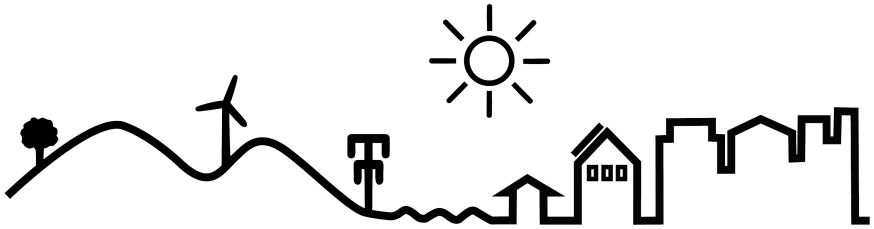
M2



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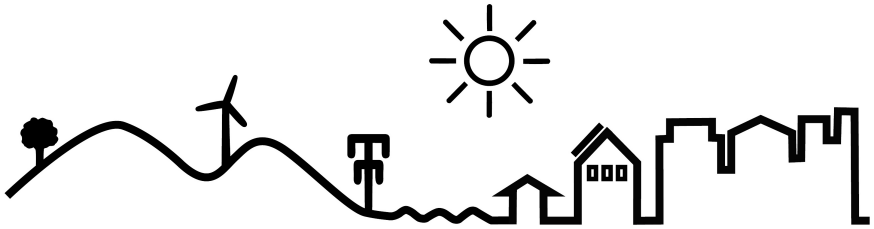
Pianificazione Urbanistica ed Energia

MODULI PER LA FORMAZIONE A LUNGO TERMINE

CeNSU Centro Nazionale Studi Urbanistici

Co-funded by the Intelligent Energy Europe Programme of the European Union

M2



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Pianificazione Urbanistica ed Energia

1. Le azioni possibili
2. Progettare la città sostenibile (1/2)
3. Progettare la città sostenibile (2/2)
4. Strumenti per le trasformazioni urbane low carbon
5. Contenimento di suolo e rigenerazione urbana

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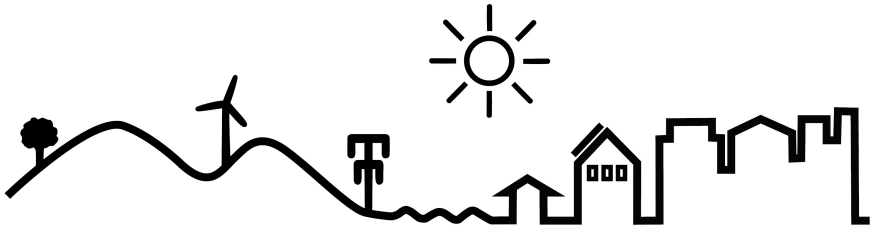

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Pianificazione Urbanistica ed Energia

2 **Progettare la città sostenibile (1/2)**

1 **La diffusione urbana e le nuove sfide**

CeNSU Centro Nazionale Studi Urbanistici

Co-funded by the Intelligent Energy Europe Programme of the European Union

i temi

- città
- spazio urbano
- nuove sfide per la città contemporanea

le componenti del sistema urbano

- transit oriented development

il ruolo del progetto

- casi di studio

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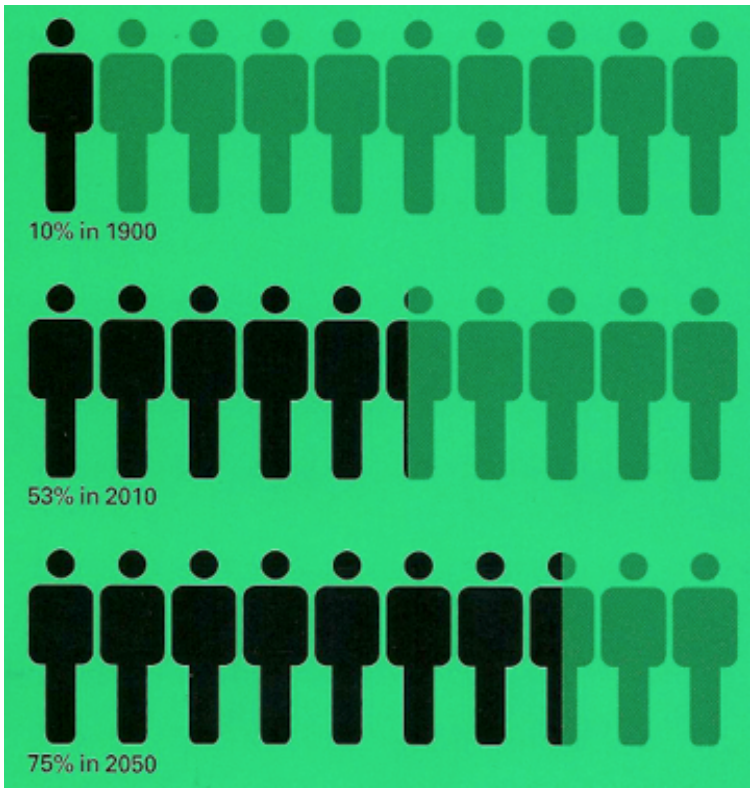
LIVING IN THE URBAN AGE

Ricky Burdett and Philipp Rode



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LIVING IN THE URBAN AGE

Ricky Burdett and Philipp Rode

75%

of the world CO_2 emissions are produced by cities

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LIVING IN THE URBAN AGE

Ricky Burdett and Philipp Rode

Driving in Sao Paulo: In the World Streets 2013 Traffic Olympics they are serious title contenders.

75%

of the world CO_2 emissions are produced by cities

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lo spazio urbano

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la città storica

lo spazio urbano

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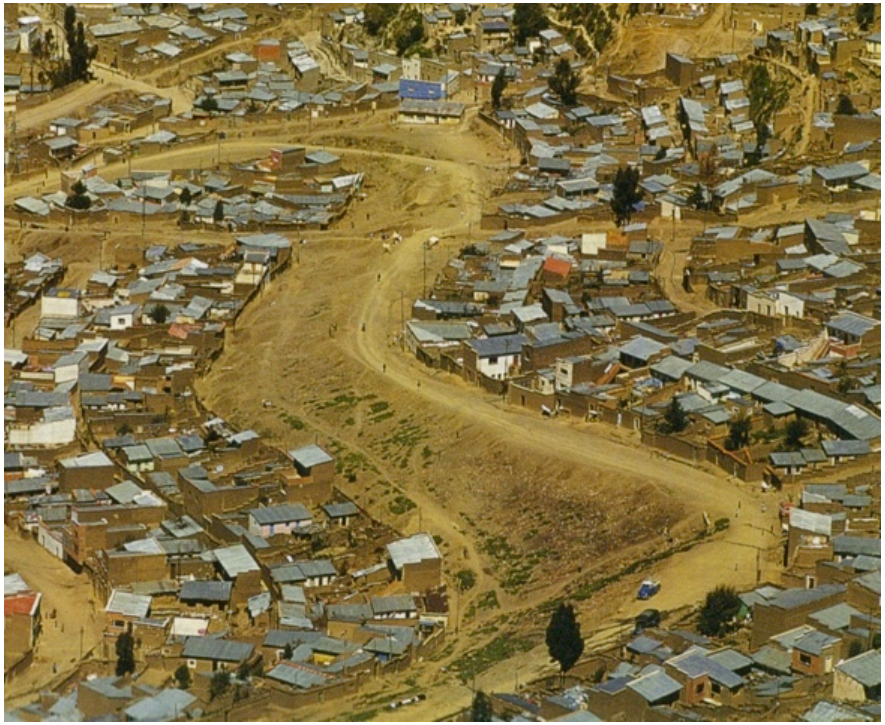
la città moderna

lo spazio urbano



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la città spontanea

lo spazio urbano

la città compatta
alta densità

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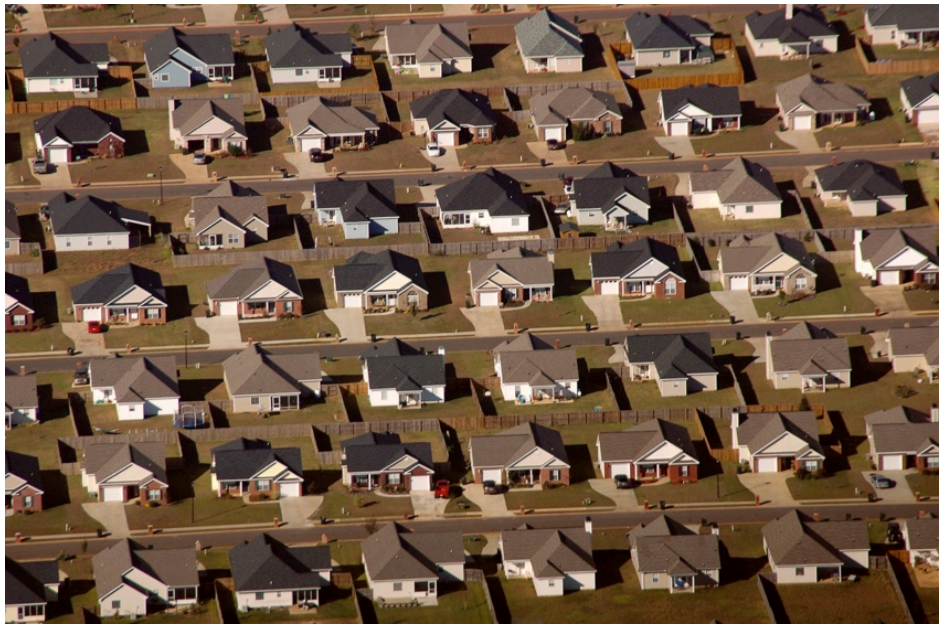

lo spazio urbano

la città diffusa
bassa densità

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lo spazio urbano

paesaggi urbani

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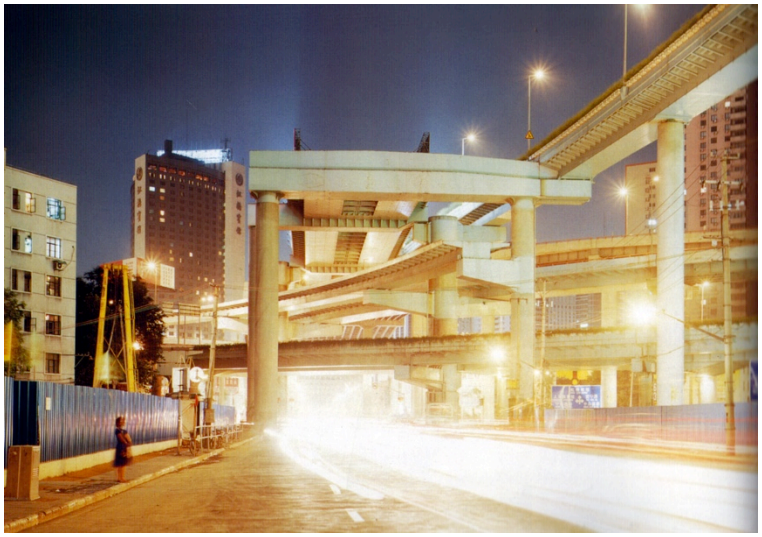
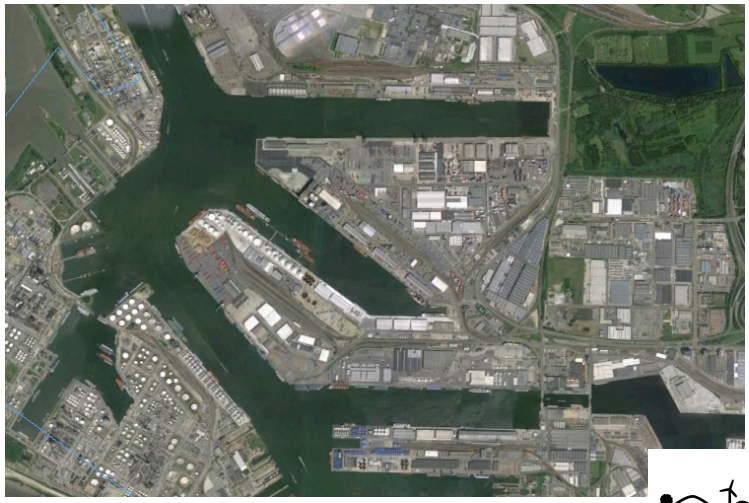
lo spazio urbano



le infrastrutture



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i luoghi del commercio

lo spazio urbano

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i luoghi del commercio

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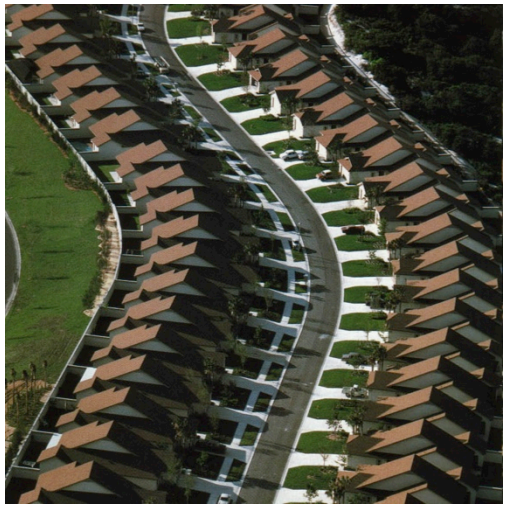
lo spazio urbano



città contemporanea
città a bassa densità

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lo spazio urbano

città contemporanea
città a bassa densità

SPECIAL
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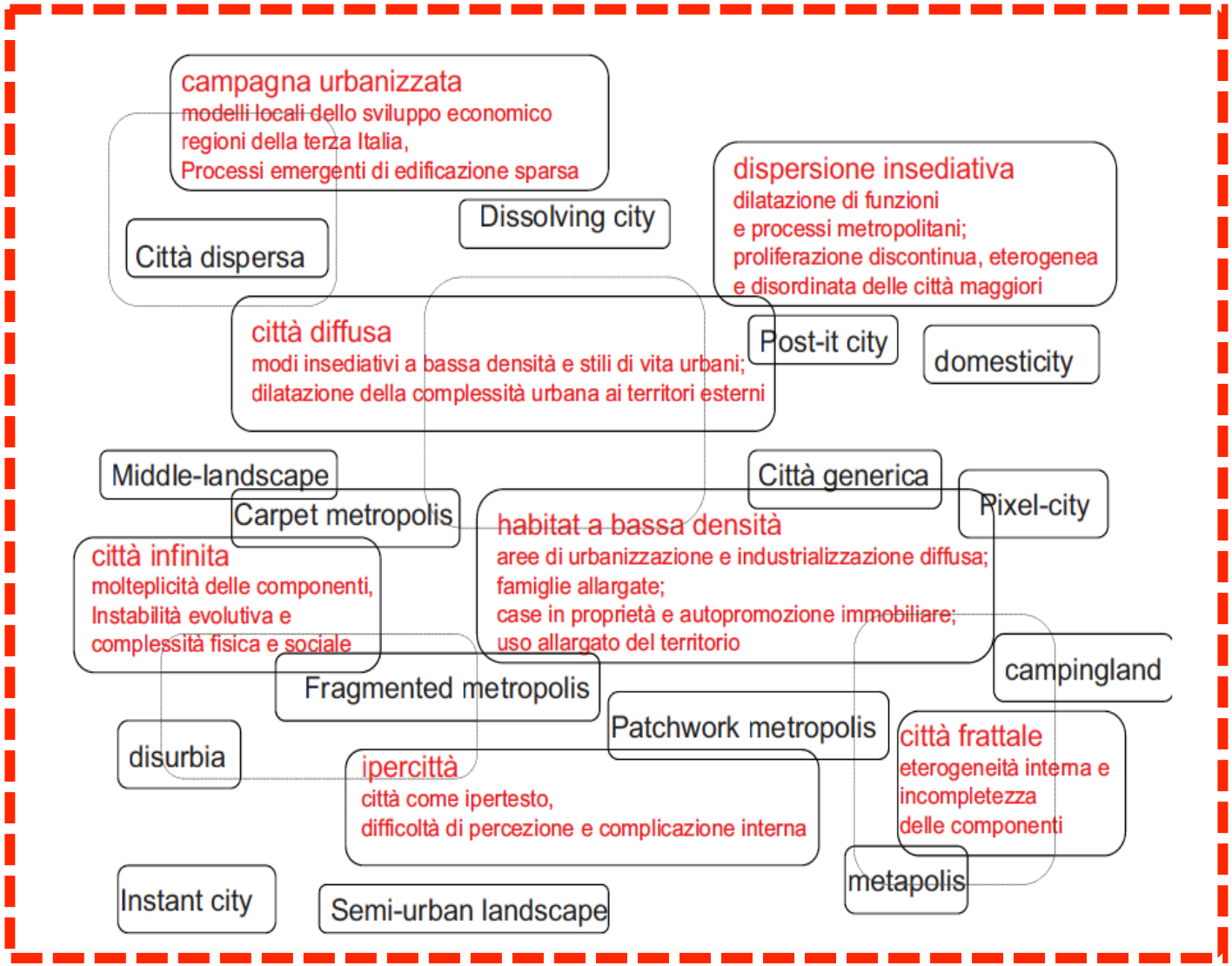
lo spazio urbano



città a bassa densità

denominazioni

la città a bassa densità

forma rilevante della città contemporanea

- deficitaria sul piano della qualità insediativa
- monofunzionale
- carente sul piano della socialità

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la città a bassa densità

nuova condizione urbana

- tessuti a ville isolate
- piccola impresa
- rete stradale capillare e non gerarchizzata
- bassa densità
- abbandono delle aree agricole

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la città a bassa densità

manifestazione di un “estetica del disordine”

- frammentarietà
- molteplicità
- coesistenza di differenze
- disordine
- assenza di gerarchie e centralità
- Organizzazione spaziale inedita (che mette in crisi le categorie disciplinari)

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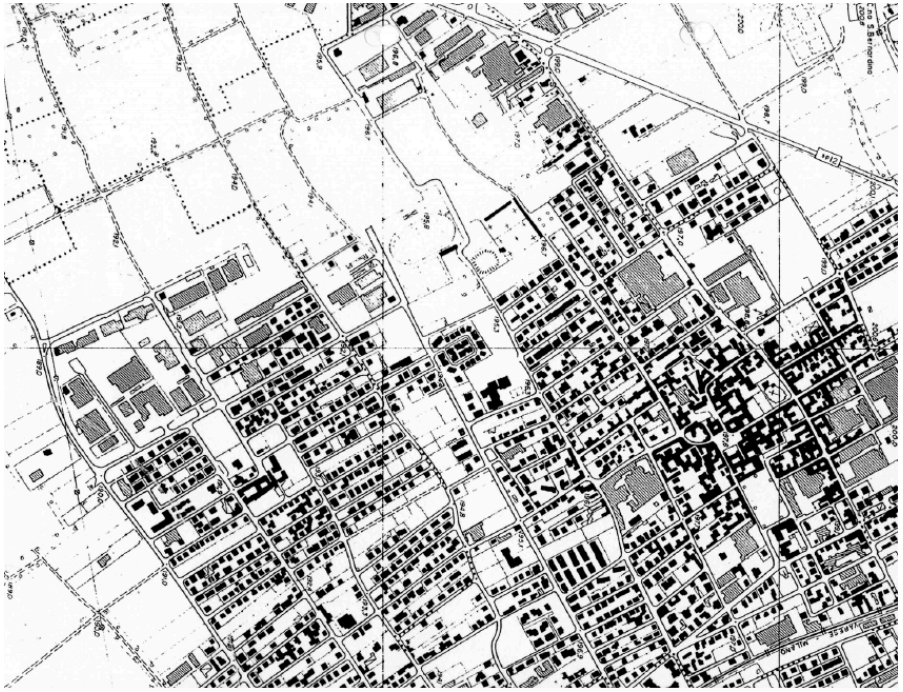
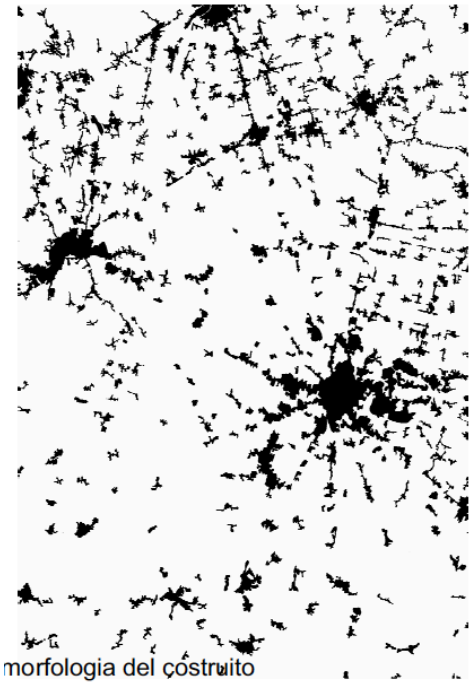
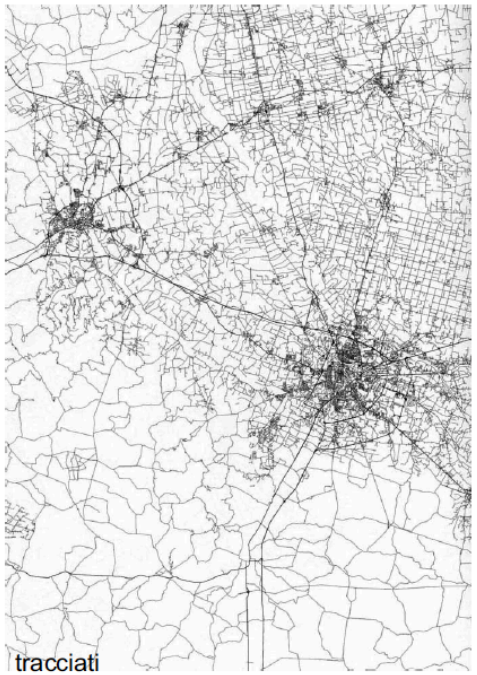
la città a bassa densità







la città diffusa è uno “spreco”

- **Territorio risorsa scarsa e non riproducibile**
- **Consumo di risorse energetiche (mobilità, riscaldamento, fornitura di servizi)**
- **Perdita valenze ambientali e paesaggistiche e del paesaggio agrario**

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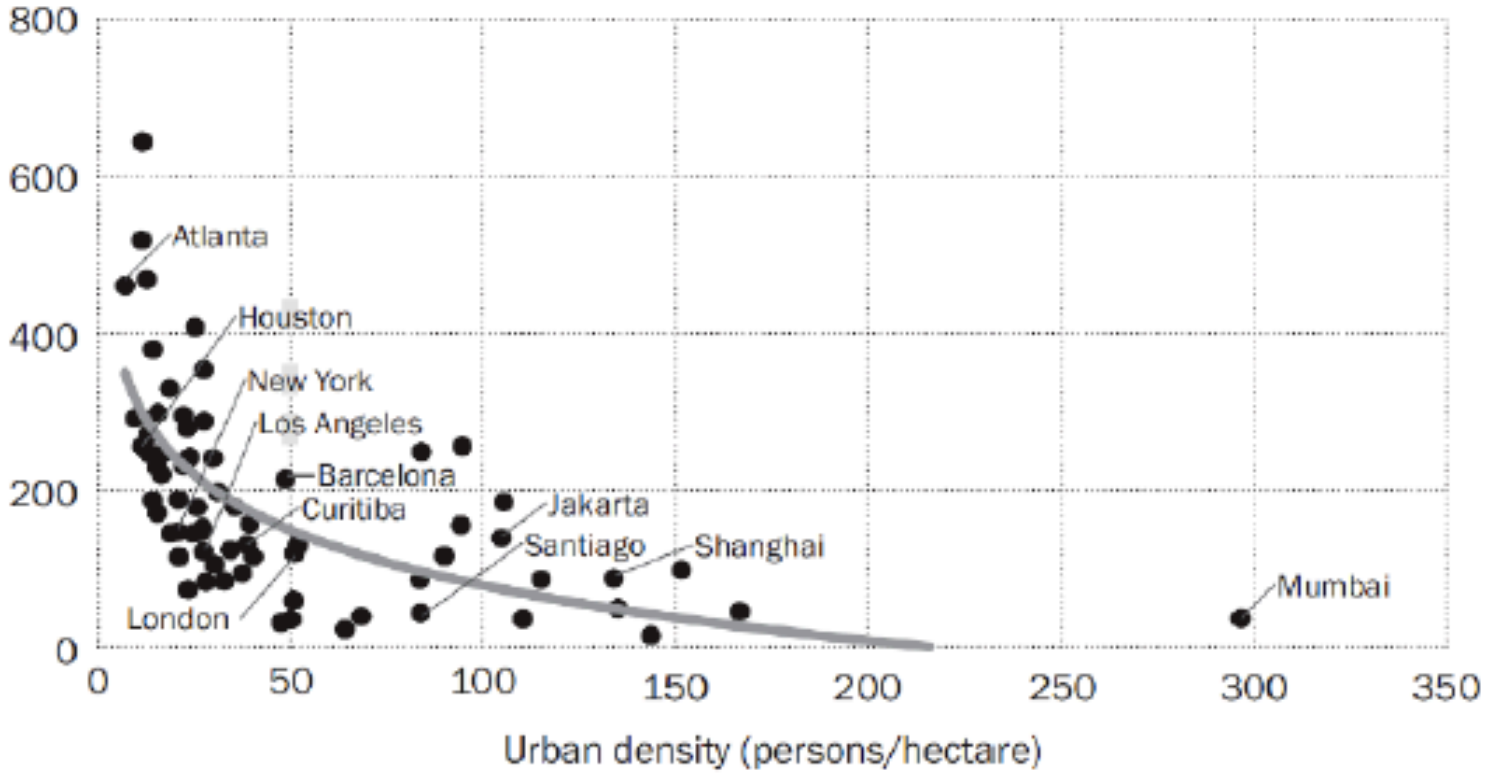
densità e consumi energetici

Figure 6: Urban density related to energy consumption (World)



[Source: The world bank, 2009]

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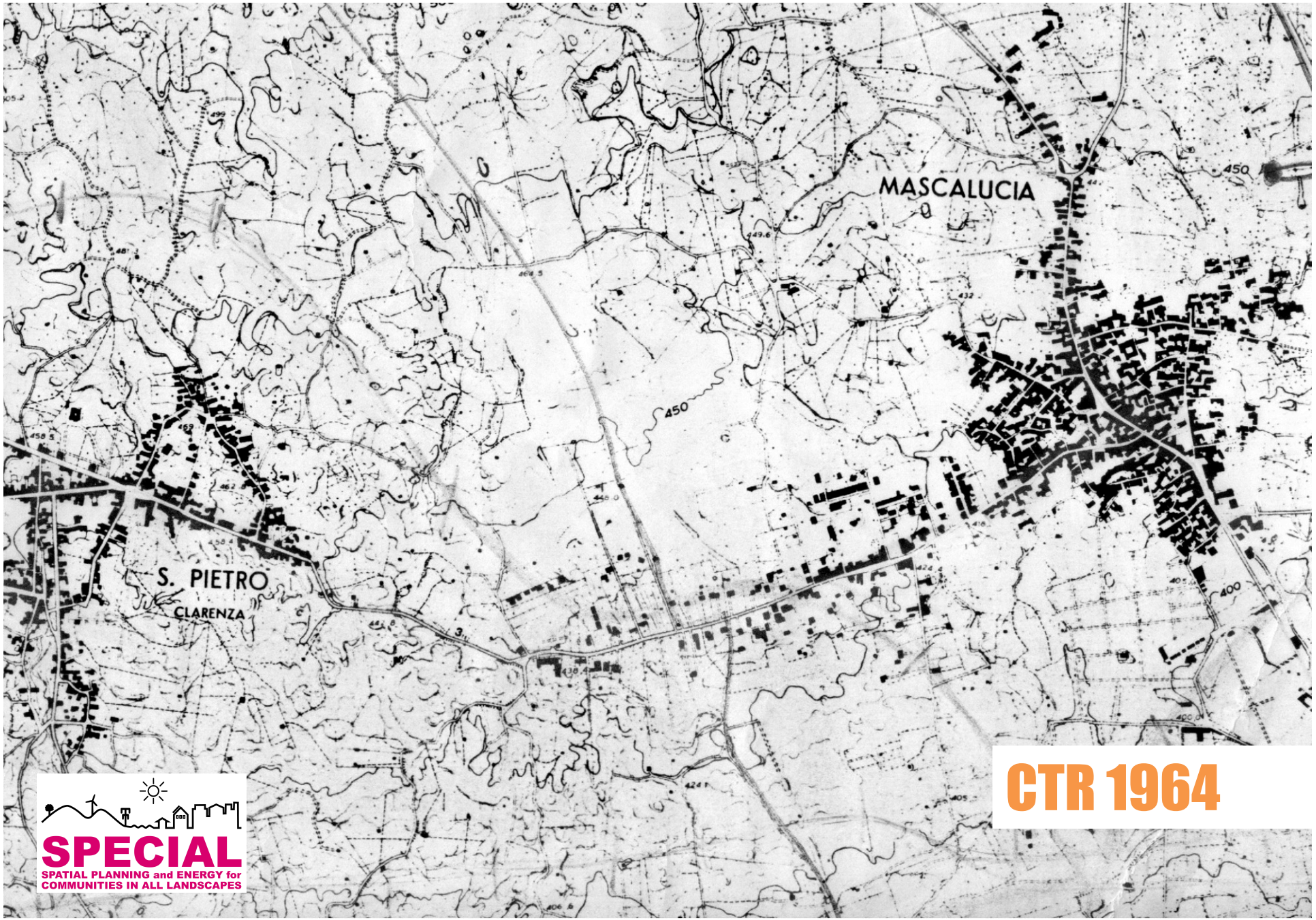
la diffusione urbana



CTR 1964

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la diffusione urbana

CTR 1985

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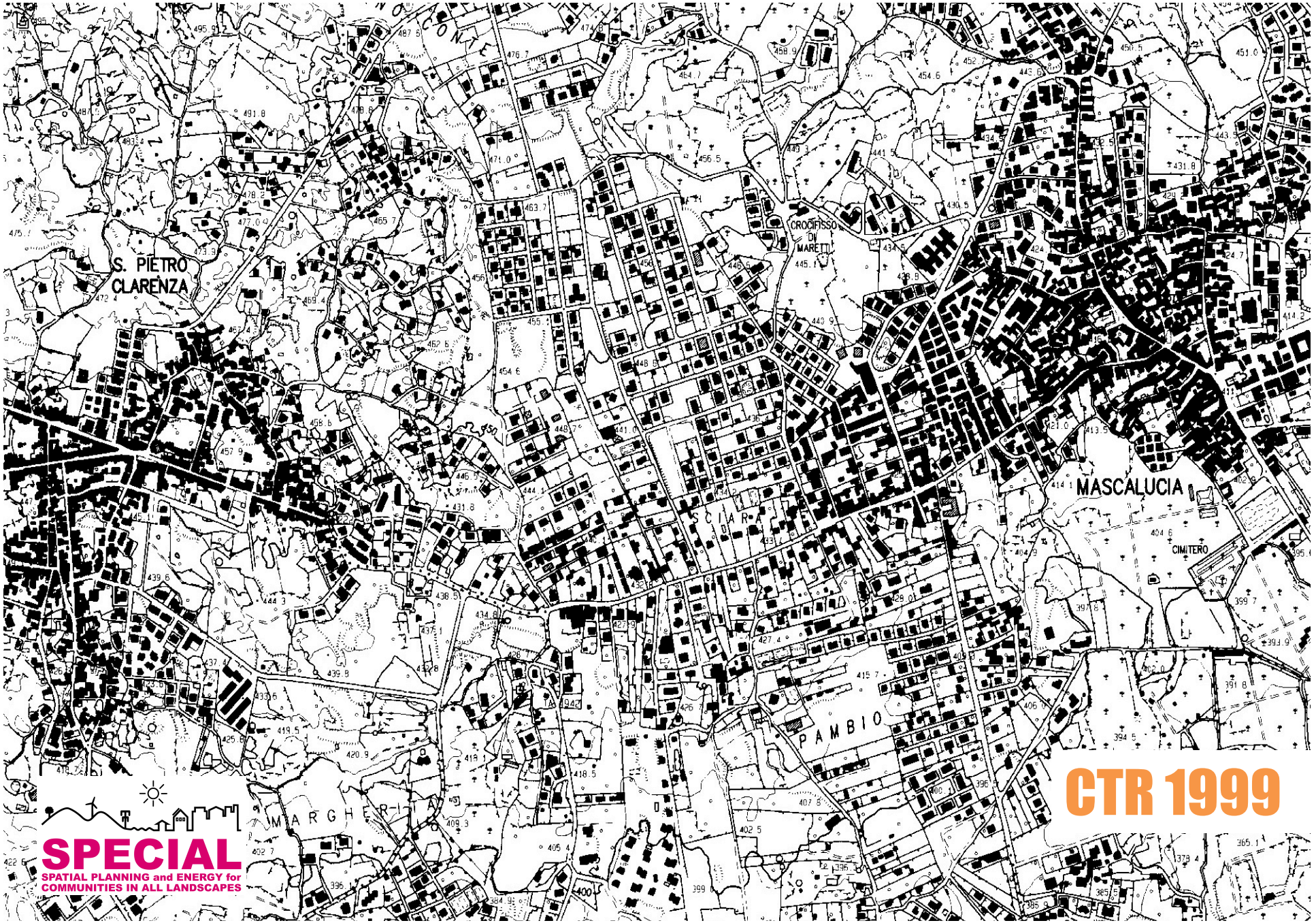

CTR 1999

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la diffusione urbana

MORPHOLGY CATEGORIES	Area (ha)	%
Historical compact urban settlements	32,7	4,30%
Linear historical rural settlements	8,4	1,10%
New multi-storey apartment residences	63,9	8,40%
Detached houses	636,8	83,75%

Urban morphology

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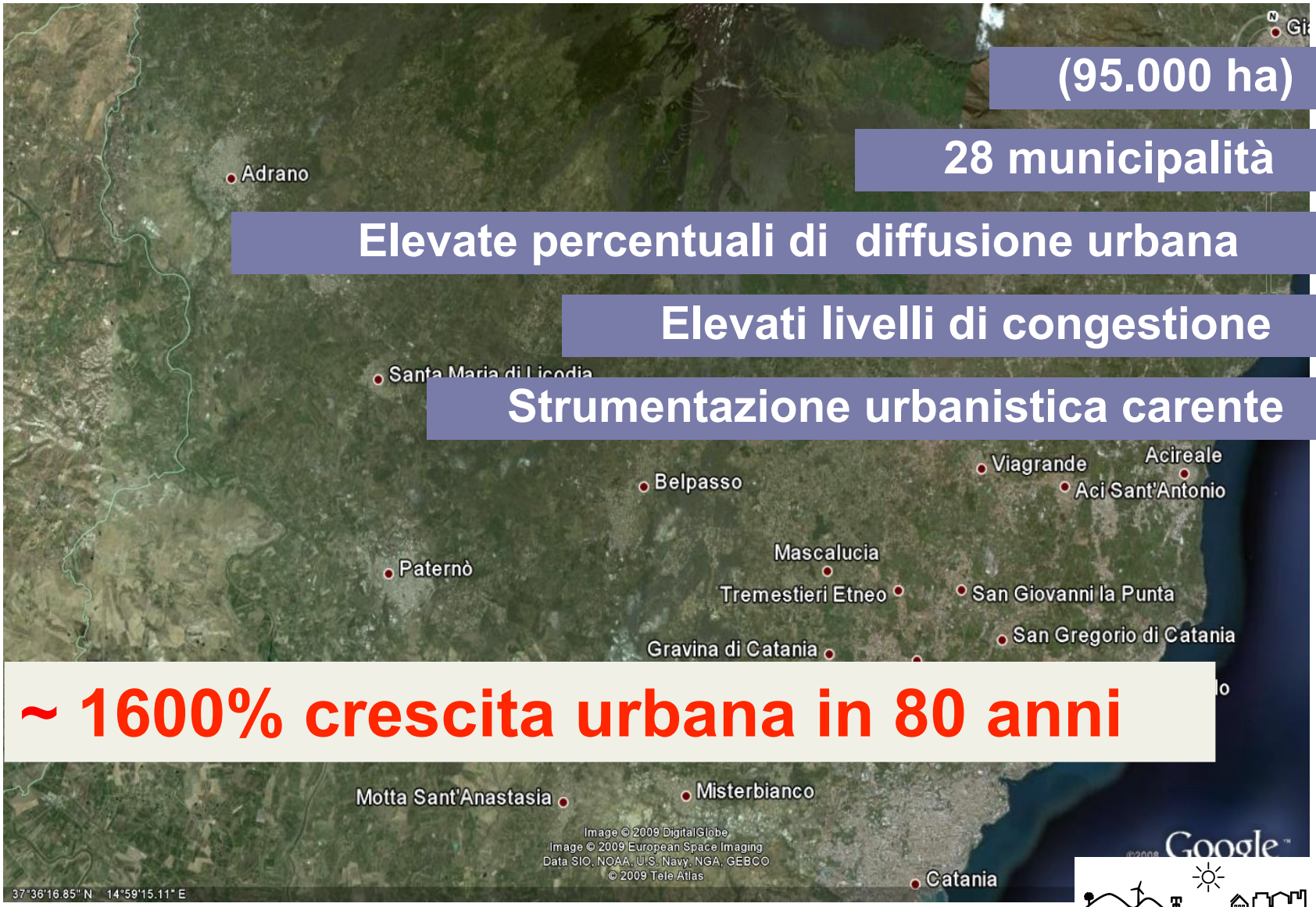
la diffusione urbana



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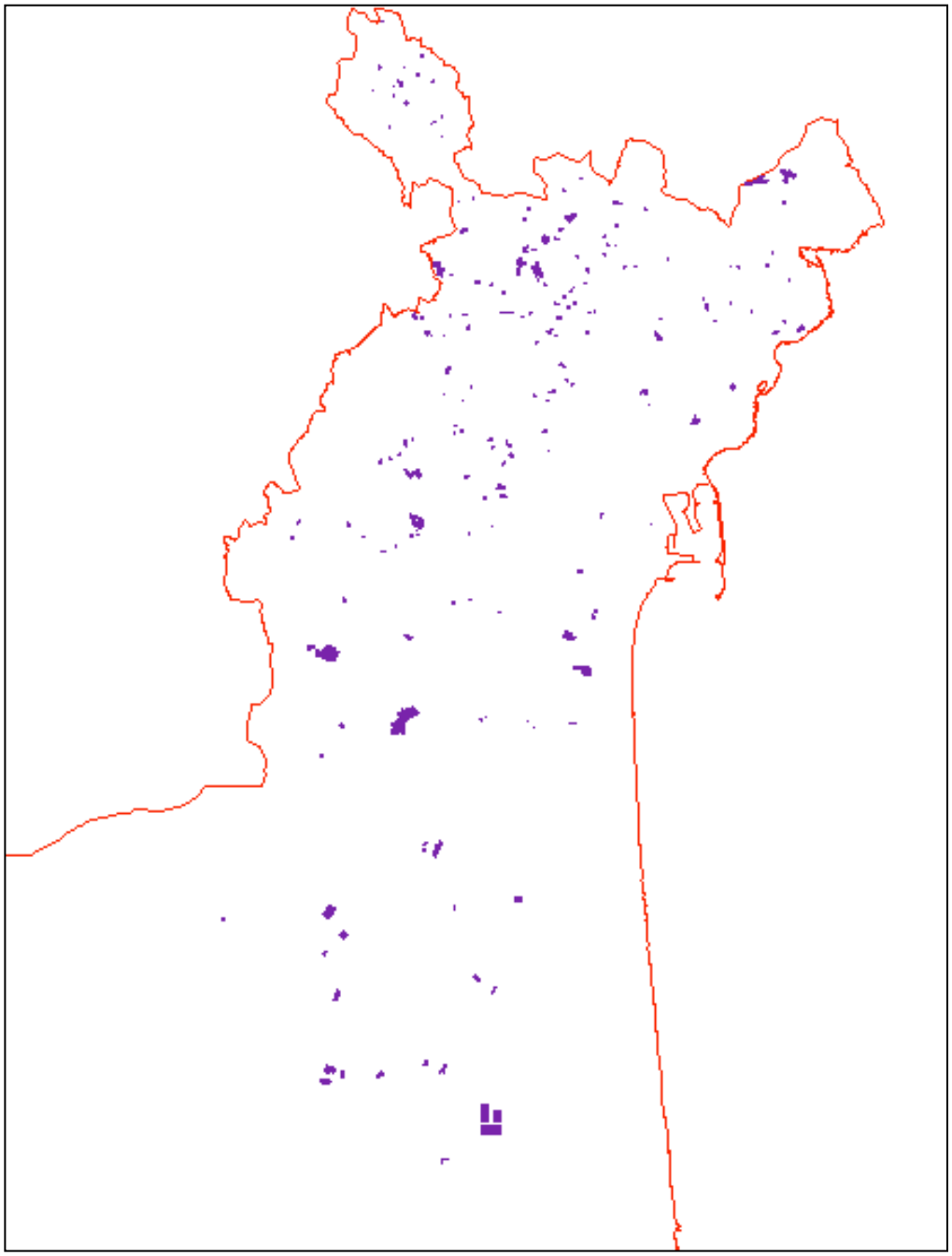

il consumo di suolo

Nuove urbanizzazioni 2002 -2012

380.000 mq

superficie coperta residenziale

2.280.000 mc

volume residenziale

22.800

abitanti insediabili

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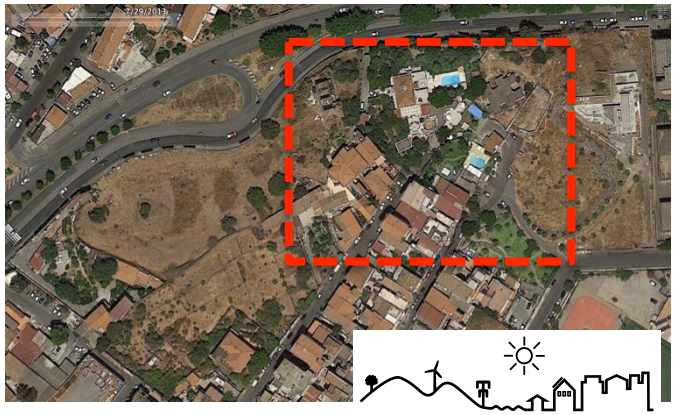
il consumo di suolo

2002

2013



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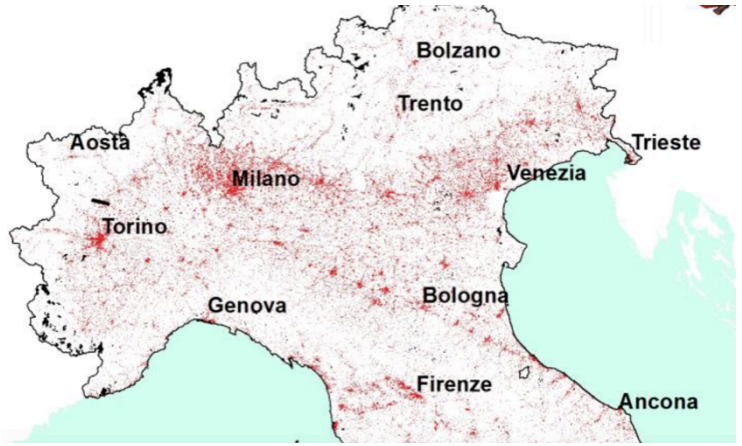
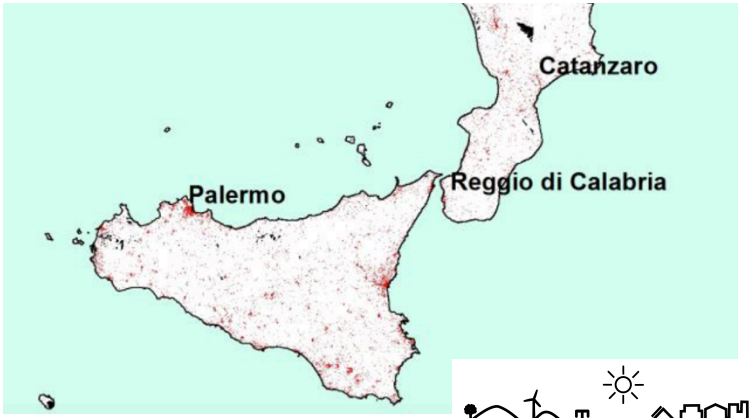
il consumo di suolo



Carta nazionale del consumo di suolo

- Suolo non consumato
- Suolo consumato
- Non classificato



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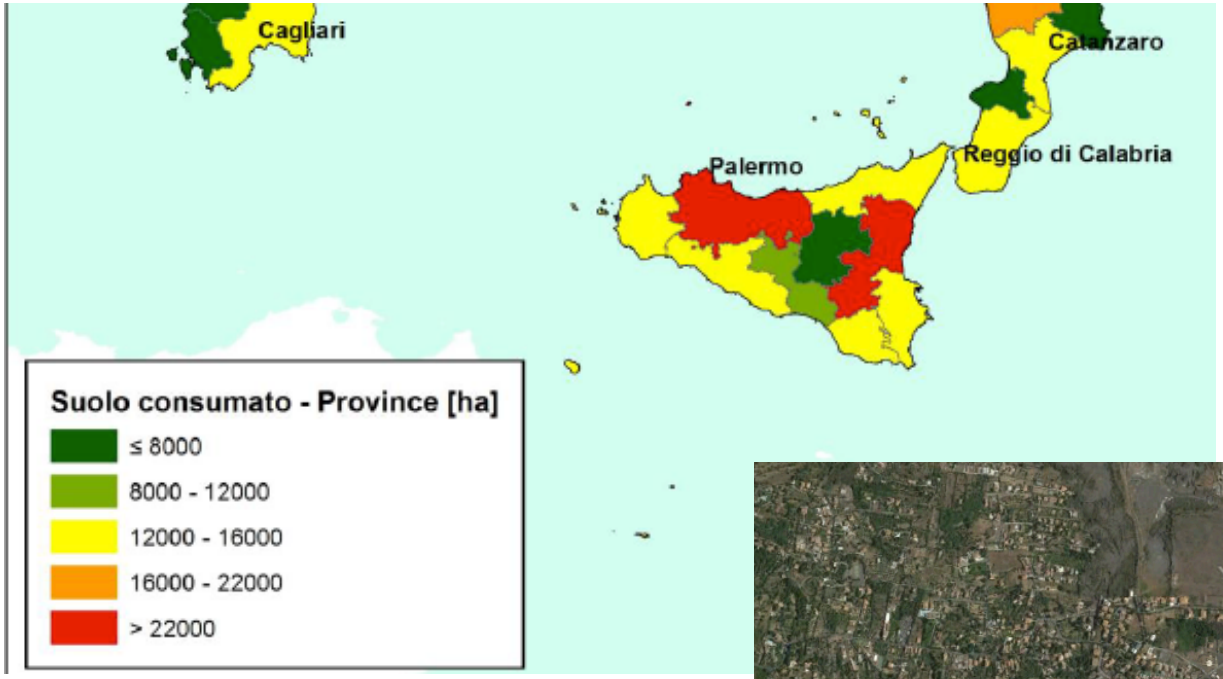
il consumo di suolo



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Climate Change

le nuove sfide

- **Tendenze ad un riscaldamento globale e consistenti cambiamenti nella distribuzione ed intensità delle precipitazioni (pioggia e neve) hanno influenzato negativamente la composizione e la funzionalità della criosfera**

- **Gli ecosistemi naturali e antropici (lunghezza delle stagioni, modificazioni delle specie)**

- **L'onda di calore europea del 2003 ha avuto impatti significativi sui sistemi biofisici e sulla società**

(Source: IPCC, Working Group II Report, 2007).

"Per la prima volta, gli impatti prodotti da ampi cambiamenti nelle attuali condizioni climatiche sono stati documentati"

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Climate Change INONDAZIONI

le nuove sfide

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Climate Change EVENTI ESTREMI

le nuove sfide

Catania, ottobre 2003

Villasmundo (Siracusa)luglio 2009, 47.7 °C.

Catania, 22 febbraio 2013

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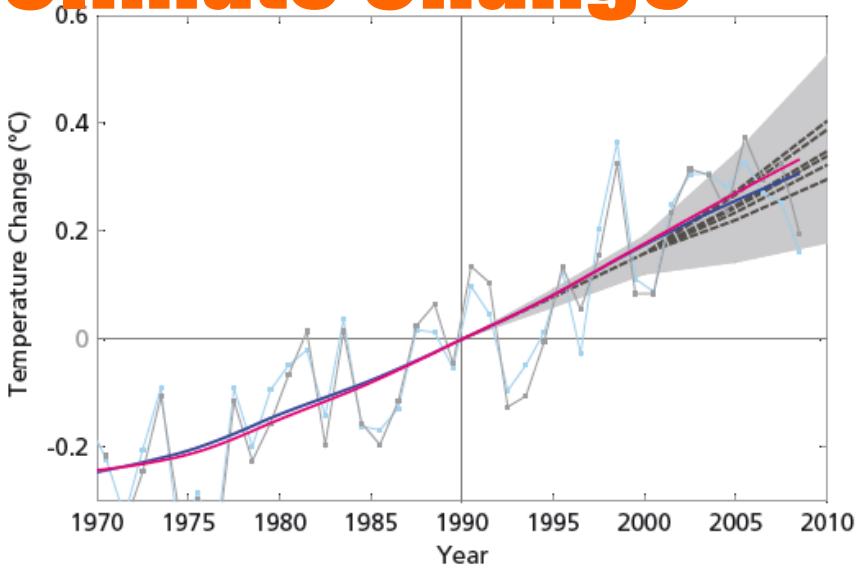
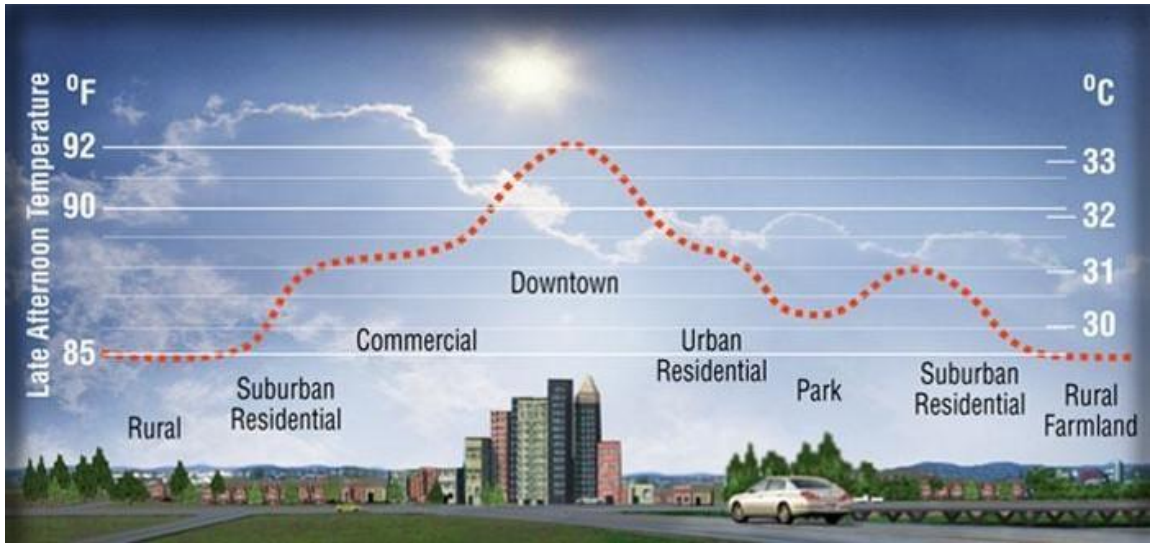
Climate Change

le nuove sfide



Cambiamento Temperature in superficie media globale (1970-2008)



ISOLA DI CALORE

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Climate Change

le nuove sfide

isola di calore e salute pubblica

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le nuove sfide

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Climate Change

le nuove sfide

www.ecofuturo.tv

Sicilia, alla vigilia dei ballottaggi spunta l'ok al condono per sanare abusi edilizi

Politica

L'assessore al Territorio Maurizio Croce ha emesso una circolare che riconosce l'applicabilità della sanatoria decisa dal governo Berlusconi nel 2003. Crocetta dice di non saperne nulla. Sono più di trentamila le richieste pendenti nei comuni siciliani: il record si raggiunge a Marsala, Barcellona Pozzo di Gotto, Carini. Dove domenica e lunedì si vota

di Giuseppe Pipitone | 13 giugno 2015

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le nuove sfide

"La pianificazione territoriale urbanistica ha un ruolo chiave per consentire ad architetti, urbanistl e designers di creare o rimodulare spazi esterni ed edifici che siano resilienti ai cambiamenti climatici ed alle condizioni atmosferiche estreme"

Shaw, R., Colley, M., and Connell, R. (2007)
Climate change adaptation by design: a guide for sustainable communities, TCPA, London

"La comprensione del contributo determinante giocato dalle città sul cambiamento climatico ci aiuterà ad intervenire a livello locale. Con una migliore pianificazione urbanistica ed una più grande partecipazione potremo conseguire significativi risultati nel raffrescare le città contrastando le isole di calore"

UN-HABITAT's new Cities and Climate Change: global report on Human settlemer

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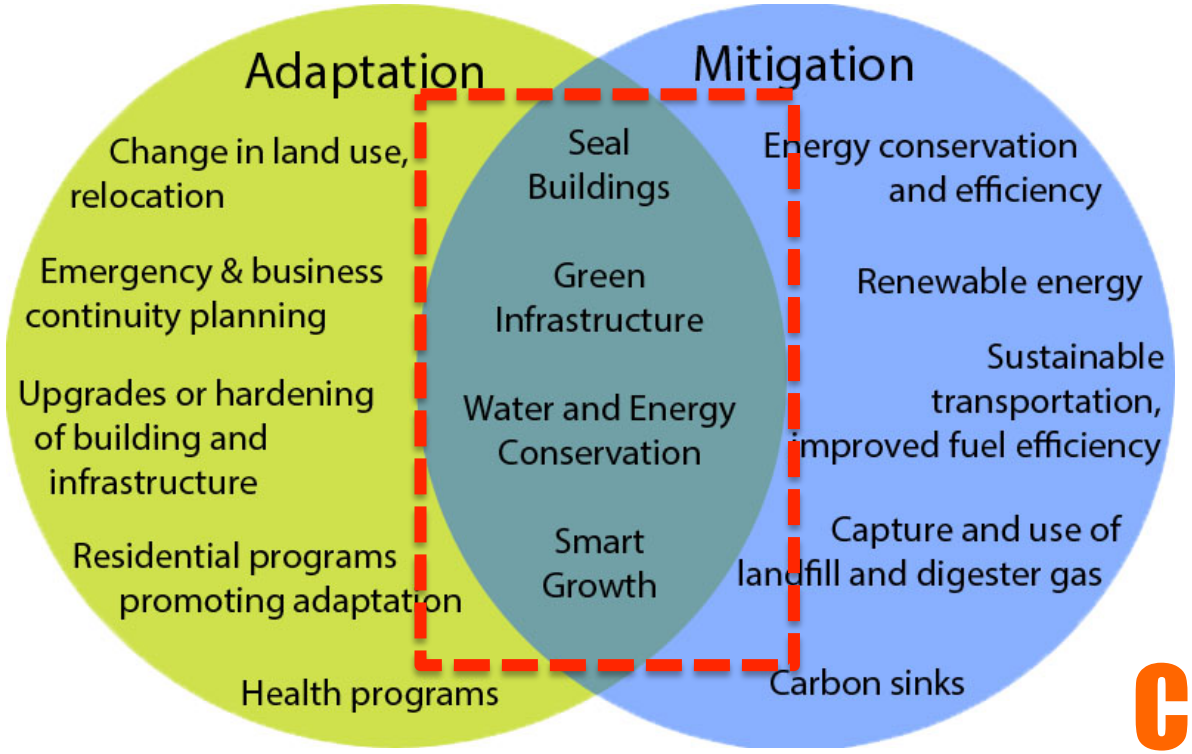
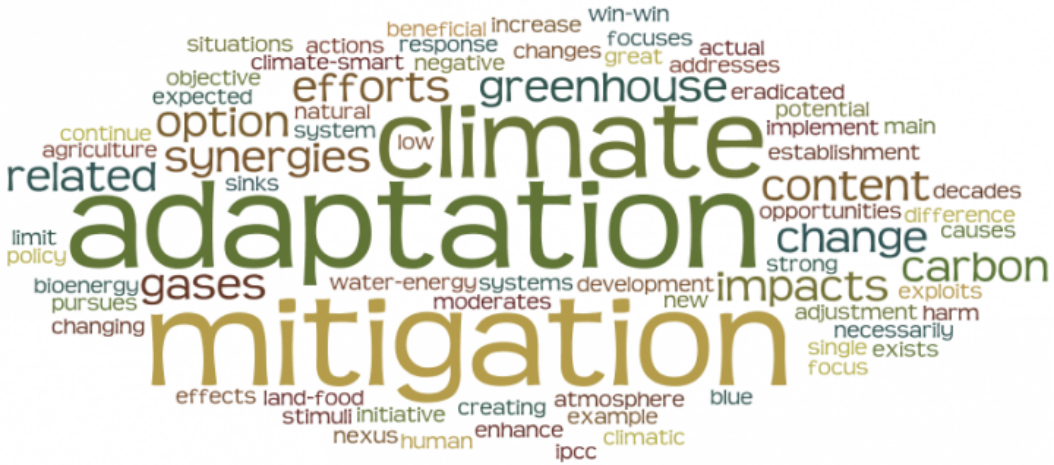


Climate Change

Adaptation and mitigation by design



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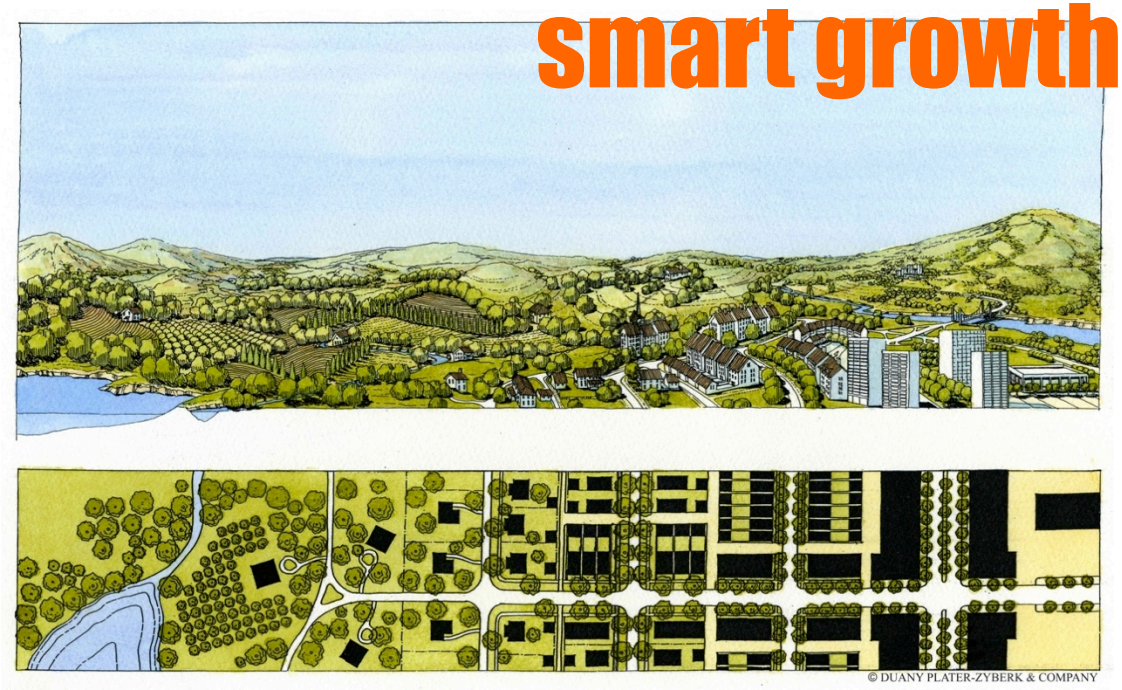
le nuove sfide
smart growth



Urban planning and trasportation theory that concentrates growth in compact walkable urban center to avoid sprawl. It also advocates compact, transit oriented, walkable, bicycle friendly land use, including services, schools, mixed use development with a range of housing choices

Boeing et al. (201$) "LEED-ND and Livability Revisited". *Berkeley Planning Journal*

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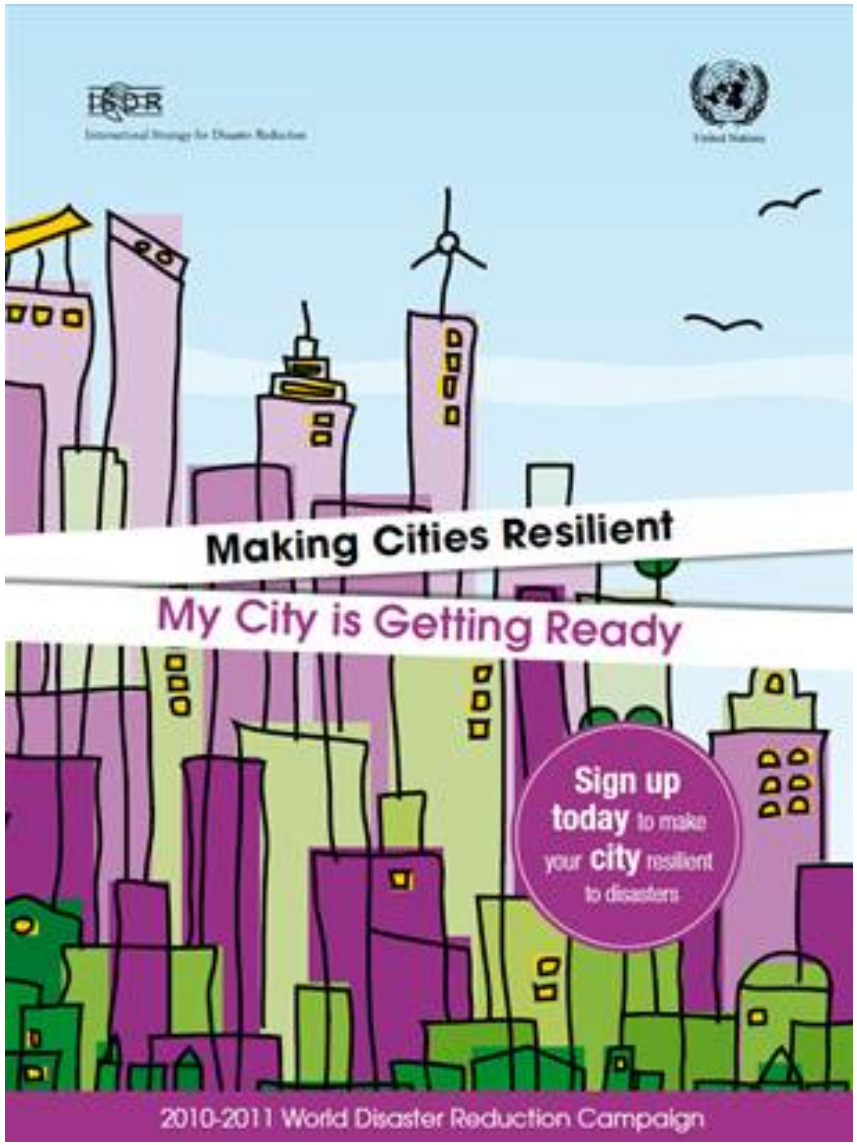

resilent city

"The ability of a system, community or society exposed to hazards to resist, absorb, accommodate to and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions."

United Nations International Strategy for Disaster Reduction, UNISDR, "Terminology on Disaster Risk Reduction", 2009)

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le nuove sfide

complessiva crisi del metabolismo urbano e delle forme di razionalità tecnica e costruttiva su cui è stata sin qui costruita la città e il suo rapporto con le risorse naturali.

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ripensare e rimettere in gioco la complessità relazionale delle componenti materiali e immateriali della città:

- scarsità e vulnerabilità della risorsa acqua
- consumo e inquinamento dei suoli
- inquinamento dell'aria
- vulnerabilità climatica
- insostenibilità del consumo energetico
- mancanza di controllo del ciclo dei rifiuti
- produzione diffusa di aree di scarto
- fragilità idrogeologica
- vulnerabilità sismica del patrimonio edilizio
- pervasività ambientale del traffico urbano

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diversificazione di progetti e politiche relative alle risorse rinnovabili:

- ripensamento e riciclo delle acque e del loro respiro in città
- contrasto proattivo al consumo e all'impermeabilizzazione dei suoli
- nuove politiche di bonifica dei suoli inquinati
- riduzione delle fonti inquinanti e incremento delle dotazioni vegetali urbane
- efficientamento energetico e impiantistico del patrimonio edilizio esistente
- riciclo dei rifiuti e delle aree di scarto
- sviluppo della mobilità dolce

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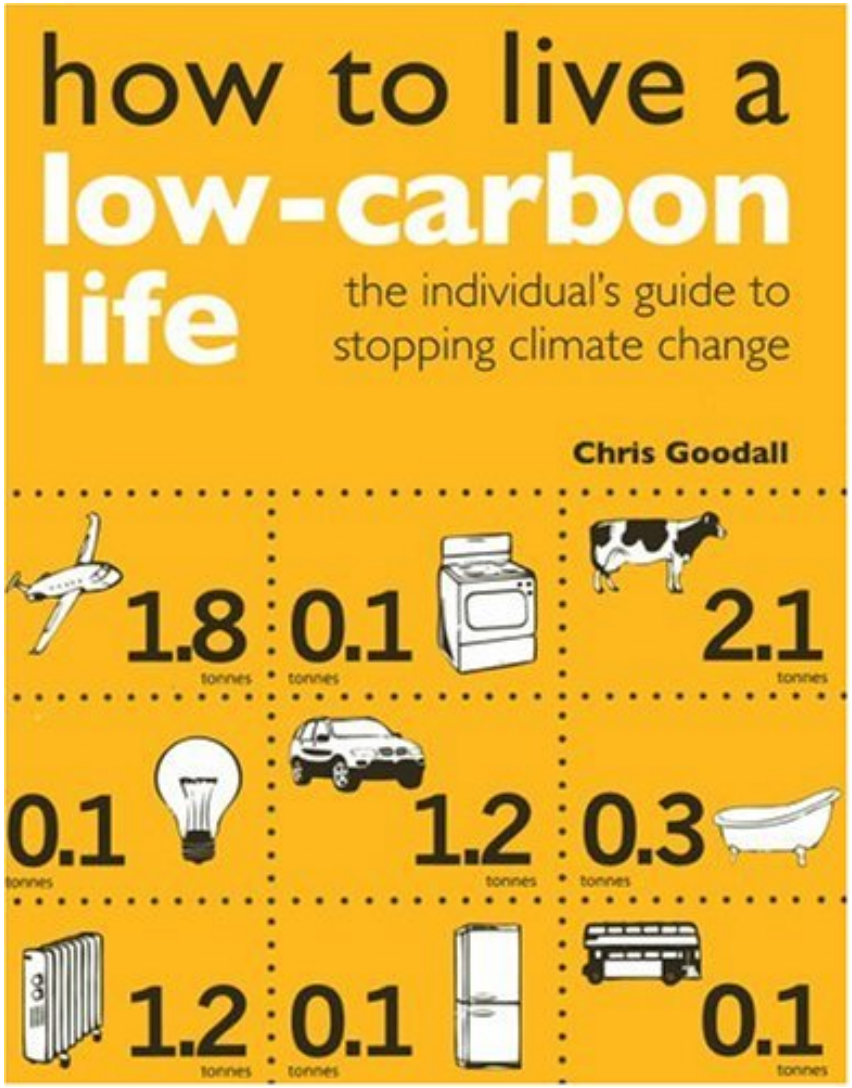
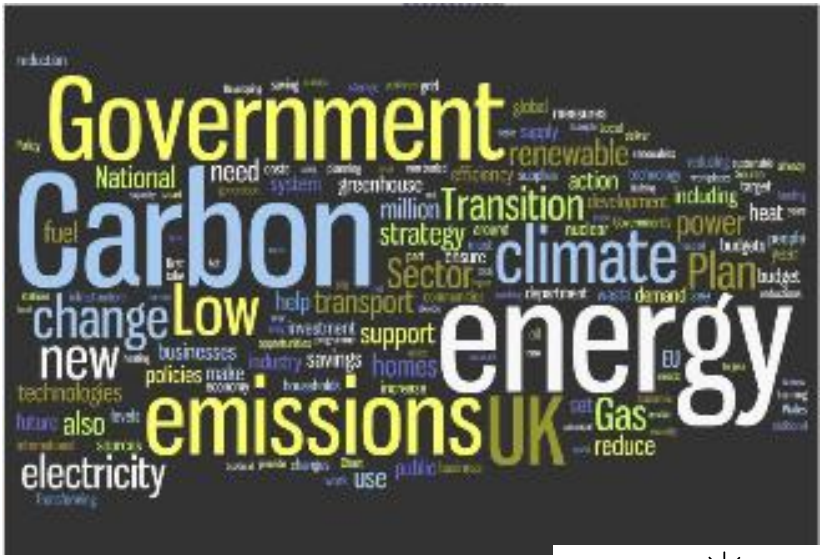
low carbon city



le nuove sfide



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orientare lo sviluppo urbano verso **modalità di riduzione dei consumi e delle emissioni,** salvaguardando risorse rare come il suolo, le aree verdi urbane, lo spazio pubblico

mobilità

patrimonio edilizio

spazio pubblico

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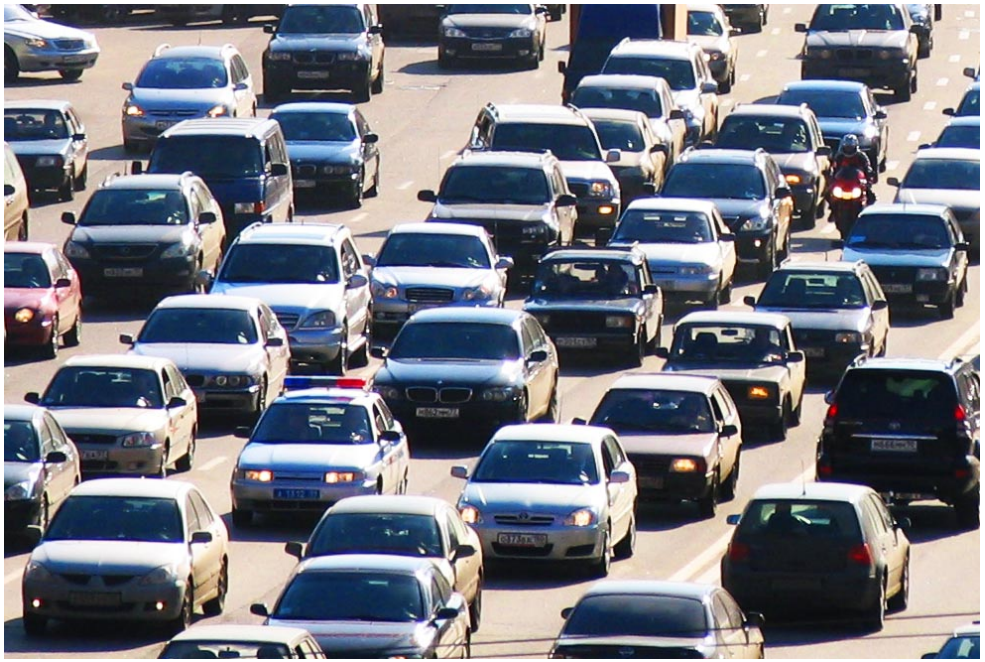
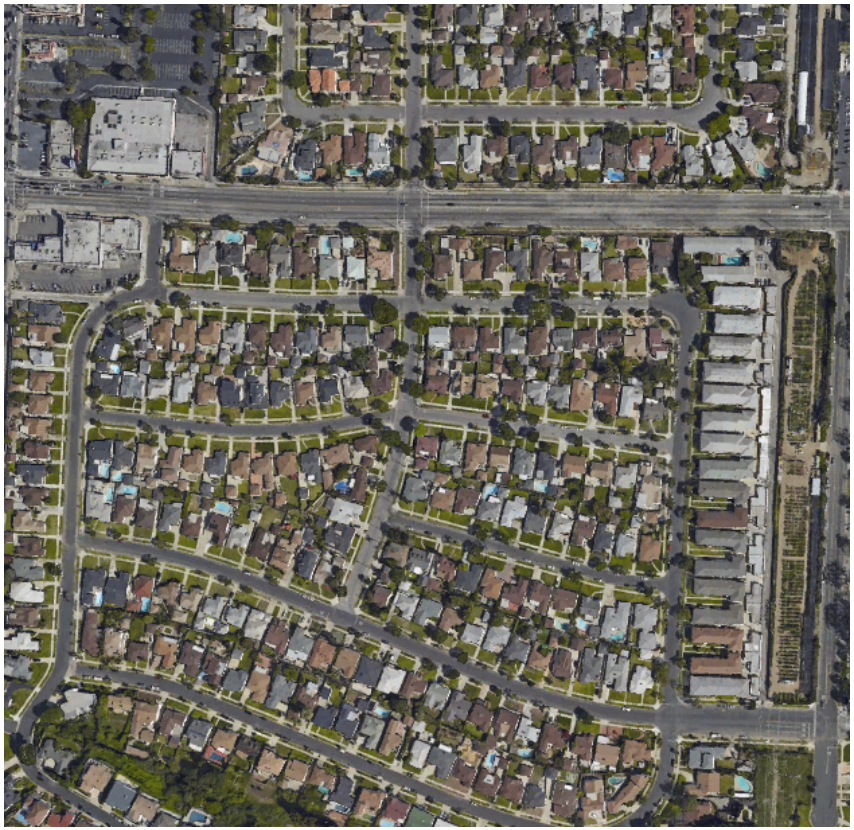


Los Angeles CA



dalla città car oriented

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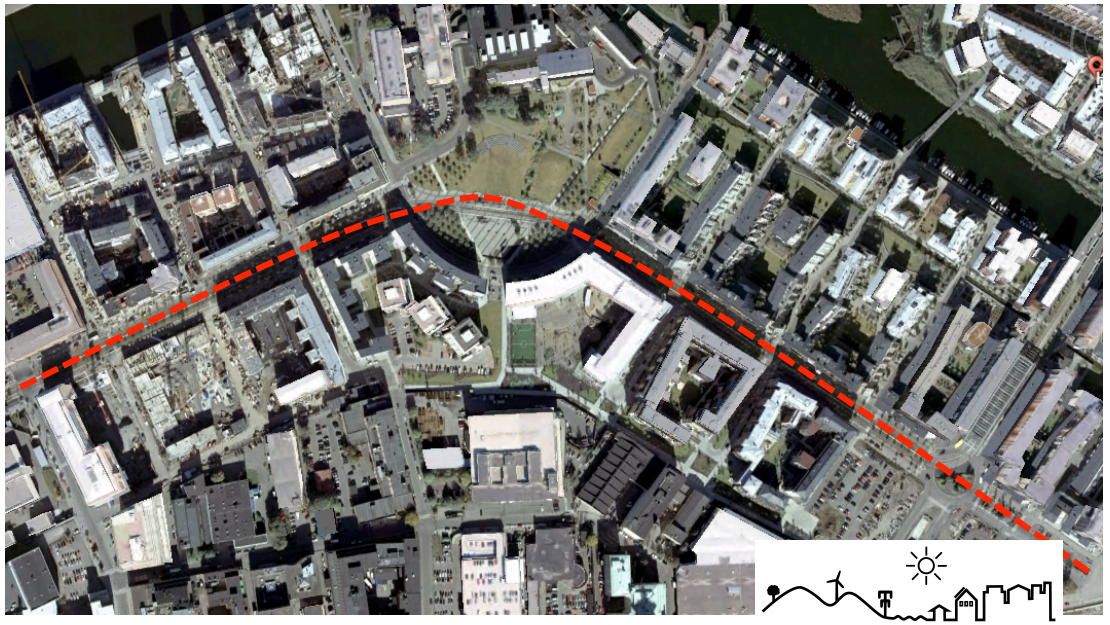
use of cars

1. Mayor investment in the car
2. Value of the car decrease of 50% in 2 years
3. Energy efficiency 1200 kg car to transport 75 kg driver
4. Huge amount invest in the support system - infrastructure
5. Dominates the urbanity in many Cities
6. Substantial environmental and social costs

alla città transit oriented



Stockolm Hammarby

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use of public means of transport

1. Ensuring the accessibility of jobs and services to all;
2. Improving safety and security;
3. Reducing pollution, greenhouse gas emissions and energy consumption;
4. Increasing the efficiency and cost-effectiveness of the transportation of persons and goods;
5. Enhancing the attractiveness and quality of the urban environment.

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