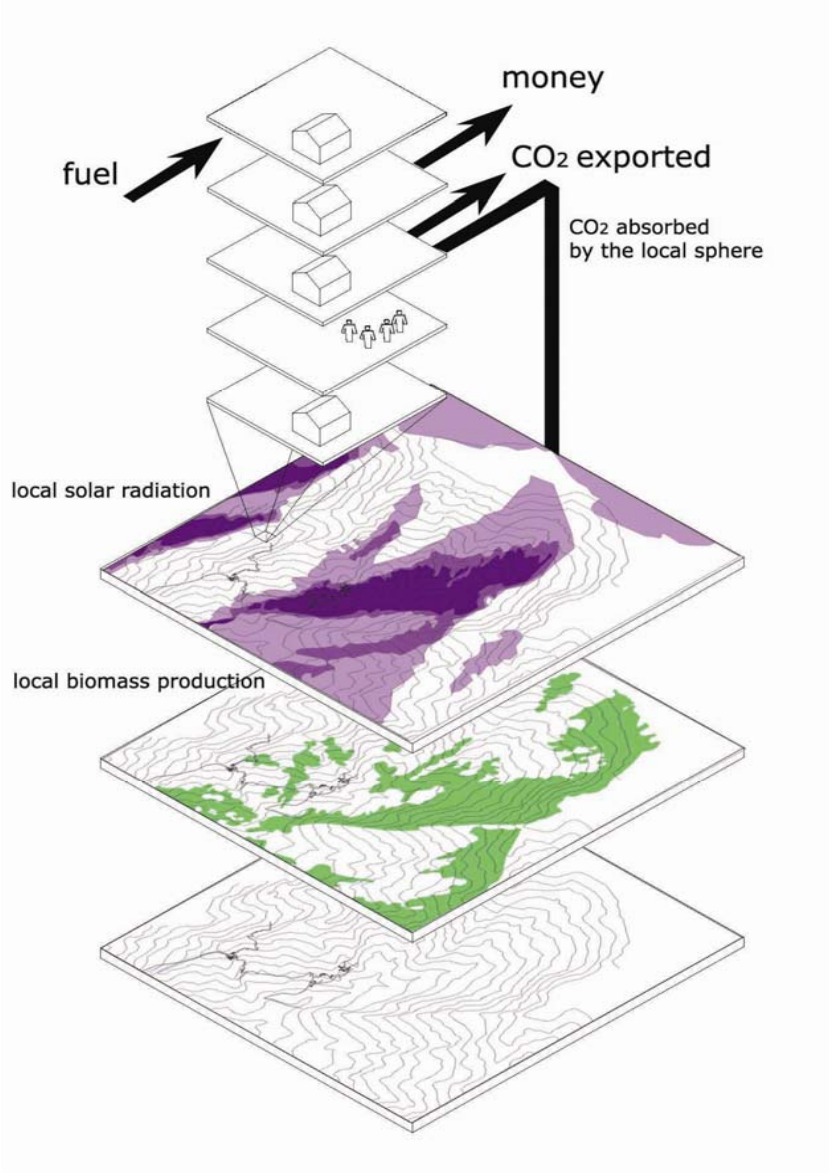
Affinché il prelievo di risorse e l'immissione di rifiuti sia compatibile con le dinamiche dell'ecosistema, è necessario sostituire all'obiettivo della crescita quello dello sviluppo, ovvero ridurre il prelievo di risorse e l'immissione di rifiuti, mantenendo le condizioni di benessere. Per ottenere questo risultato è importante che il sistema che alimenta lo stile di vita del generico utente sia molto più efficiente.



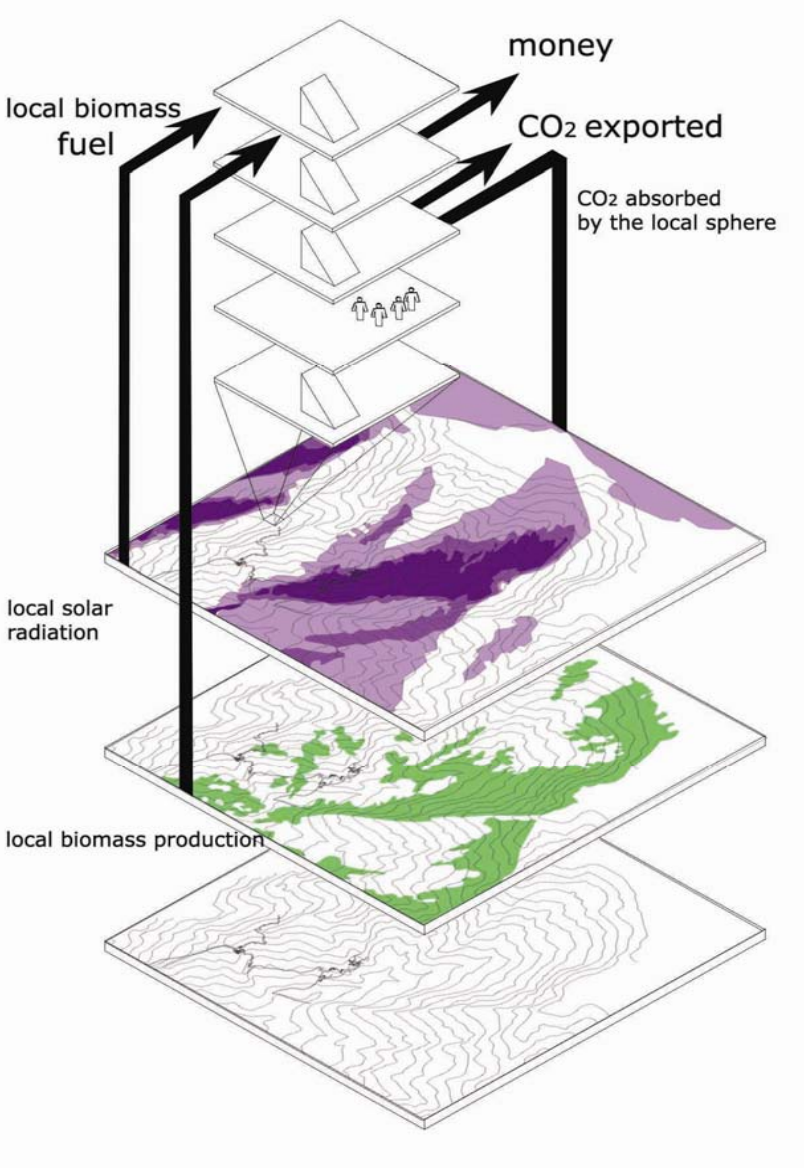



If the UK's average lifestyle were applied globally we would need 3 planets to sustain the current levels of resource consumption
How do we reduce our environmental impact whilst increasing our quality of life
?
ZED
Zero Fossil Emissions Development
⅓ Heating & Powering Homes
⅓ Food Miles From Farm to Plate
⅓ Transport, Car Use & Commuting
ZED built homes are desirable & robust
ZED Team can supply an Eco-Mortgage
ZED's are built with high environmental spec to help bills low
Healthy, sunny, affordable
Re-forging urban / rural links
Promoting farm shops on ZED sites
Internet deliveries are made easier on ZED's
Helping to build the compact city
Mixed housing types on ZED's
Live, work and play on a ZED
Nobody need ever build a housing estate again
Car pools powered by the sun
On yer bike !!!
Nobody need ever build a business park again

Prassi

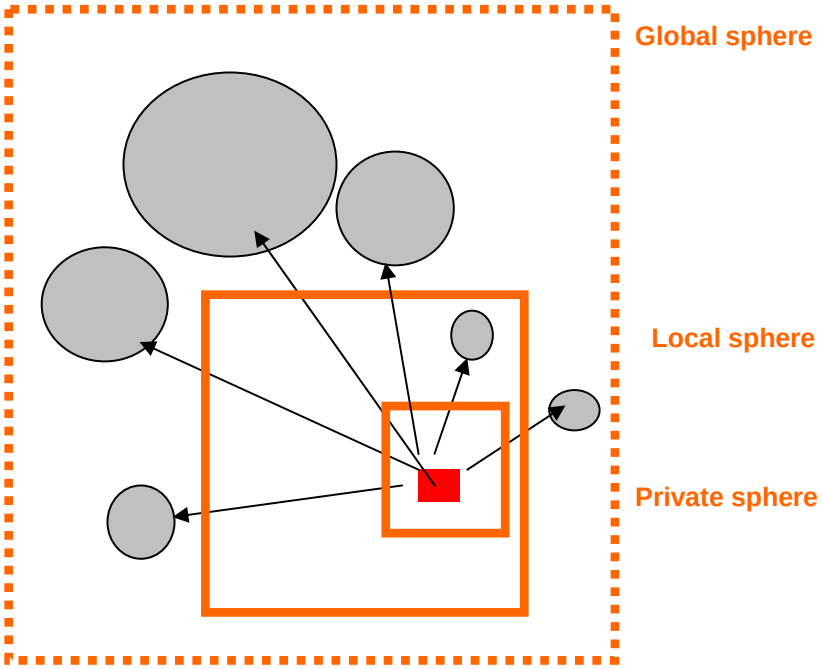


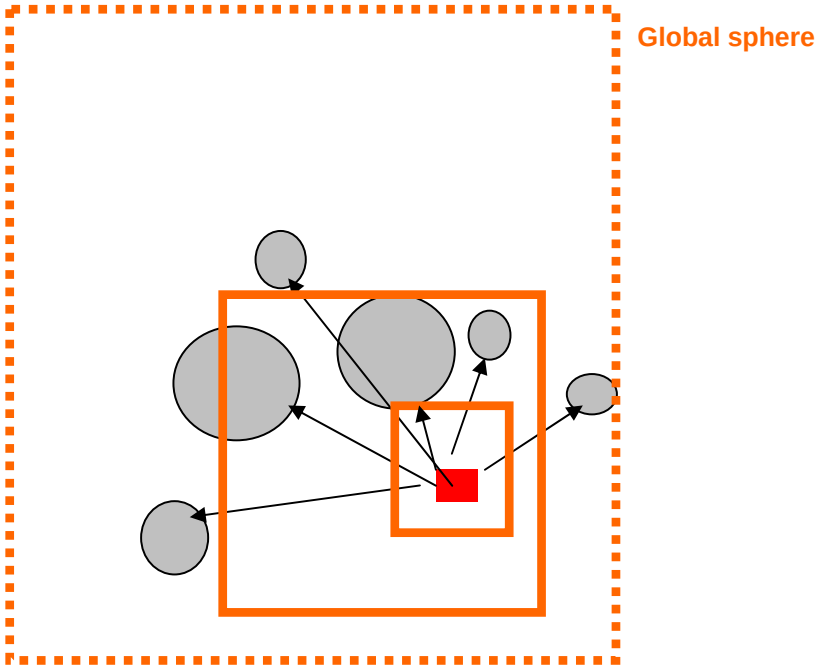
Eco-consapevole



Prassi

Eco-consapevole

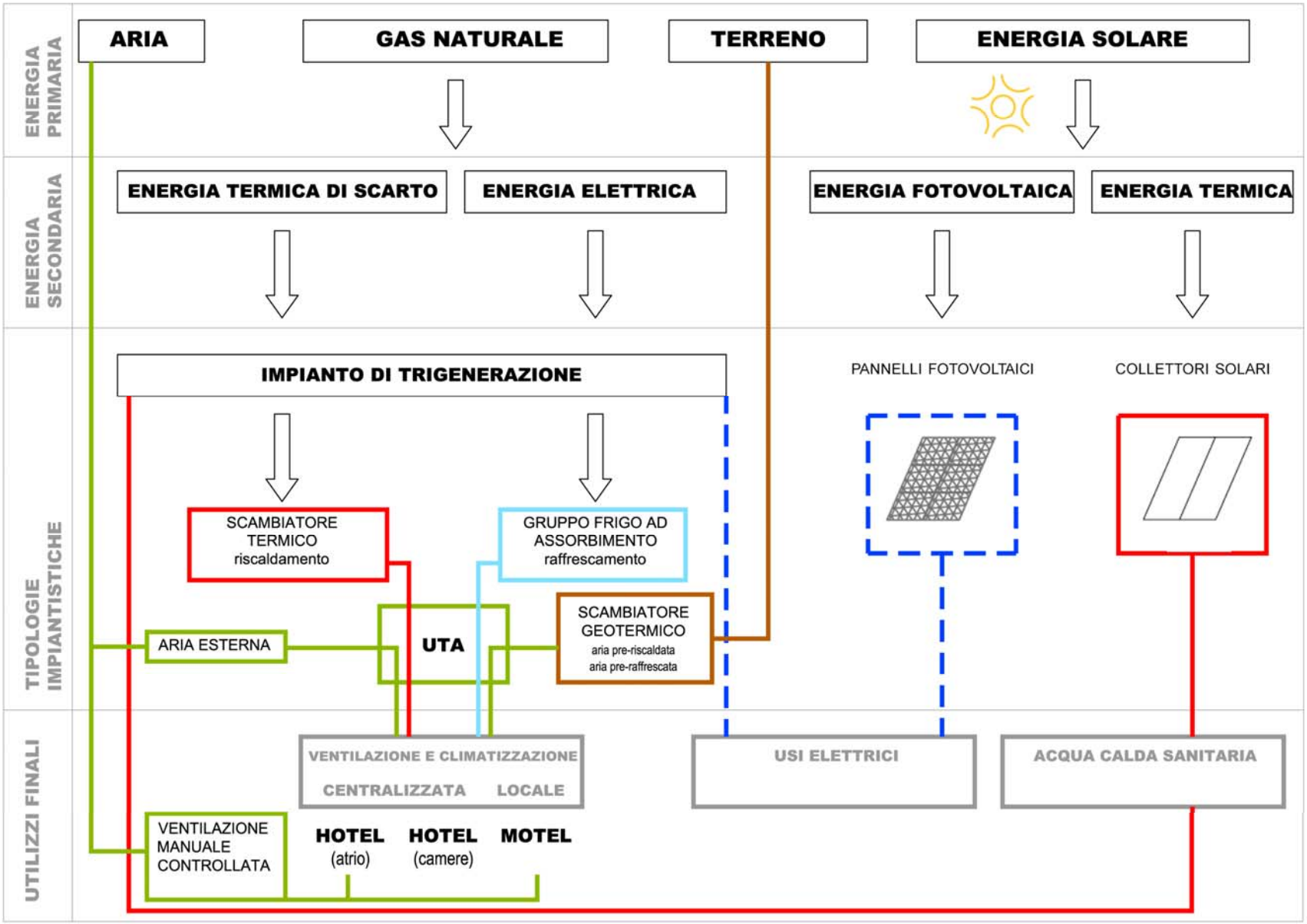




APPROCCIO ECOCOMPATIBILE INTEGRATO

OBIETTIVI

- Risparmio energetico
- Utilizzo di fonti energetiche rinnovabili
- Riduzione emissioni CO_2 ed impatto zero
- Riciclaggio e riuso dei materiali
- Atossicità dei materiali
- Riduzione dei consumi per illuminazione
- Qualità dell'aria interna
- Contenimento inquinamento acustico
- Riduzione consumo e riciclo dell'acqua
- Armonizzazione edificio-contesto
- Ottenimento marchio di qualità ecologica servizi ricettivi turistici (Decisione 2003/287/CE)


ENERGIA PRIMARIA
ENERGIA SECONDARIA
TIPOLOGIE IMPIANTISTICHE
UTILIZZI FINALI
ARIA
GAS NATURALE
TERRENO
ENERGIA SOLARE
ENERGIA TERMICA DI SCARTO
ENERGIA ELETTRICA
ENERGIA FOTOVOLTAICA
ENERGIA TERMICA
IMPIANTO DI TRIGENERAZIONE
PANNELLI FOTOVOLTAICI
COLLETTORI SOLARI
SCAMBIATORE TERMICO riscaldamento
GRUPPO FRIGO AD ASSORBIMENTO raffrescamento
SCAMBIATORE GEOTERMICO aria pre-riscaldata aria pre-raffrescata
ARIA ESTERNA
UTA
VENTILAZIONE E CLIMATIZZAZIONE
CENTRALIZZATA
LOCALE
USI ELETTRICI
ACQUA CALDA SANITARIA
VENTILAZIONE MANUALE CONTROLLATA
HOTEL (atrio)
HOTEL (camere)
MOTEL

ABITA

BUILDING & ENVIRONMENT SCIENCE AND TECHNOLOGIES

ABITA

Dipartimento di Tecnologie dell'Architettura e Design "Pierluigi Spadolini"

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Tel. 055-5048394 Fax. 055-5048394+48
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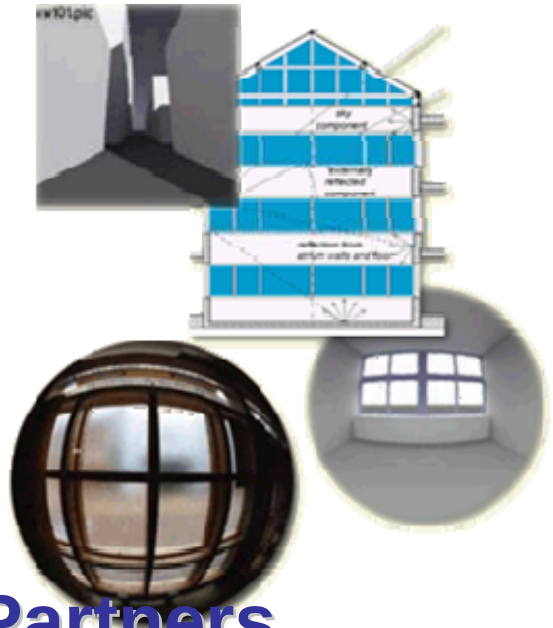
http://web.taed.unifi.it/abitaweb

AREA OF INTEREST

- to **integrate** into the design process advanced technologies aiming at energy saving;
- to develop **evaluation instruments** for the control of the quality of the transformation interventions of the built environment;
- to apply instruments **methodologies and innovative** in the formation of the operators in the field of studies on bioecological architecture and on employment of innovative technologies for the environment;
- to develop the **training of researchers** through organisation of training courses, conferences and workshops;
- to diffuse the results of the activities undertaken through "**discussion papers**" and specific **publications** in order to facilitate the teaching of Bioecological Architecture and Technological Innovation for the Environment;
- To improve human potential in education and cultural diversity (Partnership enhancing content production on Sustainable Development for "**eLearning" in Developing Countries**).



DAYMEDIA

Daylight Multi-Media Teaching Package

DayMedia was developed as a flexible teaching tool for university students and small and medium enterprises. It tries to meet the needs of European professionals with regard to the use of daylighting techniques in buildings. It also aims to transfer and disseminate the expertise in daylighting design developed in EC research programmes. DayMedia tries to help architects and building engineers re-discover the skills of making sustainable buildings.

Partners

ABITA
Ecole Nationale des Travaux Publics de l'Etat di Lione
University of Porto
University of North London
University of Athens
University of Trondheim

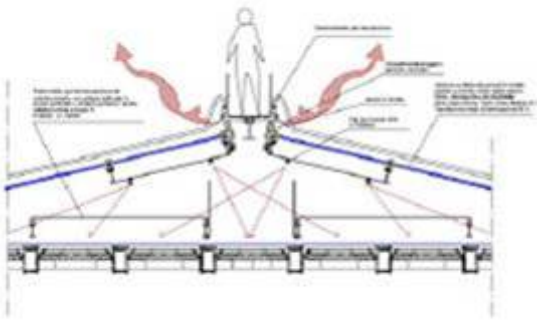
http://www.learn.londonmet.ac.uk/packages/daymedia/index.html

Università degli Studi di Firenze

ACTIVITIES

Scientific and technologic Research

- "Urban planning maximising the use of renewable energies" Targeted actions for awareness energies
- Development and Industrial Design of Active Building components
- **UNI-AID** University Unite in Action for Information Diffusion
- **TIA** Teaching in Architecture Energy & Environment European Network International Conference
- **OFFICE** Passive Retrofitting of Office Buildings
- **PV** in SCHOOLS Target action for the dissemination of PV in school
- **DAYMEDIA** Multimedia teaching package
- **MUSEUMS** Energy efficiency and sustainability in retrofitted and new museum buildings
- **PV** Publish - Architectural and technical advice for PV integrated systems in public buildings
- **HOSPITALS** Exemplar Energy Conscious European Hospitals
- **EULEB** European high quality low Energy Buildings



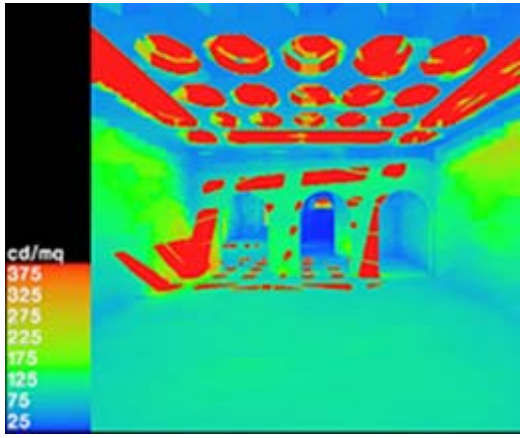
M U S E U M S

Energy efficiency and sustainability in retrofitted and new museum buildings

The design and construction of nine museum building-projects in Europe are to be evaluated. New and innovative technologies are to be applied and tested demonstrating that energy efficient and sustainable museum buildings can fully meet architectural, functional, comfort, control and safety requirements, achieve total energy savings of over 35%, and reduce CO2 emissions by over 50%.

Partners

ABITA
University of Lubjana
University of Munchen
University of North London
University of Athens
University of Porto



Università degli Studi di Firenze

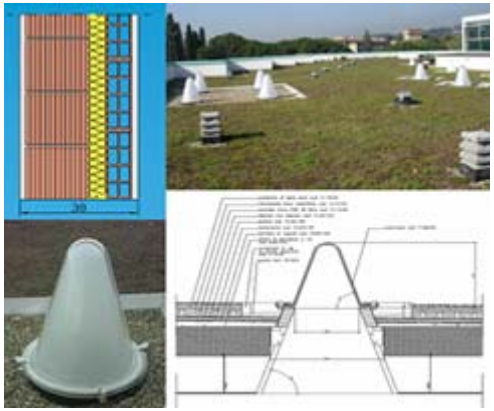
PV in schools and public buildings

Pilot action for the promotion of PV in school and public buildings

The aim of the PV-PuBliSh project is to transfer European technical experience into the Italian photovoltaic solar energy market by involving Public Authorities and School Managers to promote pilot actions in Tuscany

Partners

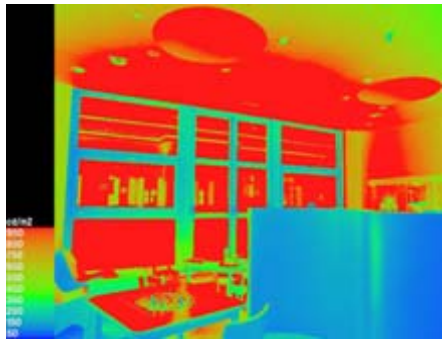
ABITA
ETA
WIP-Monaco
IT Power
GIFI
ALERR
EALT
AEP



HOSPITALS

MAYER HOSPITAL, FLORENCE, ITALY

The Meyer Paediatric Hospital is located in a outskirt of Florence, Italy, in an existing hospital complex area. The project has been focused on the detailed planning and design of the healthcare environment and, particularly, the psychological effects of environment. Special attention to interior rooms and surrounding view are achieved in order to obtain a better confinement period and to stimulate beneficial effects on patient health.



Università degli Studi di Firenze

Partners

UDO, University of Dortmund, Germany
LMU, London Metropolitan University, Great Britain
ULR, University of La Rochelle, France
ABITA, University of Florence, Italy
UPC, University of Barcelona, Spain
REHVA, European Federation of European Heating and Air-Conditioning Associations, Belgium

EULEB

EULEB (www.EULEB.info) is an international project to promote energy efficient buildings in Europe.
Therefore, a multilingual CD will be created and distributed as inserts in magazines as well as handouts on conferences and fairs. The CD will contain an html based website with the respective files (still images, audio, video streams etc.). The project is partly funded by the European Commission (EC).



AMAZON ECO PARK,
IQUITOS, PERU'

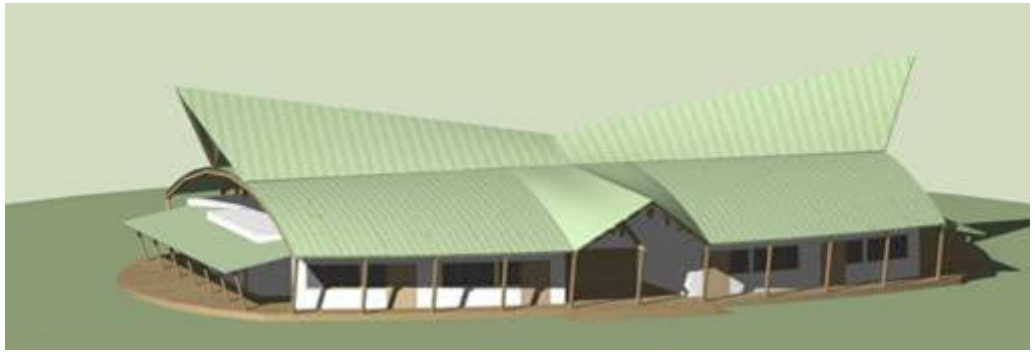
Amazon Eco Park, is a green development of the Science and Technological Park concept focus on the sustainable and rational use of natural resources for developing countries, fostering science and environmental incubators for sustainable human development: a "green label" action for third countries.
The project aims, to become a directly applicable tool for supporting local sustainable development and environmental R&D, by developing: knowledge, tools, models, methodology for transfer of innovated know-how.

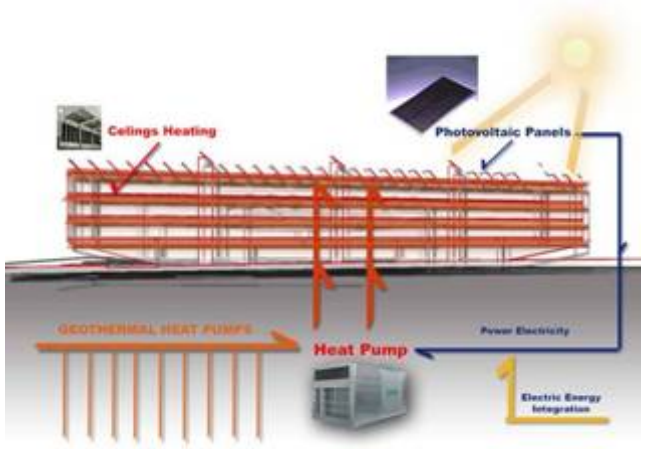
PV PLANT IN NEW SCIENTIFIC POLE IN SESTO FIORENTINO, FLORENCE, ITALY

The 4.000 m2 three storeys building with a 540 m2 courtyard, is generally used for teaching activities.
The courtyard is central and the project is going to realise an open air shading device roof.
The need to reconcile the demands of building use with energy conservation and generation was addressed in parallel by the need to reconcile the building with the site. Key issues, here, related to layout, orientation and climate. The structure of the shading roof is 45 degree tilted, thus maximizing solar radiation at this latitude.

POST-TSUNAMI PROGRAMME
NORTH SUMATRA, INDONESIA

The overall objective of the project is to develop and diffuse the application of sustainable technologies and best practices for the reconstruction of buildings and infrastructure in NIAS, island, thereby limiting the environmental impact of reconstruction and establishing a durable capacity in the use of such knowledge.
The specific objectives of the project are:
•the identification of the technologies and best practices most suitable for the sustainable reconstruction in Nias;
•the use of local materials and know how, recycling, renewable energies and sustainable water management;
•diffusion and application of such knowledge.





EXPERIMENTAL ENERGY SAVING BUILDING AND RESEARCH AND DEVELOPMENT PLANT BUILDING SHANGAI, CINA

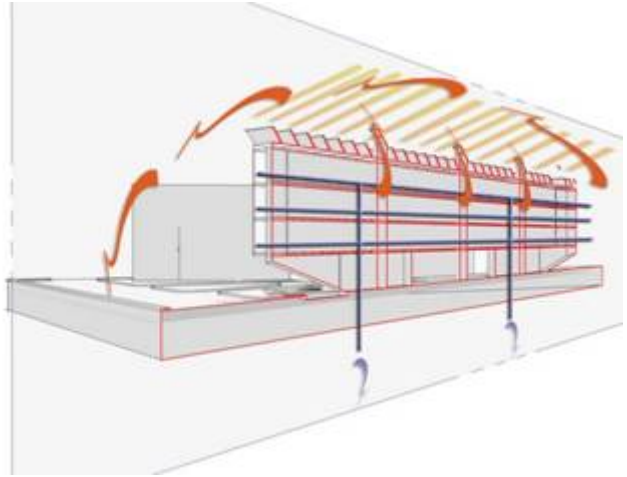
Project Goals:

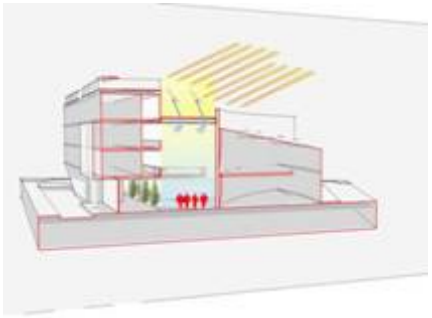
•Maximum differential of 7°C during summer and 12°C during winter over maximum and minimum average environment temperatures of the city of Shanghai with minumum energy consumption

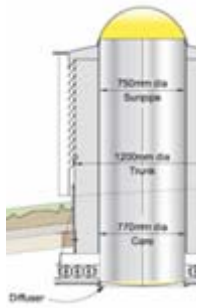
•Energy costs down by 30 to 50% compared to traditional modern building

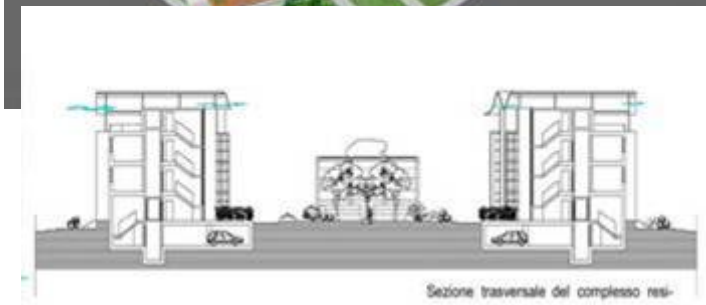
•To create a building system which will be an attraction for the visitors of the World Expo to be held in Shanghai in 2010

•To provide Kingburg with a pleasant and efficient workspace









Contratti di Quartiere

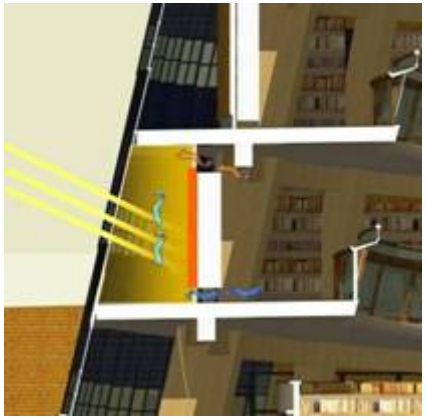
CONTRATTO DI QUARTIERE "DEL COTONE" PIOMBINO, ITALIA

Objectives

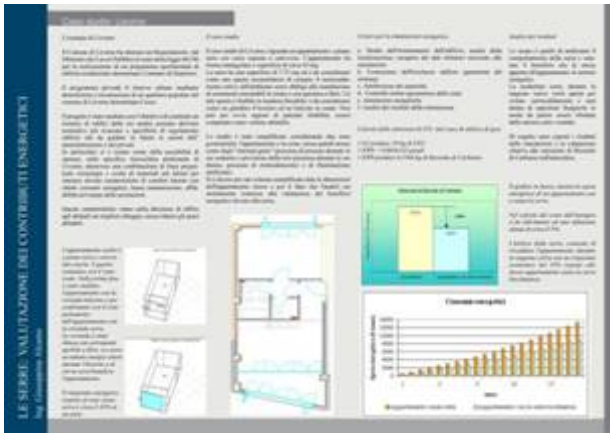
- Design building
- Planning, Management and coordination experimental activity
- Integration of renewable energy (solar PV/T) technologies in building envelopes

Experimental Actions

- Water Saving
- Energy saving in building
- Indoor comfort
- Landscape planning



CONTRATTO DI QUARTIERE COREA
LIVORNO, ITALIA



Technical advice with Livorno Administration for definition of the objective in the National “Experimental Project”.
Main characteristics of the project are:

•low-energy technologies for heating and cooling
•integration of renewable energy (solar PV/T) technologies in building envelopes
•water saving