National Assembly for Wales
SUSTAINABILITY COMMITTEE
INQUIRY INTO CARBON REDUCTION IN WALES: RESIDENTIAL CARBON REDUCTION
18 October 2007

'The role the Co-operative Housing sector can play in combating climate change'

THE EU PROJECT **SHE**
"Sustainable Housing in Europe"

"Bridging the gap between Theory and Practice"

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Federabitazione Europe (IT)
SHE Coordinator

Keywords:
users' comfort and health
low carbon emission
low environmental impact
life cycle cost
participation

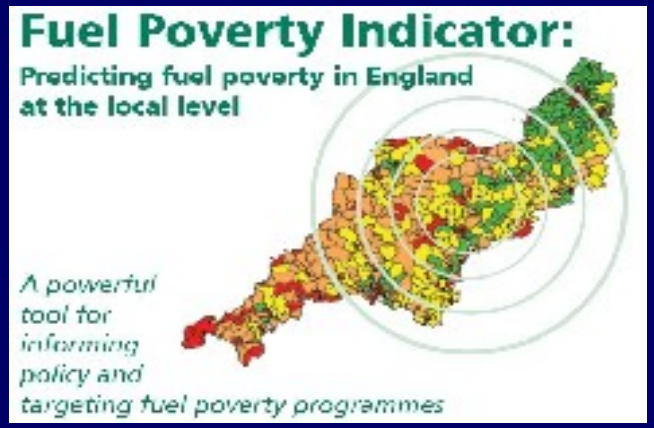
Challenge to face ?

SAVE THE PLANET

Tackle climate change by improving energy efficiency and reducing carbon emission by 20% by 2020 (EU energy action plan)

IMPROVE QUALITY OF LIFE

Tackle Fuel poverty and improve social cohesion



Today, Sustainable housing is not **AN UTOPIA** !

Sustainable development is one of the principal pillars of the EU socio-economic and environmental policy.

Send a clear message to all urban stakeholders and citizens:

Today moving towards an everyday practice of sustainability in social housing sector, involving the final users, is possible and necessary!

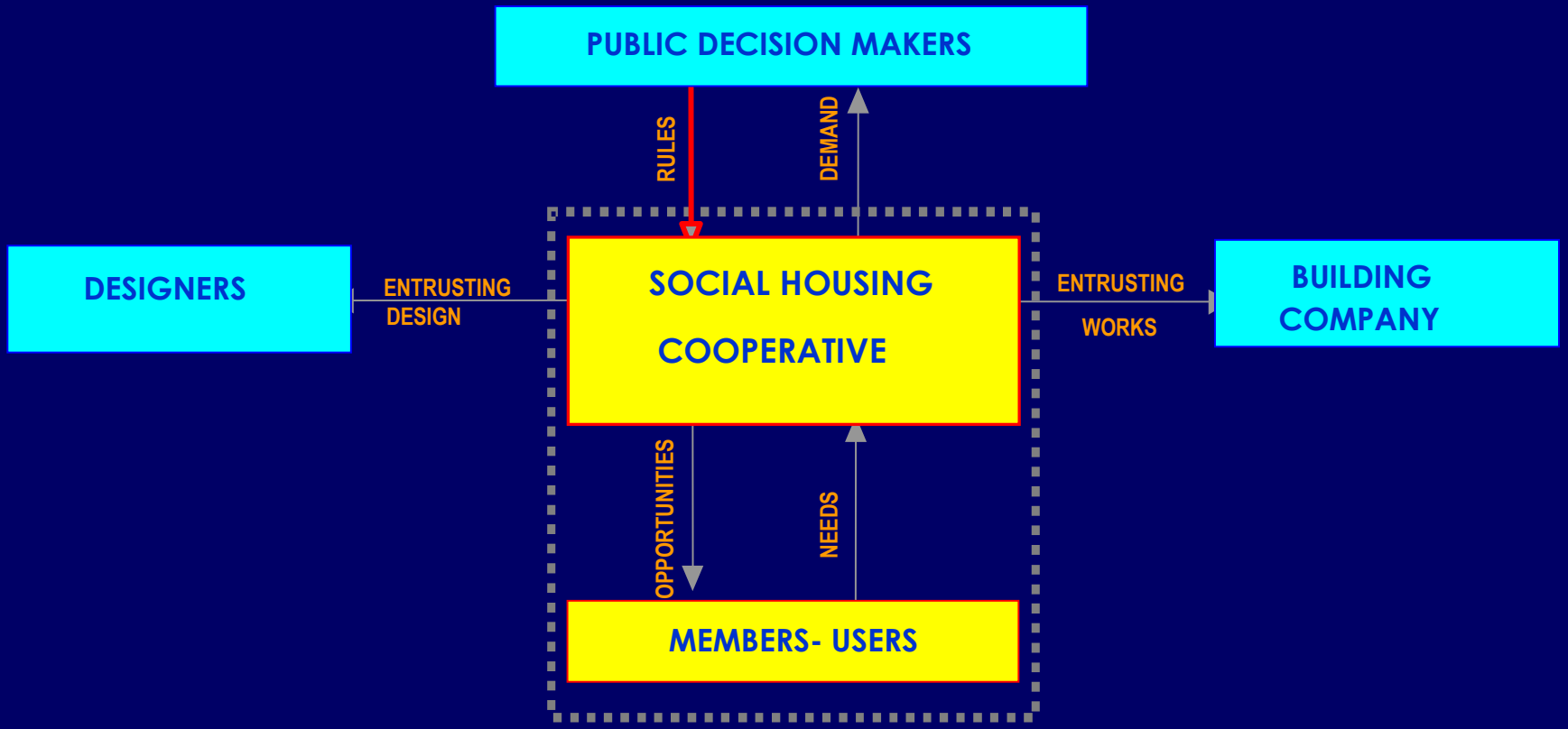
KRONSBERG district (Hannover)

15 000 inhabitants

In the last ten years, some countries are making a renovation of the building process and the urban management.

The effective concern and daily commitment of the SHE social housing organisations has led to assume a ***holistic responsability*** **of its actions; balancing investment costs with economic, environmental as well as social benefits**.

SOCIAL HOUSING COOPERATIVES' ROLE in the process towards Sustainable development



A STRATEGIC PLAYER OF THE URBAN TRANSFORMATION

to change end-user' energy behaviours

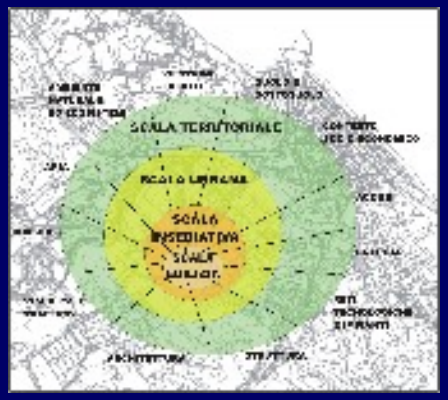
to boost stakeholders

to change energy landscape

OBJECTIVES OF SUSTAINABLE BUILDING

.... but enhancing the **participation of all actors involved in the building process**, especially **inhabitants** during the planning and design phase.

Need an integrated approach:
multi-scale* and *interdisciplinary



A- reduction of environmental impacts

Protection of environment

Rational use of natural resources

B- creation of healthy indoor environment

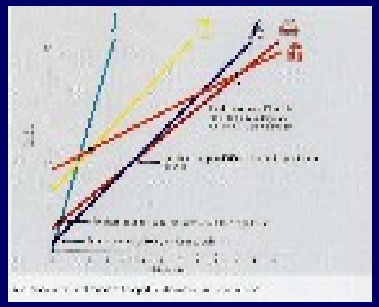
C- creation of a strong social capital

create a better quality of life for future generations!

SHE methodology

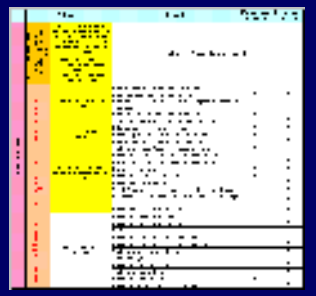
Added value to be COOP !

Partecipation



HA Recommendations

Sustainable design targets

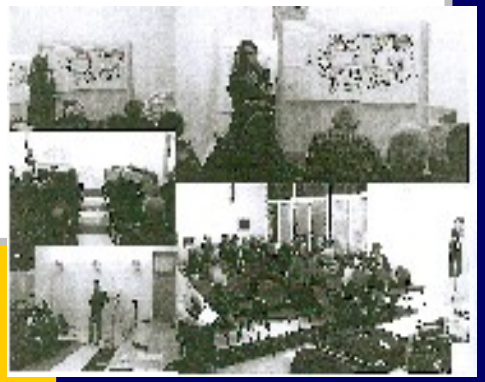


Project Control

Added value to be COOP !

PUBLIC INSTITUTIONS
- Municipality (AGENDA 21, “Urban Center”)
- District administration
- Public service society (Water, Gas, Waste, Park and green maintenance)

INHABITANTS
- Future tenants (members of the housing cooperative);
- Neighbourhood inhabitants



PARTICIPATION

DESIGN TEAM
- Cross disciplinary design team

… the democratic way of decision :
an add value of the cooperative approach

Sensibilisation/information of future inhabitants, of citizens
Individual Sensibilisation

Added value to be COOP !

Shared choices of technical decisions

High acceptance of the innovation, of the « Change »

Reduction of future conflicts – Enhancement of the social cohesion

Example at building scale:

Users' Assembly to debate the solution for the heating system (their expectation was individual boilers)
After a correct information and involvement of end-users, an advanced system was chosen, saving about 60% of natural gas.

A DEMONSTRATION PROJECT

Leading by SOCIAL HOUSING COOPS

coordinated by FEDERABITAZIONE EUROPE

partly financed (35%)

by 5th E. U. FRAMEWORK PROGRAMME

FOR RESEARCH AND TECHNOLOGICAL DEVELOPMENT

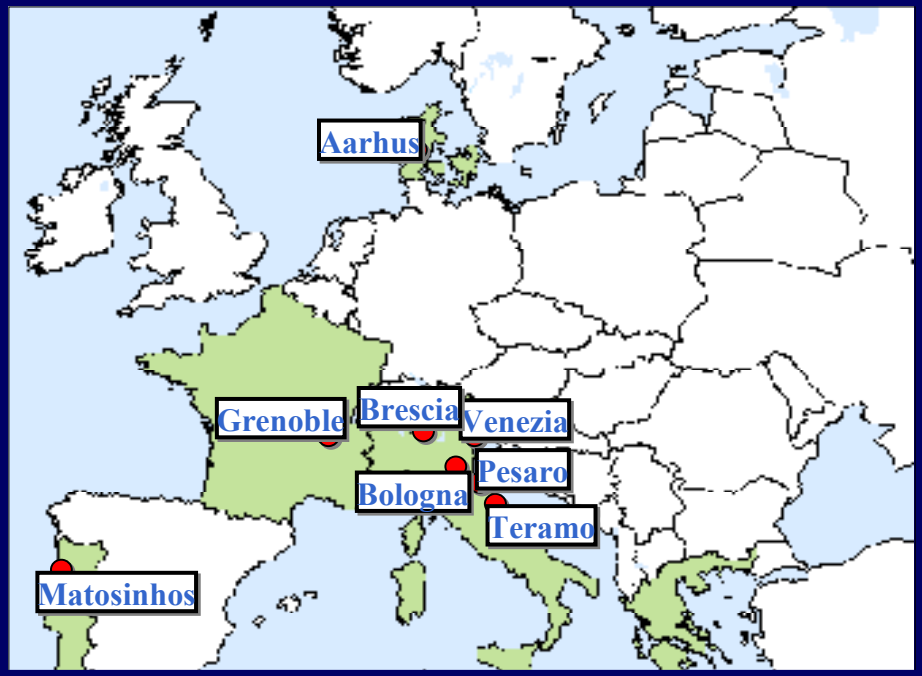
SustainabIE housing in Europe

Moving from the extraordinary to the ordinary

Duration: **5 YEARS** - March 2003 to February 2008

THE 8 PILOT PROJECTS

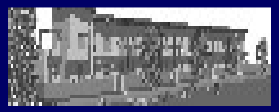







600 dwellings in 4 countries




3 pilot projects (Matsinhos, Grenoble, Ozzano) already inaugurated !!!

Energy target: reduction 20-30 %
Water target: reduction 30-50 %

THE SHE OBJECTIVES

- To **demonstrate the real feasibility low energy and carbon emission housings** for more than **600 low-mid-income families**;

-To encourage the **inclusion of sustainable housing approach** in local and national policies and in daily practice of social housing organisations;

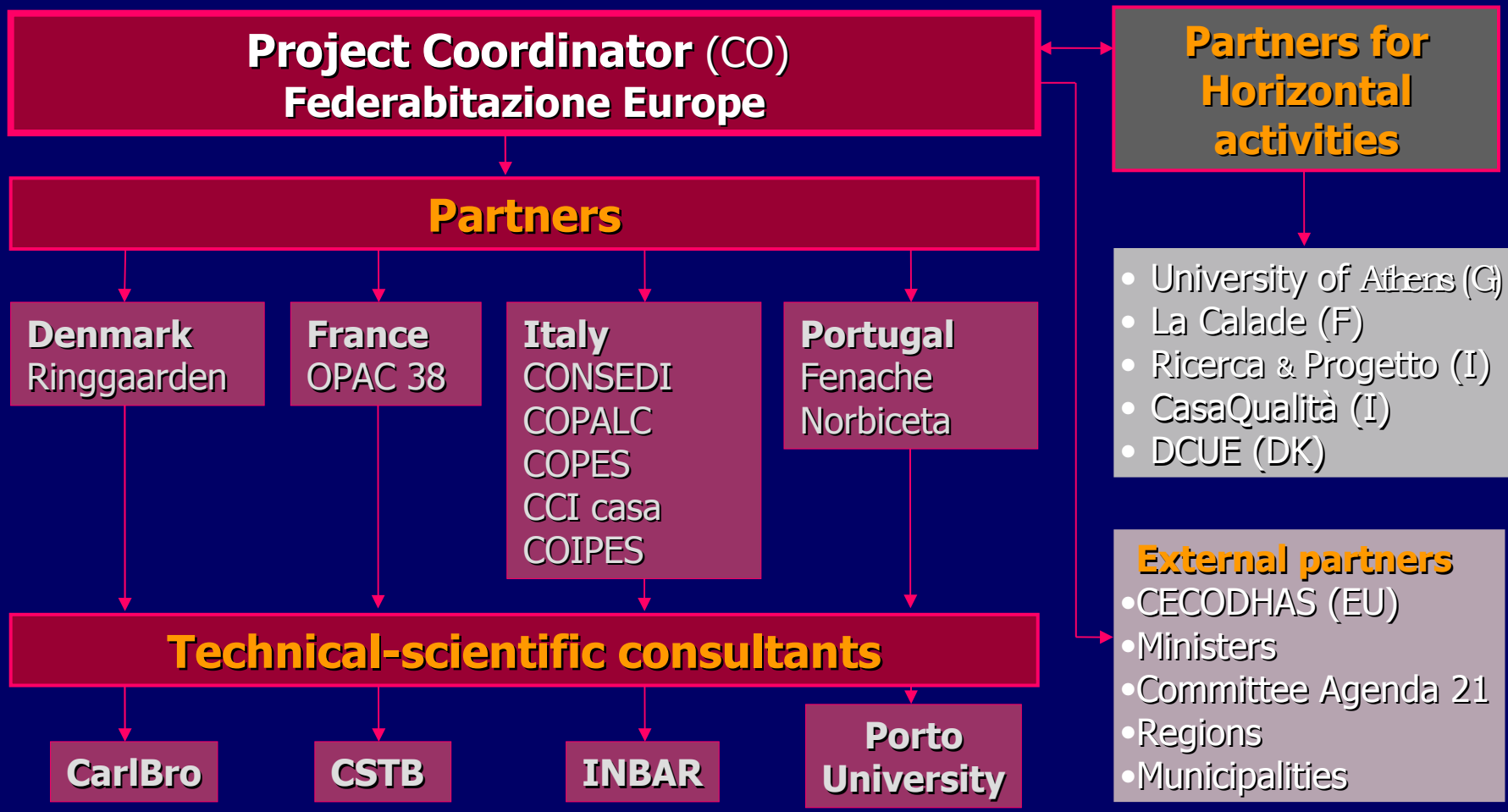
-**To improve energy and environmental performances of social housing** and urban quality of life providing the citizens with a healthy and sustainable environment;

-To provide social housing organisations with **tools and guidelines** in order to ensure the replicability of the SHE approach in future housing projects;

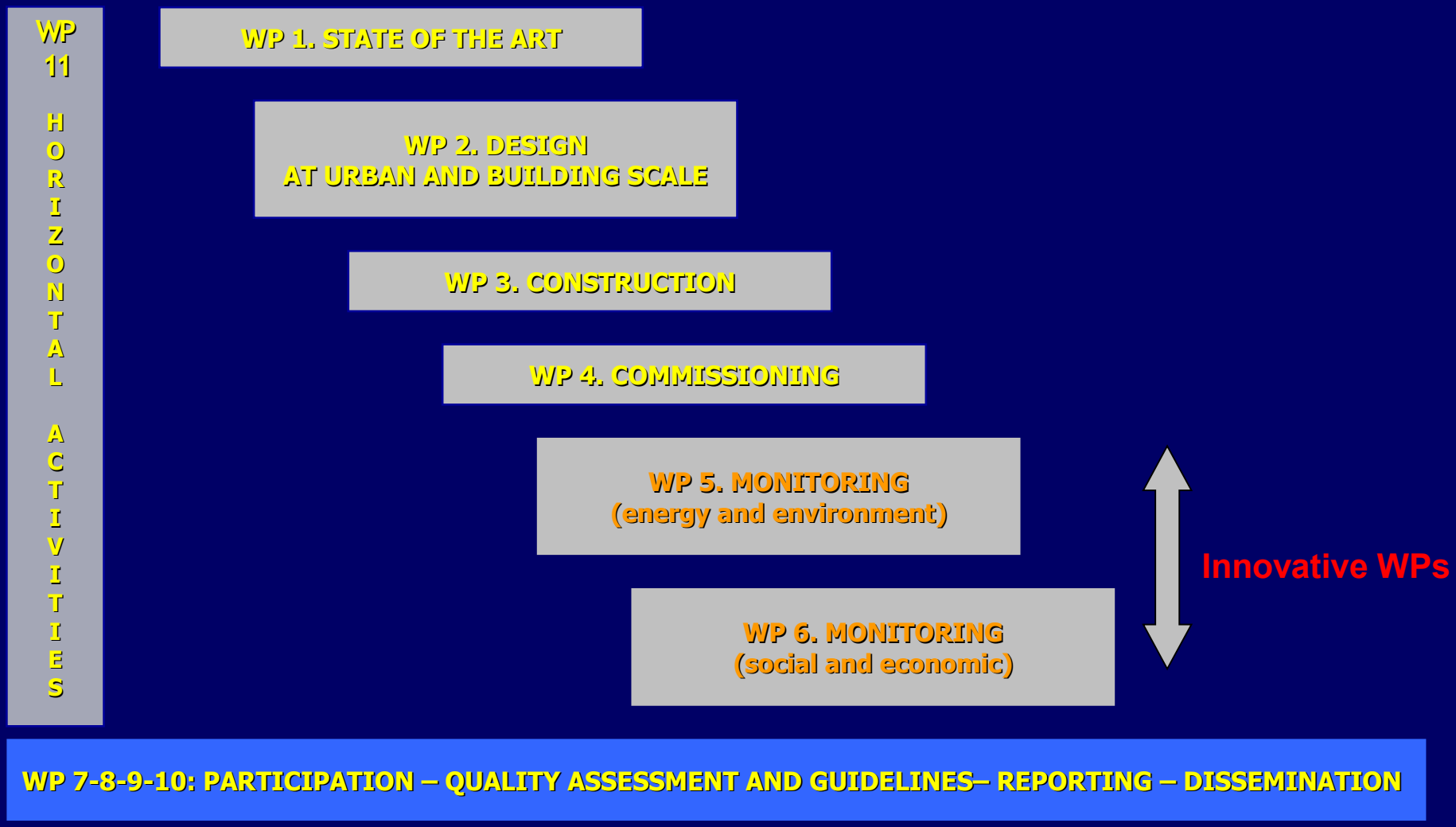
-**To develop of a "bottom up" approach** through the participation of future inhabitants in the principal stages of the building process, **evaluating their degree of satisfaction**;

in brief, to **activate a cultural process,** to prepare the ground for acceptance, to boost a reaction!

SHE CONSORTIUM
based on coops' partnership



WORKPACKAGES



HORIZONTAL ACTIVITIES

Participation ⟷ **CSTB**

Site analysis and Design ⟷ **Ricerca & Progetto**

LCA procedures materials ⟷ **Ricerca & Progetto**

Water cycle ⟷ **CARL BRO**

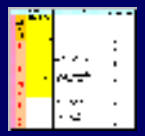
Waste Cycle ⟷ **CARL BRO**

Energy Cycle ⟷ **University of Porto**

Daylighting and acoustics ⟷ **Ricerca & Progetto**

Energy monitoring ⟷ **University of Athens**

Social economic aspects ⟷ **La Calade**



Production of **a set of recommendations**

useable in every day practice, calibrating final targets taking into account the existing running modes and not expected unrealistic targets.

Elaboration of a practical *roadmap* for SHO

Environment

Economy

Management

1- Handbook with practical recommendations aimed at integrating sustainability and participation issues in daily practice;

2- Global life cycle costing methodology to evaluate benefits and/or externalities of sustainable housing;

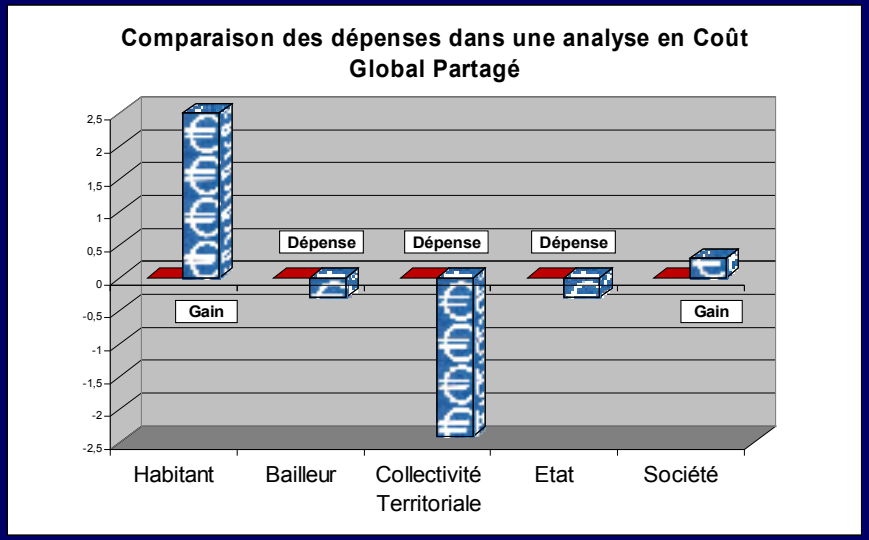
3- Guidelines aimed to define the environmental responsibilities and engagement of all building actors involved

Tools for replicability of SHE approach

Awareness

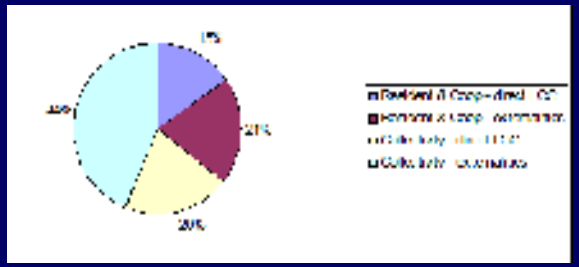
4- a dwelling manual aimed to educate future inhabitants in the use and maintenance of sustainable dwellings and buildings

The "SET SHE" model : a global life cycle costing methodology for sustainable housing



Opération de Référence

Habitat Durable



SHE Project - Preganziol

We are all winners!

aimed to highlight

- the breakdown of **costs and benefits between the stakeholders**;
- the **externalities assessment** (Co2 emissions,….);
- and the **direct life cycle costing assessment** including investments and **postponed costs** (maintenance,…)

Sustainable housing is too expensive?

(Extracost for sustainable pratice is approximately **3-8%)**

+ 4.000 -7000 Euro /dwelling = Jacuzzi Bath

Yes, probably, but it's a problem of choices

Do you want...

Jacuzzi bath, design handles or majolicas, etc

OR

Cool in summer, acoustic comfort, heating-water-electricity savings, healthy indoor climate, etc?

a problem of vision... The building industry and its clients tend to focus on **short-term gains** rather than **long-term savings or life cycle costing.**

"Client obsession with first cost"

BENEFITS

We are all winners…

FOR THE INDIVIDUALS:

Money savings on heating-water-electricity, Cool in summer, acoustic comfort, healthy indoor climate, etc.

FOR THE COMMUNITY:

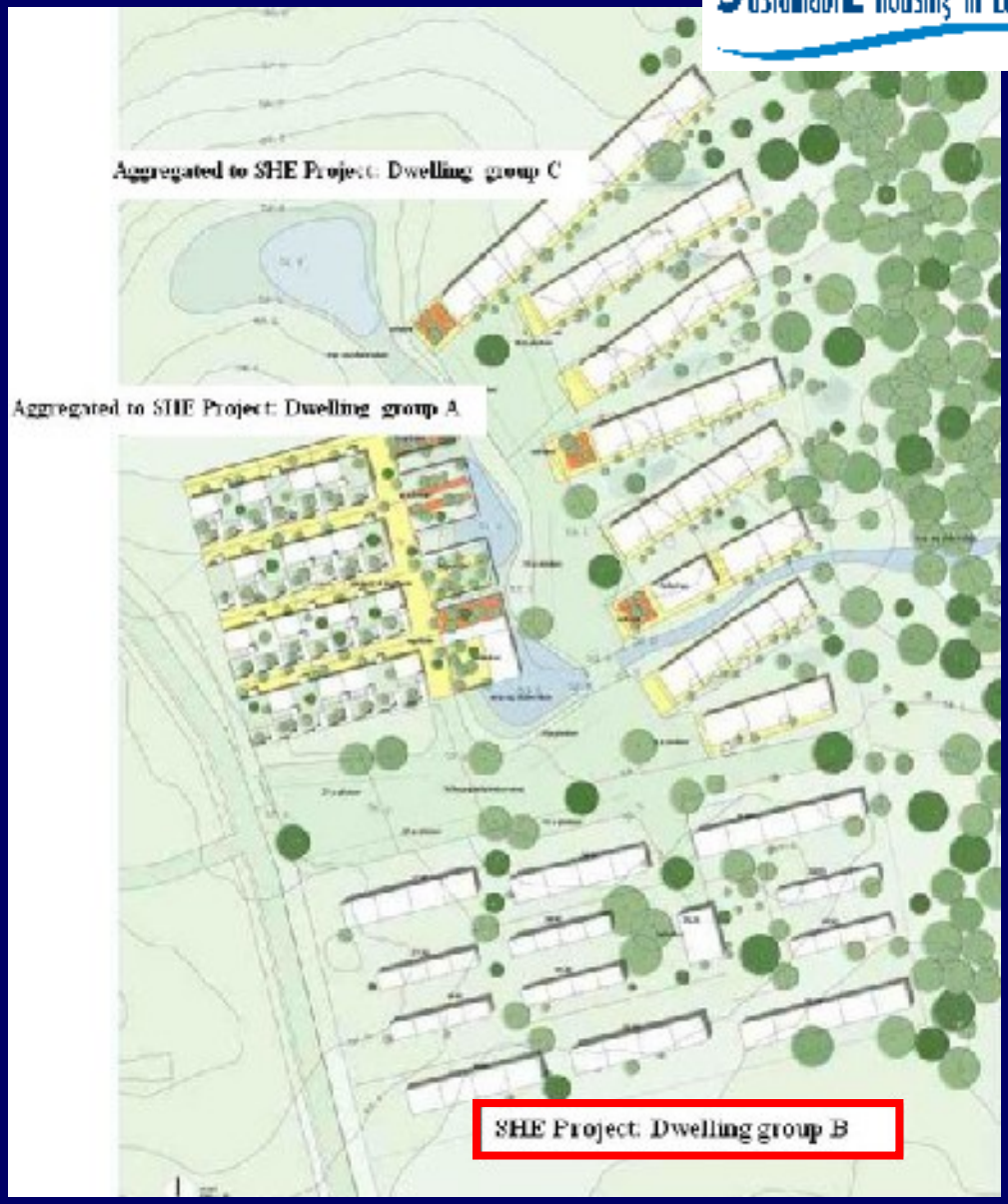
Less pollution, less charges for electrical grid and power stations, for the public health, better quality of the urban environment, etc

PUBLIC BENEFITS=INCENTIVES FOR PRIVATES

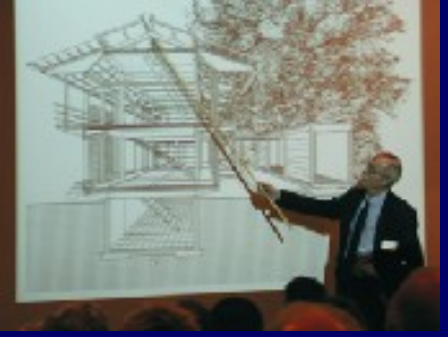
AARHUS (DK)

Master Plan

(2003 international competition)



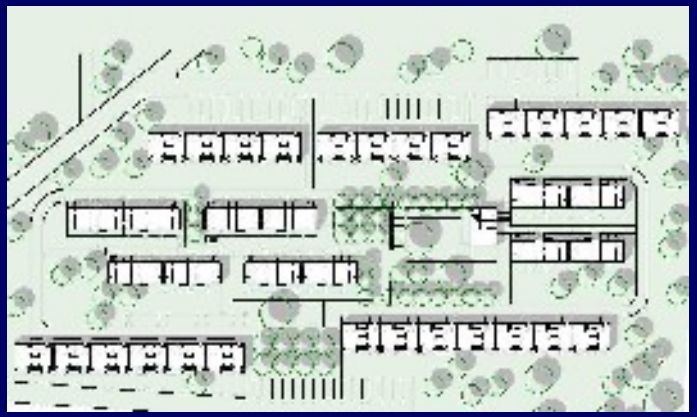
Final Master Plan



Winner 2:
Thomas Herzog + Partner (D)

Sustainable housing in Europe

Group B "Health"
50 dwellings
SHE Project



AARHUS (DK)

Social housing coop COPES
Pesaro (IT)
130 dwellings EC funded
250 non EC funded

End construction: October 2007

In Pesaro, the SHE project impact has been very high:

The Municipality has changed the building code introducing a **new system of project evaluation based on criterions of sustainability and participation**

and asked the SHE design team to create a **handbook for sustainable building**, to be used at the municipal level.

Requisiti		Punteggio assegnato ai singoli requisiti		
		Peso proposto Punti (a)	Premio di sinergia (b)	Totale punti (a) + (b)
PR 1	Analisi del sito	obbligatorio		

Requisiti		Punteggio assegnato ai singoli requisiti		
		Peso proposto Punti (a)	Premio di sinergia (b)	Totale punti (a) + (b)
R 1.1	Riduzione del consumo di acqua	obbligatorio		
R 1.2	Recupero, per usi compatibili, delle acque meteoriche	20		
R 1.3	Recupero, per usi compatibili, delle acque grigie	10		
	Totale punteggio dei requisiti e eventuale premio di sinergia	30	10	40
R 2.1	Contenimento dei consumi energetici invernali complessivi	obbligatorio		
R 2.2	Controllo dell'apporto energetico da soleggiamento estivo (complementare al seguente)	8		
R 2.3	Uso dell'apporto energetico da soleggiamento invernale (complementare al precedente)	7		
R 2.4	Controllo dell'inerzia termica	15		
R 2.5	Uso dell'apporto energetico solare per il riscaldamento dell'acqua – solo predisposizione	5		
	Uso dell'apporto energetico solare per il riscaldamento dell'acqua – completamento opere	10		
R 2.6	Utilizzo dell'apporto energetico solare per la produzione di energia elettrica	5		
	Totale punteggio dei requisiti e eventuale premio di sinergia	50	15*	65
R 3.1	Controllo della temperatura superficiale	obbligatorio		
R 3.2	Controllo del clima acustico esterno	obbligatorio		
R 3.3	Controllo dell'isolamento acustico ai rumori aerei	obbligatorio		
R 3.4	Controllo dell'isolamento acustico ai rumori impattivi	obbligatorio		
R 3.5	Controllo del rumore prodotto dagli impianti tecnologici	obbligatorio		
R 3.6	Controllo dell'illuminamento naturale	obbligatorio		
R 3.7	Controllo della ventilazione	obbligatorio		
R 3.8	Controllo delle emissioni nocive dei materiali	obbligatorio		
R 3.9	Asetticità dei materiali	obbligatorio		
R 3.10	Controllo dei valori dei campi elettromagnetici in ambiente interno	10		
	Totale punteggio dei requisiti e eventuale premio di sinergia	10	/	10
R 4.1	Utilizzo di materiali riciclabili.	5		
R 4.2	Riduzione nella produzione dei rifiuti solidi da demolizione / ricostruzione	5		
R 4.3	Raccolta differenziata dei rifiuti organici ed inorganici	5		
	Totale punteggio dei requisiti e eventuale premio di sinergia	15	5	20
R 5.1	Controllo dei valori dei campi elettromagnetici in ambiente esterno	obbligatorio		
R 5.2	Inquinamento luminoso	5		
	Totale punteggio dei requisiti e eventuale premio di sinergia	5	/	5
R 6.1	Programmazione della gestione dell'organismo edilizio e dell'alloggio	20		
	Totale punteggio dei requisiti e eventuale premio di sinergia	20	/	20
	TOTALE GENERALE	130	30	160

PESARO (IT)

Sustainable housing in Europe

BEFORE

TERAMO

From “Urban scale” to “Building scale”

Reduce car mobility, increase greenery, pedestrian pathways, safe biodiversity …

… NOW

TERAMO (IT)

Social housing coop COIPES Preganziol (IT)

67 dwellings EC funded

End of construction: October 2007

PREGANZIOL (IT)





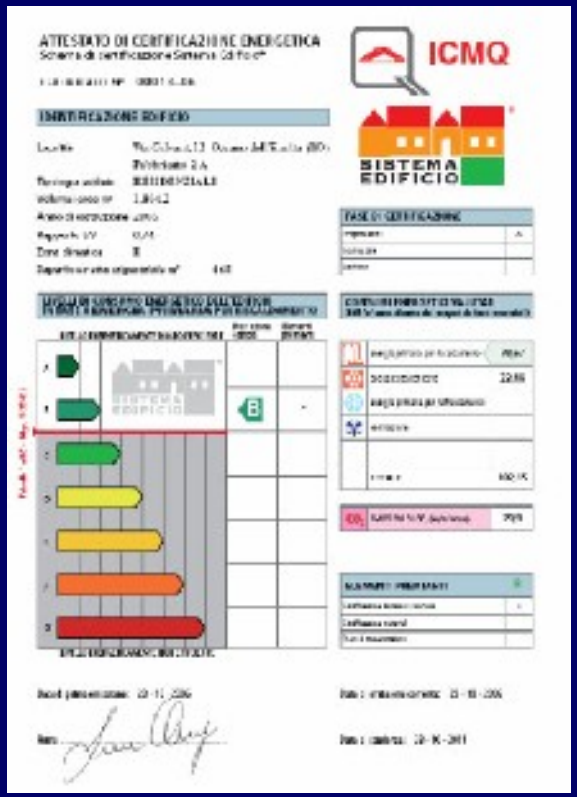





PREGANZIOL (IT)

First Italian building with Energy certification

Energy Class B



First impact on housing cooperative practices …

Elargement of the social and societal role of coops

↳ new commitments to respect

↳

- **Environment**
- **Partecipation**
- **Control of life cycle costs**

La Casa Ecologica

La Rete delle Cooperative per l'Abitare Sostenibile

ITALIAN NETWORK OF HOUSING COOPERATIVE FOR SUSTAINABLE HOUSING

SHARE AND CAPITALIZE « SHE EXPERIENCE »

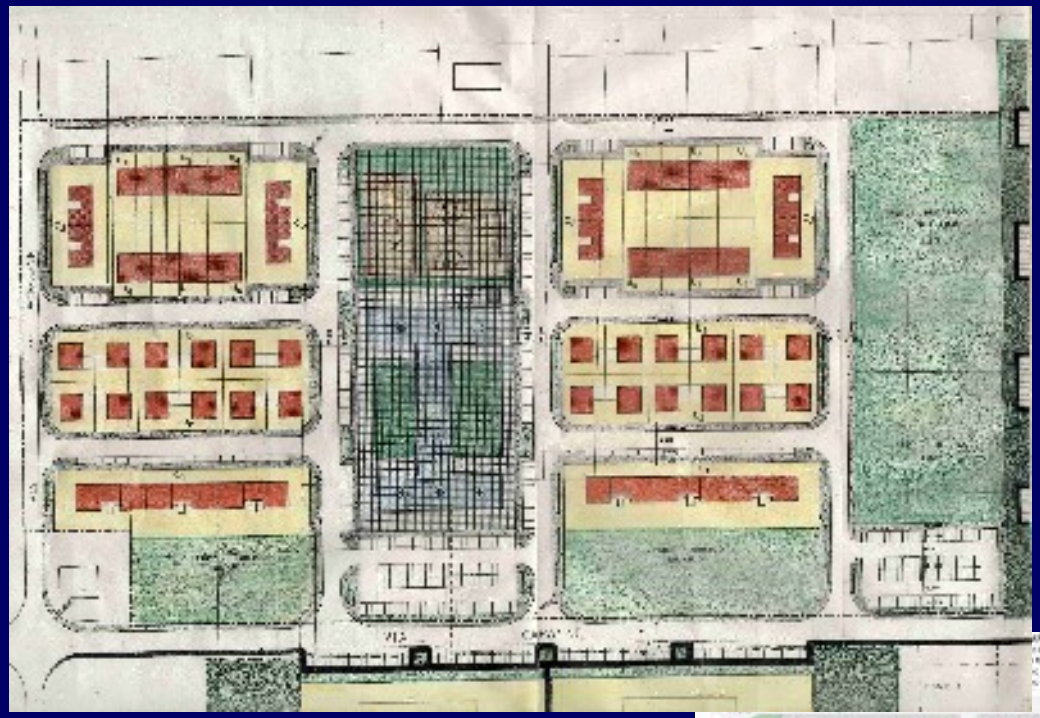
Before

....Previous urban planning, adopted by local administration (2001)

... and AFTER

New urban planning, adopted by local administration (Nov. 2005)

« DOMINO EFFECT » .... on the housing and building sector

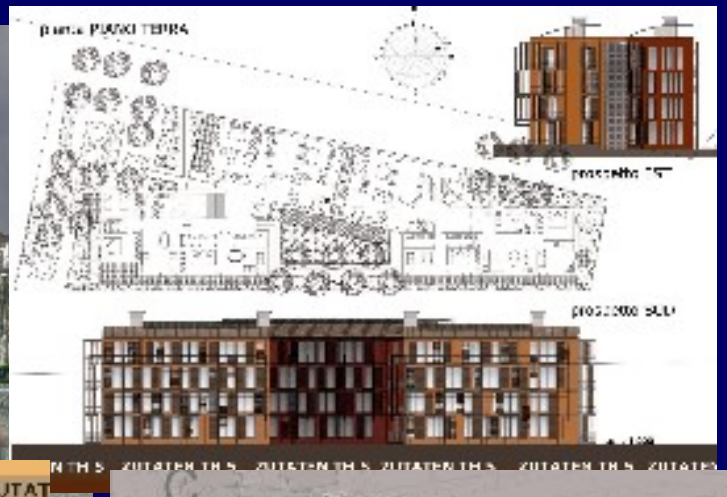


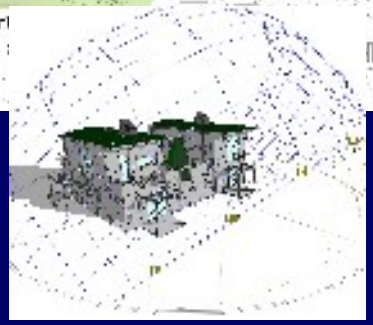
Before

City of CESENA (IT)

... Now

Roma...Matera...Pescara...





First results … a wide recognition of SHE approach

At national level

Italy:

- winner of the "**Next Energy Award 2006"** for energy-efficient building best practice
- winner of the « **2006 RECAM award »** for Innovation on the building sector.

Danemark

- winner of the **« 2006 Energy award »** for energy-efficient building best practice

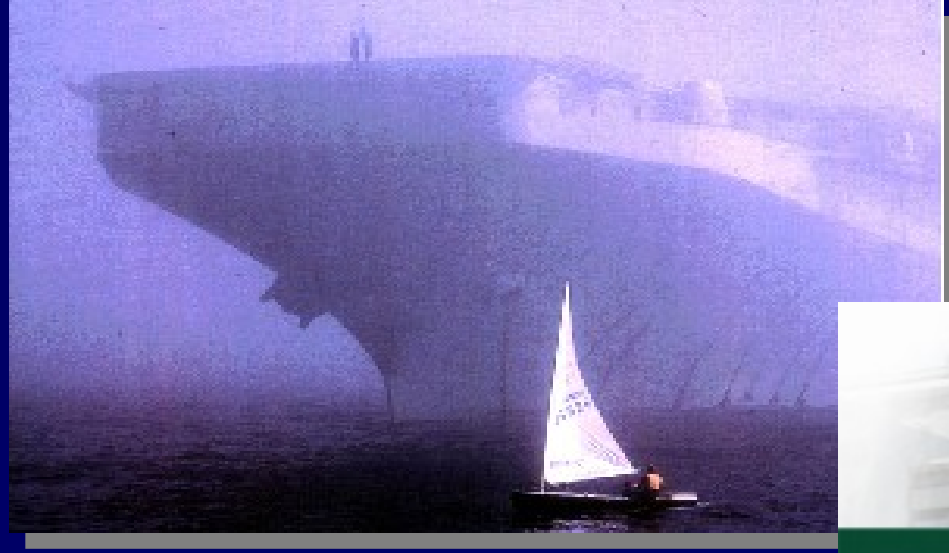
Portugal

- joint winner of the ***Cooperative Housing*** **category of the "2007 INH (national Institute of Housing) award"**

At European level

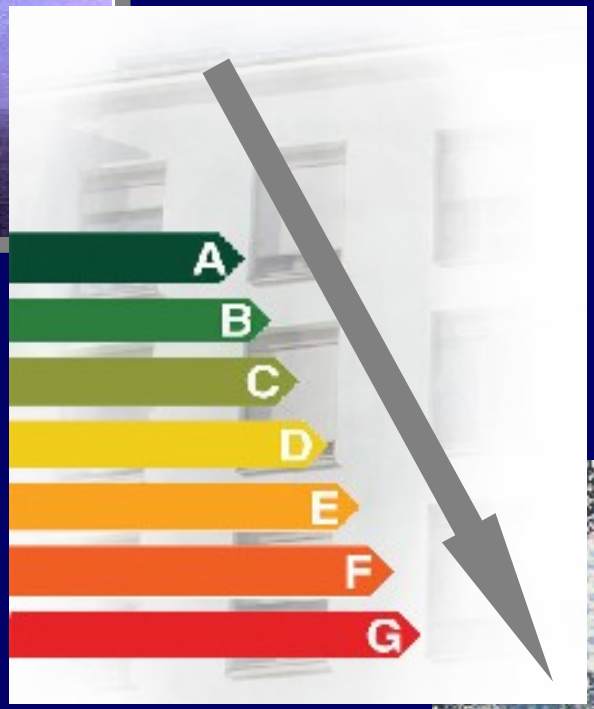
Winner of **the "Sustainable Energy Europe Awards 2007"**
public-private partnership categorie

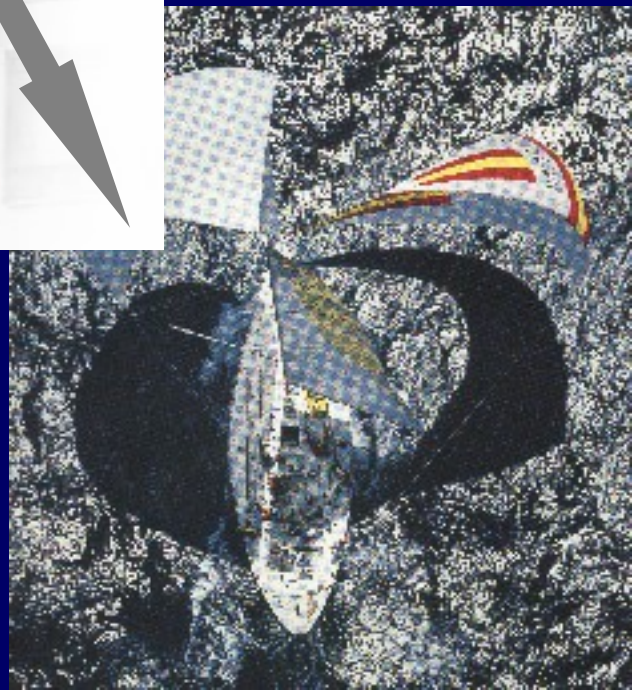
"*SHE represents a* ***shining example of a public-private partnership*** *were social housing cooperatives on a local, regional and European level have partnered with building companies, scientific institutions and technical organisations to demonstrate the feasibility of sustainable housing and communities.*
(From the report of the Jury)



The road to making life better and to building the future **remains however long, on all the fronts.**

Above all the cultural one !





it is a commitment attended by everybody and that it is worthwhile to everybody.

► Some recommendations to breaking through barriers to sustainable Housing

Boosting Client Demand

- **Inform** the public about sustainable programs and incentives through public service announcements, informational videos, and other forms of media;
- **Organize** tours of and events at demonstration buildings for sceptics in influential positions and for the general public;
- **Conduct** performance and cost assessments of demonstration projects
distribute/publicize the
(issue press releases)
- **Suppor**
are
- **C**
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busin
benefi
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associat
- **Pr**
competiti
other form
responsible
- **Expand**
Education O

Expanding Professional Training and Education Opportunities

- **Continue** to support and participate in national conferences that bring members of different professions together to share information on sustainable building
- **Fund** professional education
research programs for sust
- **help** dissemi
buildin

Reducing Costs and Cost Misperceptions

- **Conduct** long-term, lifecycle analysis of the costs benefits of
demon and publicize
oach with case
and trade
ublic media);
cost savings
wners who
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ntally-harmful products
ssil fuels) so that the price of such unsustainable options will fully reflect their social and environmental costs;
- Provide low-interest loans or loan guarantees for sustainable building projects or installations.

NO!
We need more progressive urban decision makers and politicians with courage to set goals and incentives for society to follow.
I really think that there are no technological barriers to sustainable development, only ones of non technical character or lack of political will.

Often politicians are reluctant to listen. These are serious non technical barriers.
A fresh attitude is required, from the national and local politician to the bricklayer.

To conclude…About Sustainable land

But, in Italy, we are now working to find ways in which the acquisition of the land might be unlocked… only if the future building will bring real benefits to the whole community

The decision-makers had to realise this and start setting aside more land – and more incentives – for sustainable housings.

Even if property prices will dramatically increased , and the margin taken by developers for profit will pushing them up even higher.

For further information, please visit our website: www.she.*coop*

I'm really convinced that if more building land was given in accordance with an accurate evaluation of the community benefits and externalities, you'd see a better standard of housing and more sustainable communities, with less social conflicts and more social cohesion.

REMEMBER FUTURE !