

STRATEGIES FOR SUSTAINABLE URBAN RENEWAL

**URBAN
RENEWAL
IN EUROPE**



APPROACH FOR URBAN RENEWAL ,TOOL BOX‘

European urban renewal experiences **[CASES]**
Investigated: Identification of instruments = tools
(by characteristics in form of annotations)

Tools attributed to 32 sustainability **STRATEGIES**

Grouping of renewal strategies according
OBJECTIVES

Strategies

Tools/instruments

Case study

Annotations

| | | | |
|-----------------------------------|--|--|--|
| Clean and fair building materials | Green Public Procurement policy | Frankfurt Europe Clean Capital finalist 2012 | banned the use of tropical timber in 1999 and the use of PVC is also forbidden |
| Air Polution control | Smog reduction through subsidies to industry | Graz ECOPROFIT Program | subsidies to industries reduce smog by 70% |
| Noise polution control | Road closures | DK: City of Odense Traffic calming 2009 | closure of the city main street for cars |

Objective: Economic Sustainability

| | | | |
|---------------------------------------|--|--|---|
| Green economy | Local green currency | Bristol European Green Capital Finalist 2014 | Bristol Pound available both on paper and electronically |
| | Application for international award (and winning it) | Copenhagen European Green Capital 2014 | green economy drivers: Urban Form. Innovation, Foreign Investment, Skills and Employment, Enterprise, Energy and resource efficiency, Low carbon, Environmental quality |
| Green Finance | Green Banking and Green Bonds | Copenhagen | public-private 'Green Bank |
| | City competition for subsidies | Flanders Urban Renewal Funds | Professional assistance granted Danger: the most needy municipalities may be insuficciently equipped to prepare a winning competition entry |
| Income generation effects, employment | Iconic architecture, city branding | Bilbao | Place branding, Brownfield redevelopment, structural adjustent |

**Overall goal:
SUSTAINABLE URBAN DEVELOPMENT**

5 Objectives or results (by sector)

**Climate Change
Mitigation**

**Climate Change
Adaptation**

**Ecological
Sustainability**

**Economic
Sustainability**

**Social
Sustainability**

36 different strategies or policies

**1. Climate Change Mitigation
(Reduction of CO₂ Emissions)**

Reduction of Non-Renewable
Energy Demand
Energy - Recycling
Clean and renewable energy

**2. Climate Change
Adaptation**

Micro climate / Heat
island reduction
Flood protection
Drought prevention
Disaster prevention
and erosion control

3. Ecological Sustainability

Combating resource depletion
Preserving Biodiversity
Healthy cities - healthy living
Air pollution control
Noise pollution control

4. Economic Sustainability

Green economy
Green Finance
Income generation effects,
employment
Cost of infrastructure
Building and maintenance
cost control (also includes
financing costs)
Cost recovery

5. Social Sustainability

Multiple social / policies
Sufficient and good
quality housing
Demographic change
(ageing, migration and
mobility);
Poverty reduction
Educational & skills
Social inclusion
Cultural identity
Image improvement
Conviviality, well being
Crime and violence
prevention

Tools collected from 68 Case studies

STRATEGIES FOR URBAN UPGRADING PROGRAMS

1. Climate Change Adaptation

**1. Climate Change Mitigation
(Reduction of CO₂ Emissions)**

5. Social Sustainability

**URBAN
RENEWAL
IN EUROPE**

4. Economic Sustainability

3. Ecological Sustainability

OBJECTIVES
FOR URBAN
UPGRADING
PROGRAMS

**1. Climate Change Mitigation
(Reduction of CO₂ Emissions)**

Reduction of Non-Renewable
Energy Demand

Energy – Recycling

Clean and renewable energy



**URBAN
RENEWAL
IN EUROPE**

1. Objective: Climate Change Mitigation

Strategy: Reduction of Non-Renewable Energy Demand

TOOL: Thermal roof insulation by adding extra floor



Case Study: Copenhagen: Ryesgade 2012

Copenhagen Ryesgade. Photo: Carsten Ingemann (same website as text reference DAC- Cities)

1.Objective: Climate Change Mitigation

Strategy: Reduction of Non-Renewable Energy Demand

TOOL: Stakeholder participation through social media and the internet

Stakeholder participation is a mandatory practice in sustainable green politics and works best in communities small enough for everybody to know each other. Participation becomes a challenge when communities grow bigger up to the size of a city quarter or even a metropolis. A feasible practice is to involve social media and the internet in order to reach such large numbers of stakeholders

Case Study: Bristol European Green Capital 2015

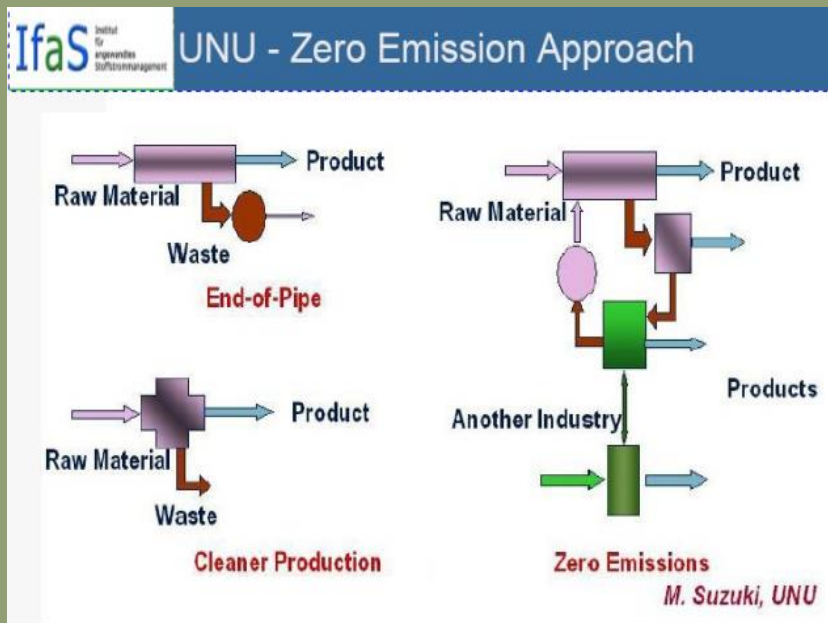


1.Objective: Climate Change Mitigation

Strategy: Clean and renewable energy

TOOL: Autonomous energy supply

Case Study: Graz public - private partnership programme ECOPROFIT, 1990



The UNU Zero Emission Approach
in the ECO PROFIT program



Local Streetcar is advertising the
ECOPROFIT private sector partners. [

the municipality's central strategy was to convince the private sector companies to invest in cleaner energies and in energy savings. In fact, the Graz experience shows that 50% of those investments have amortized in less than 2 years!

1. Objective: Climate Change Mitigation

Strategy: Reduction of Non-Renewable Energy Demand

2nd Case Study Graz; Smart City Project, 2016

follow-up initiative to the ECO PROFIT project of the 1990. By 2016, it is intended to almost reach the energetic self-sufficiency basically by use of photovoltaic's and geo thermal energy



1.Objective: Climate Change Mitigation

Strategy: Reduction of Non-Renewable Energy Demand

TOOL: Modular energy saving kits for house refurbishment

In mass housing schemes most units tend to have the same construction and typology and were built to low or medium standards. When it comes to urban renewal and revalorization the energy standards invariably have to be improved

Case Study: Denmark: Albertslund, 2011-12

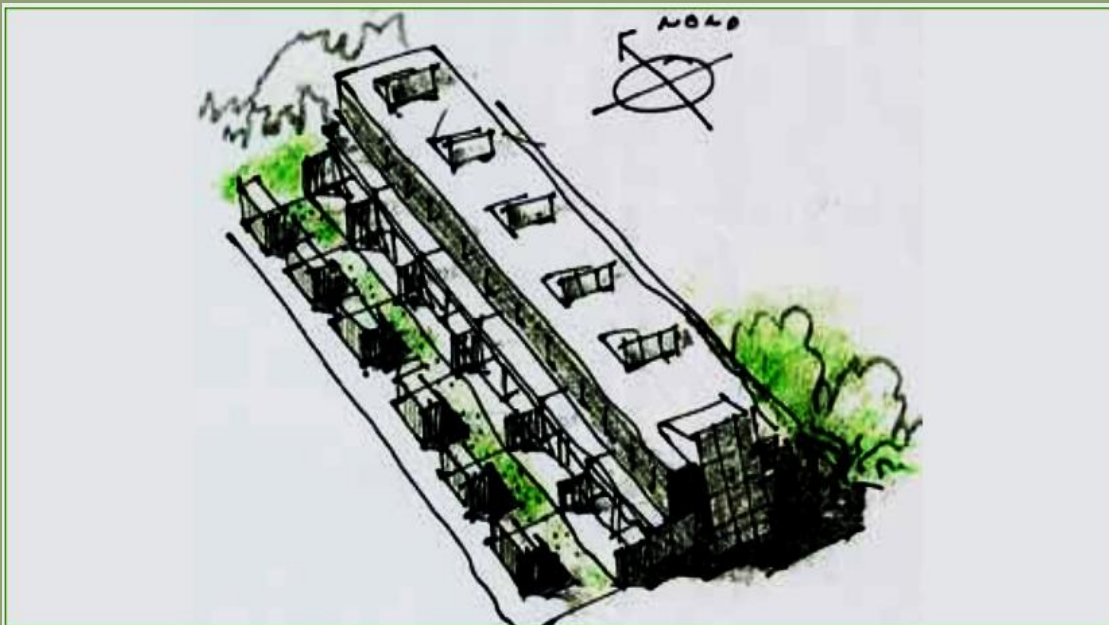
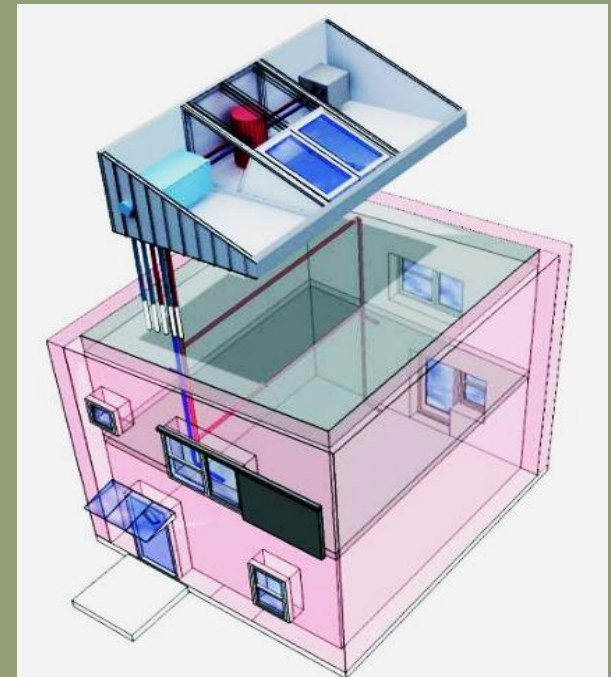


Photo: Albertslund Municipality

Typology of prefabricated houses to be refurbished



The solar prism energy generation unit

ALTERNATIVES FOR URBAN UPGRADING PROGRAMS

2nd Objective:

Climate Change Adaptation

Micro climate / Heat island reduction

Flood protection

Drought prevention

Disaster prevention and erosion control



**URBAN
RENEWAL
IN EUROPE**

2. Objective: Climate Change Adaptation

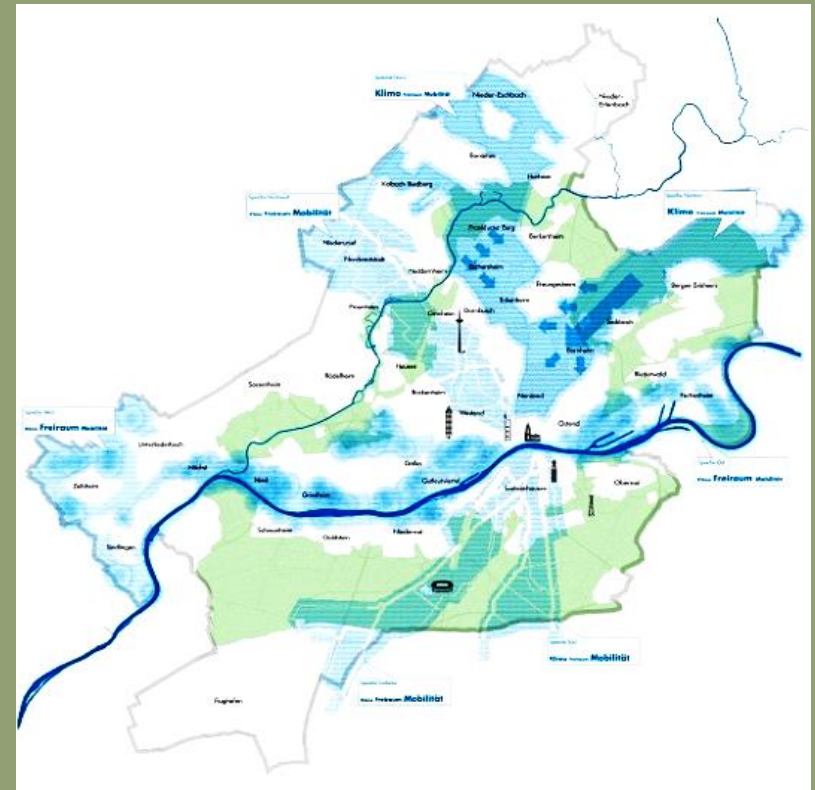
Strategy: Micro climate improvement, heat island reduction

TOOL: Greening of streets, backyards and roofs

Case study: Frankfurt green belt



Frankfurt Green Belt plan, 2006



Frankfurt green corridor plan to complement the existing greenbelt

2. Objective: Climate Change Adaptation

Strategy: Flood protection

TOOL: Sustainable Urban Drainage System (SUDS)

Case Study; Wolverhampton: Bilston Urban Village



Strategy: Flood protection

TOOL: Water proof ground floors and pedestrian access above street level

Case Study: Hamburg HafenCity redevelopment



Historical Hamburg Harbour - recently added to the acknowledged the World Heritage List by UNESCO. Note the high basement for flood protection



A recently redeveloped part of Hamburg Hafen City, introducing a wide pedestrian promenade with coffee shops on the ground that can be closed by waterproof doors and shutters in case of high floods

2. Objective: Climate Change Adaptation

Strategy: Flood protection

TOOL: *Floating homes.*

Case Study: Amsterdam, Ilborg and Steigereiland floating housing. 2009



The idea for Amsterdam's floating city was born during a land shortage. However, Amsterdam carries a long tradition of houseboat living—about 2,300 converted barges float along the capital's canals—and re-imagine it as a contemporary community

OBJECTIVES
FOR URBAN
UPGRADING
PROGRAMS

**URBAN
RENEWAL
IN EUROPE**

3. Ecological Sustainability

Combating resource depletion

Preserving Biodiversity

Healthy cities – healthy living

Air pollution control

Noise pollution control

3. Objective: Environmental Sustainability

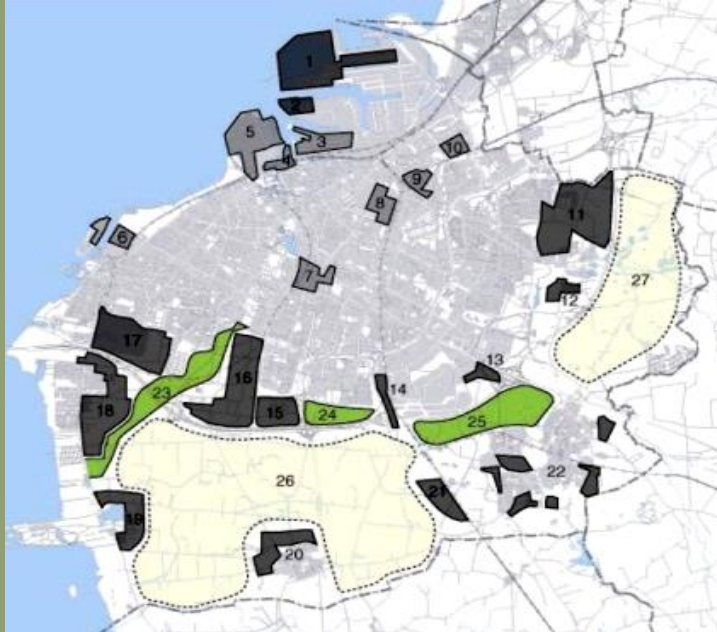
3. Strategy: Environmental sustainability

Objective: Combating resource depletion

TOOL: Municipally led waste and resource management

Case Study: Malmö Environmental Programme 2009 – 2020

Malmö is working towards becoming a leading Eco City and plans to achieve 100% use of renewable energy by 2010.



3. Objective: Environmental Sustainability

Strategy: Preserving Biodiversity

TOOL: Community gardens and diversity of species

Case Study: Brussels: L'îlot Fontainas



Participatory Planning at Ilot Fontainas



Model of Ilot Fontainas

As part of the city wide quarter renewal program several 'lighthouse projects' have been realized right at the beginning of the initiative and foresees a public park specifically designed to preserve local species of flora and fauna. Locally indigenous trees and other plants are being planted with the idea that they will also attract the native fauna.

3. Objective: Environmental Sustainability

Strategy: Preserving Biodiversity

TOOL: Urban Forestry

Case Study: Leipzig, Urban Forestry



Tiergarten, Berlin



Hoher Wald
Mehrschichtig
dicht



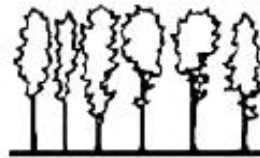
Stadt Leipzig



Hoher Wald
Mehrschichtig
licht



„Urbener Wald“



Hoher Wald
Einschichtig
dicht



Freiraume in der schrumpfenden Stadt



Hoher Wald
Einschichtig
licht



Niedriger
Bestand mit
einzelnen
Bäumen



Potsdam



Niedriger
Bestand aus
Gebüsch und
Niederwald-
arten



7. April 2011

3. Objective: Environmental Sustainability

Strategy: Preserving Biodiversity

Case Study; Forest City Halle Silberhöhe



Partial demolition of mass housing in Halle Silberhöhe after reunification



Vision of future Forest City

Halle is an industrial city in Eastern Germany. For the industry workers a huge mass housing district was built for some 40,000 inhabitants. After reunification the local industries closed down and the population declined to less than half. Part of the depopulated housing blocks were pulled down and the recovered space was transformed into a forest with many different kind of trees, following the new concept of a 'forest city'. In fact, for each remaining resident two new trees were planted.

3. Objective: Environmental Sustainability

Strategy: Healthy cities – healthy living

TOOL: Provision of space for urban agriculture

Over the last 30 years there has been a revival of urban farming practices – though less for the pure material need to supplement personal food supply (as it was in the post war period of WWI and II), but rather in the intention to improve living standards through close contact to nature and possibly also consuming healthier food.

Case Study: Brussels: Les potagers de Canal-Midi



Les potagers de Canal-Midi



Les potagers de Canal-Midi

3. Objective: Environmental Sustainability

Objective: Healthy cities – healthy living

Case Study: 'Sargfabrik' Urban Renewal Projects in Vienna, Austria



Sargfabrik in Vienna with urban gardening on roof top and inner courtyards



Sargfabrik settlement by bkk-2 Architektur

Applied concepts are: optimized energy consumption (energy-saving technology, good insulation), composting, solar water heating, heating for the pool is secured by PV panels, large windows allow maximum use of sunlight. Parking spaces are reduced to minimum.

3. Objective: Environmental Sustainability

Objective: Air pollution control

TOOLS against pollution generated by local industries

Case study: the ECOPROFIT Program in Graz. (also mentioned above)

ECOPROFIT substantially contributed to the attainment of the target in Graz, to stop the smog. That has been yielded in the winter 1995/96. Since then in Graz there has not seen any smog any more

Air pollution in Graz, Austria,



Graz on a clear day



3. Objective: Environmental Sustainability

Objective: Air pollution control

TOOLS against pollution caused by heavy traffic

Case Study: Bologna, Italy



Pedestrianized historic centre of Bologna, Italy



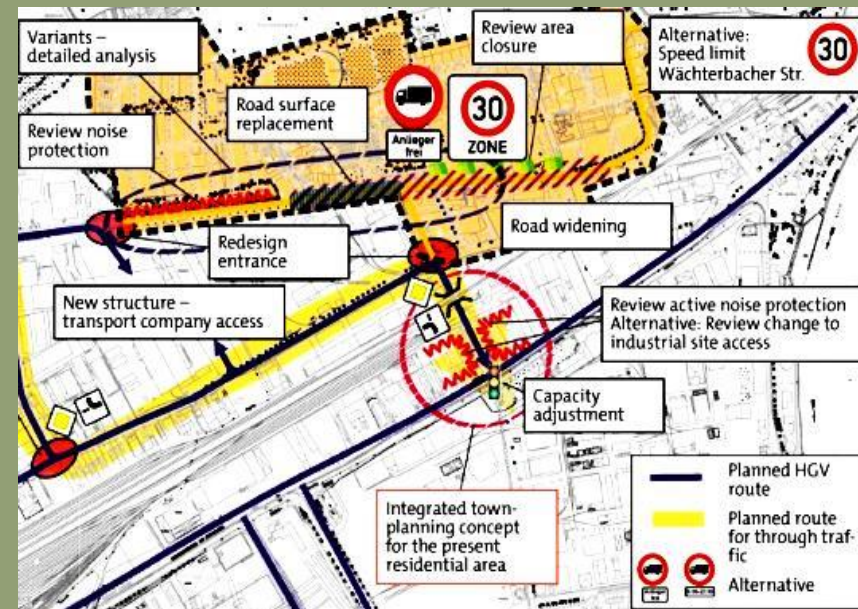
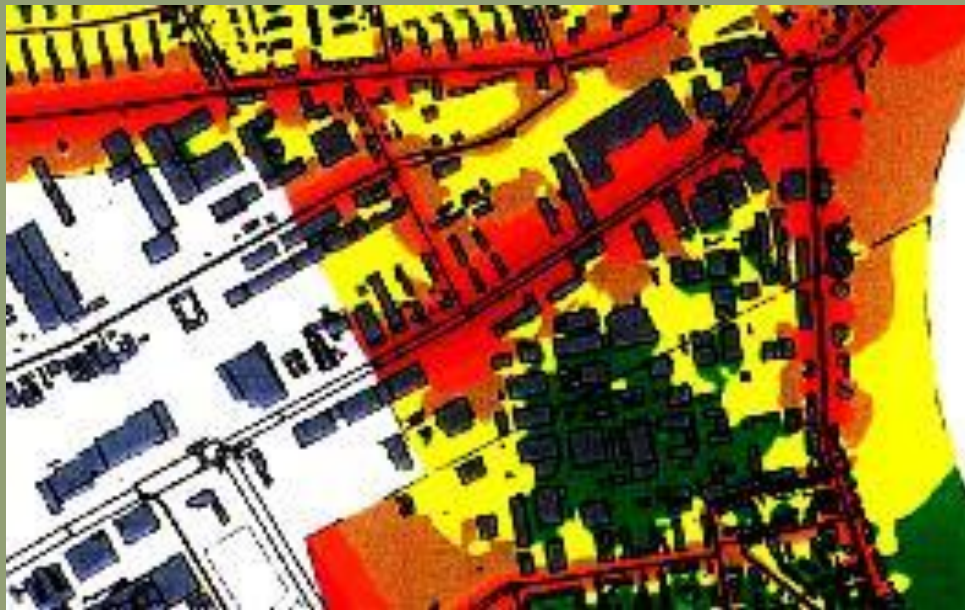
Bologna Zona Traffico Limitato.

3. Objective: Environmental Sustainability

Strategy: Noise pollution control

Case study: Noise Action Plan in Frankfurt, Germany 2010

Envisaged measures include low noise road surfaces, upgrading of rail routes, increasing the share of bicycles, and traffic management including an impressive catalogue of aircraft procedures for air traffic noise abatement.



Noise emission plan and possible noise abatement measures in Frankfurt

OBJECTIVES FOR URBAN UPGRADING PROGRAMS

URBAN RENEWAL IN EUROPE

4. Economic Sustainability

Green economy

Green Finance

Income generation effects,
employment

Cost of infrastructure

Building and maintenance
cost control (also includes
financing costs)

Cost recovery

4. Objective: Economic Sustainability

ECONOMY

Strategy: GREEN ECONOMY

TOOL: Green local currency

Case study: The Bristol Pound

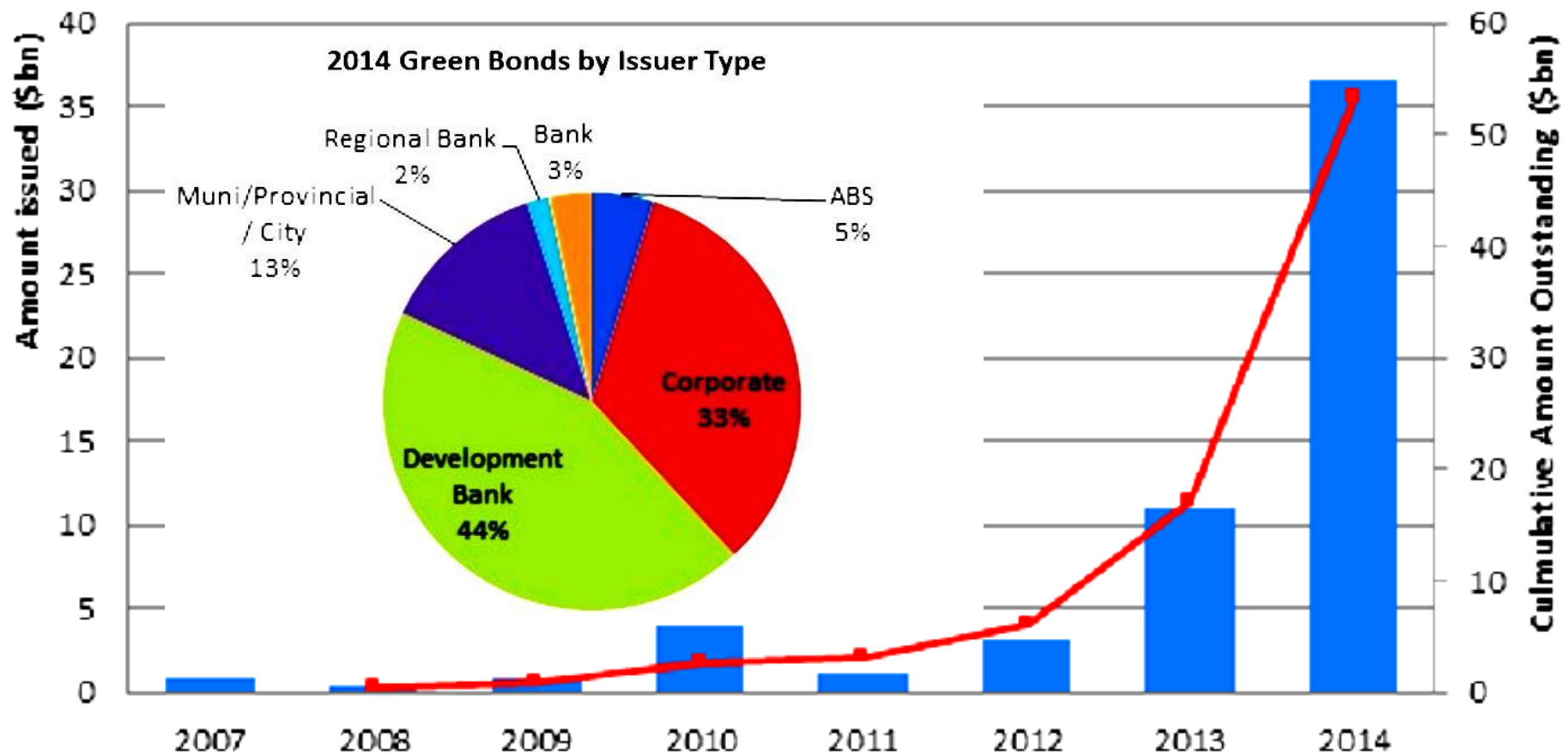


4. Objective: Economic Sustainability

Strategy: GREEN BANKING and GREEN BONDS

TOOL: Public-private Green Bank

Green Bond Issuance by Year



4. Objective: Economic Sustainability

Strategy: GREEN ECONOMY

TOOL: International awards

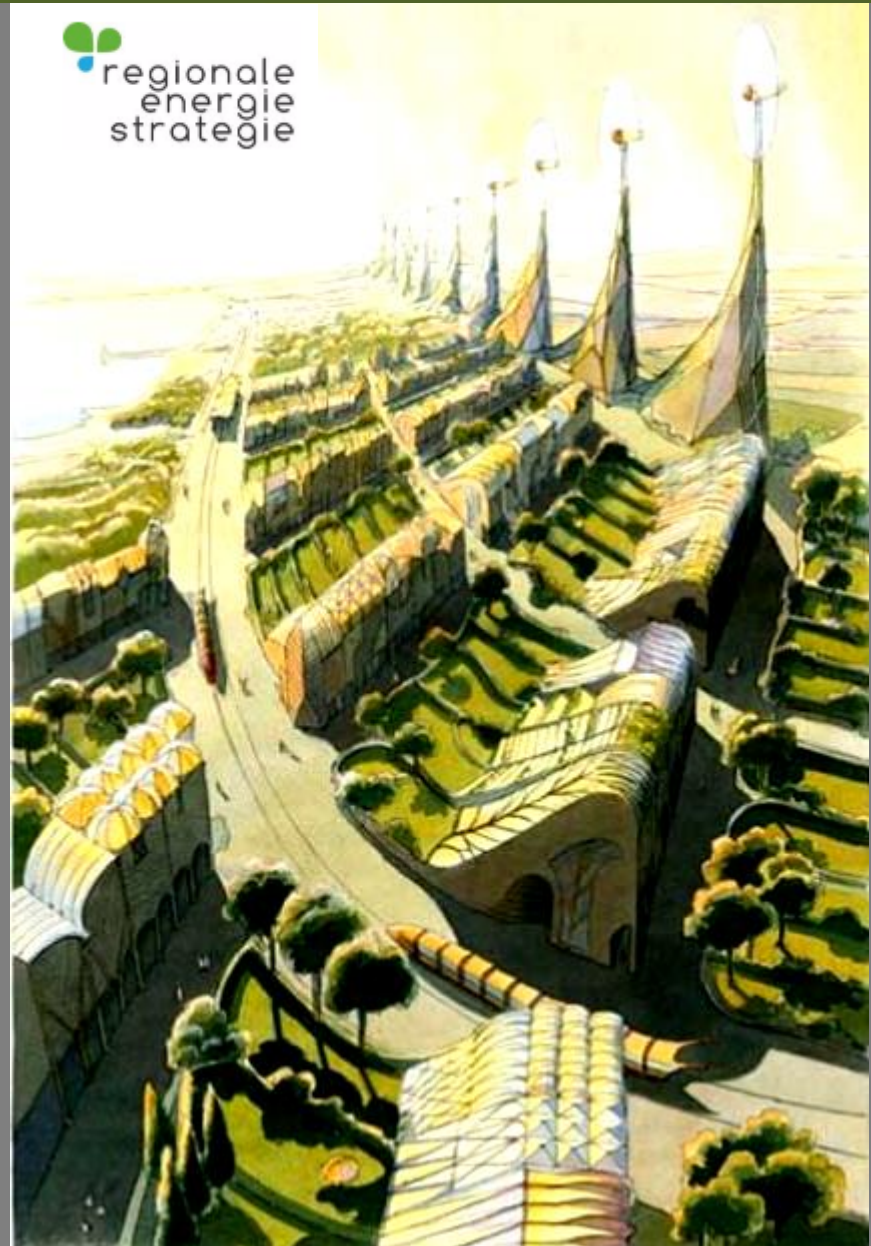
Case study:

Flanders City competition for Subsidies

Input of regional stakeholders for the development of the regional energy strategy



... en vele andere



South West Flanders Energy neutral in 2050. Towards a regional energy strategy

4. Objective: Economic Sustainability

Strategy: EMPLOYMENT GENERATION

TOOL: City branding, iconic architecture

→ impacts of globalisation: economic recession

Guggenheim Museum 1997

- global economy – world cities
- competition between cities
 - events, presence in media through games, expos etc.
 - ('festivalization of cities')



The Bilbao harbour area was to undergo an innovative urban renewal effort that would engage the public interest and make the city more attractive as a site for international forums. New installations include, among others, a Conference Hall, the Airport, the Metro, the tramway and the promenade along the Estuary river and of course, the Guggenheim Bilbao Museum – all built by world-renowned architects. The names include Gehry, Foster, Pelli, Legorreta, Isozaki, Calatrava, Sterling, Soriano and others. The Bilbao Renewal Program received the UN Habitat Best Practice award in 2014



Metro Bilbao Norman Foster 1990-95

4. Objective: Economic Sustainability

Strategy: PLACE BRANDING

***TOOL: Internactional Events
and Iconic Architecture, Tourism***

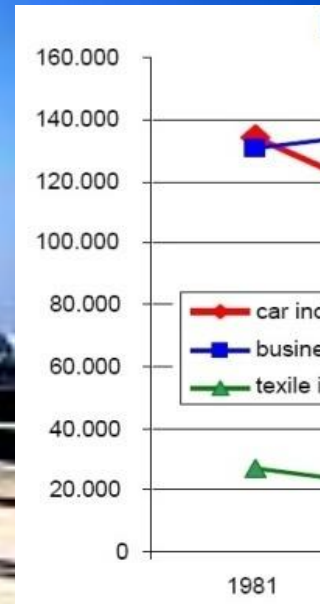
Case study: Turino Internazionale 2001-2006

Measures 2006 Winter Olympic Games,
futuristic buildings (copy of Bilbao Effect)
Strategic plan (copy Barcelone),
Renovation of historic centre

**Loss of employment
1981-2001**

Torino, Italy

***Giovanni and Marella Agnelli Art Gallery,
Torino, Italy,
Renzo Piano Building Workshop, 2002***



4. Objective: Economic Sustainability

ECONOMY

Case study:

Varese Ligure, Italy

1990s --> today

Strategy: EMPLOYMENT GENERATION

TOOL: Green business and mayor's leadership

2400 residents
(formerly 6000)

measures:

Citizens involvement

Education Center

Organic farming
now 108 organic farms,
(98% of all)

Renewable energy

Savings in Energy
+ 30,000 \$US Sale of
Surplus energy



Saving 8000 tons CO2 emissions, Increase in tourism by 500%,
500.000 US\$ tax income from new employment & business

5. Objective: Social Sustainability

OBJECTIVES
FOR URBAN
UPGRADING
PROGRAMS

Sustainability

Environmental issues

High quality

Climate change
adaptation and

Protection

Skills

on

ity

vement

well being

Violence



**URBAN
RENEWAL
IN EUROPE**

5. Objective: Social Sustainability

Strategy: COMPENSATION FOR LOCALITY, MOBILITY

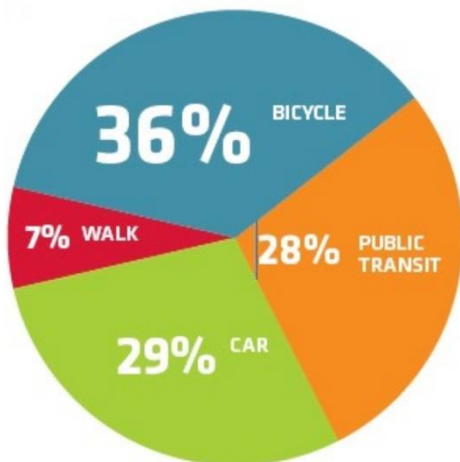
TOOL: PRO CYCLING PLANNING AND INFRASTRUCTURE

Case study: Copenhagen

Every day 1.2 mill. km moved by bicycle
Since 1998 decrease of accidents by 72%
over 30% increase in modal split

Cycling is the fastest and easiest way to get around

Trips to work and educational institutions
in the City of Copenhagen by mode
(average 2008-2010, TU-data).



5. Objective: Social Sustainability

Strategy: SOLVING MULTIPLE SOCIAL ISSUES

TOOL: Image improvement of social housing

Case study: Dortmund Clarenberg 1992 (originally built 1969)

measures:

17 floor high buildings to house 3000 people

given into private management

environmental improvement

Concierges



5. Objective: Social Sustainability

Strategy: SOCIAL INTEGRATION

TOOL: Valorization of migrants

Case study: Lisboa Cidade baja



LISBOA, Portugal

5. Objective: Social Sustainability



5. Objective: Social Sustainability

Strategy: MULTICULTURAL PROMOTION

TOOL: Community Gardens, spaces for alternative Lifestyles



5. Objective: Social Sustainability

Strategy: MULTICULTURAL PROMOTION
TOOL: Multicultural Gardens & Architecture



**BERLIN MARZAHN
(GERMANY)**

5. Objective: Social Sustainability

BERLIN TEMPELHOFFER FELD (GERMANY)



5. Objective: Social Sustainability

Strategy: RECOVERY OF PUBLIC SPACE

TOOL: Mixed use of street space

Projects of Jan Gehl



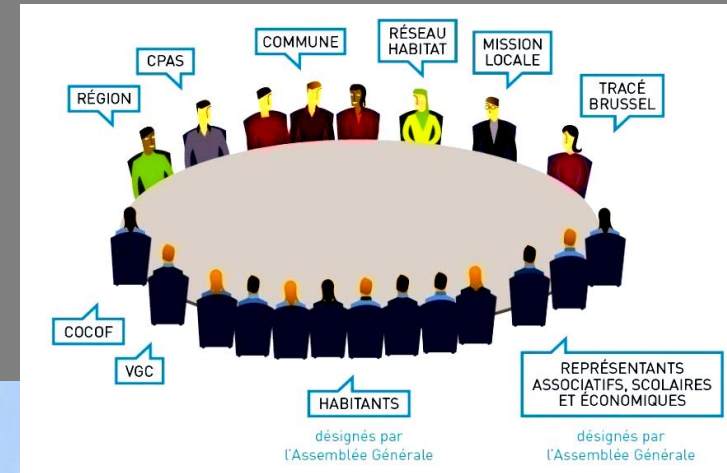
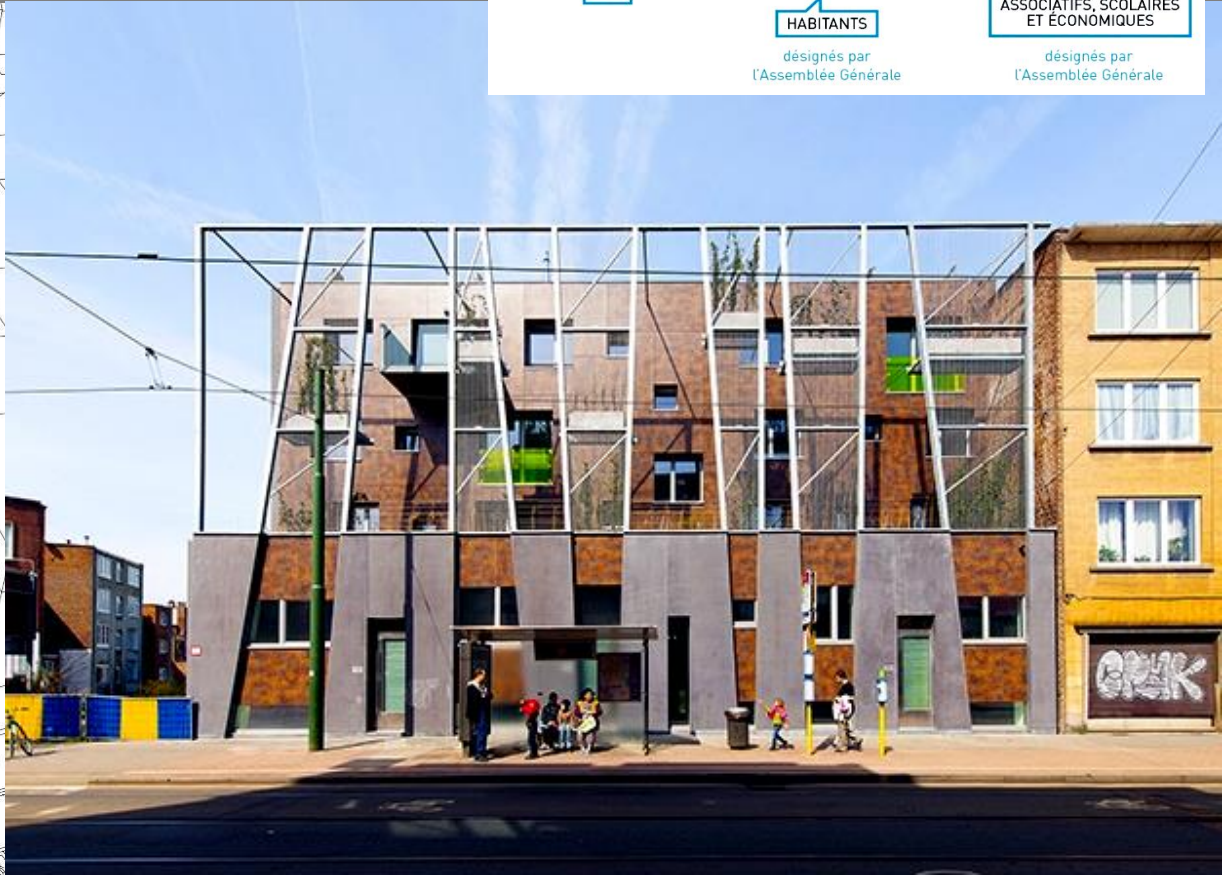
5. Objective: Social Sustainability

Strategy: DECISION MAKING BY LOCAL COMMUNITY

TOOL: Neighbourhood contracts

Case study: Brussels. Renovation of buildings and housing provision. 1989

measures: *Positive discrimination through neighbourhood improvement limited to 4 to 6 years – mini projects 52 quarters in 14 years*



5. Objective: Social Sustainability

Strategy: PROMOTION OF EDUCATIONAL SKILLS

TOOL: Idea stores, culture led revitalization, One-Stop shops

Case study: Idea Stores Britain

measures



5. Objective: Social Sustainability

Case study: The Carlsberg District, the former site of Carlsberg brewery, has been appointed one of Denmark's most important industrial memories . Once fully developed it will comprise 600,000 m² of floor space divided into private residences, retail and business premises as well as cultural, sporting and educational venues-----



Strategy
CONSERVATION OF CULTURAL HERITAGE
TOOL: Conservation area

Case study: Copenhagen:
Carlsberg City, Revitalization of a listed historical site, 2009 onwards

5. Objective: Social Sustainability



**BERLIN
FORMER HOSPITAL**

OBJECTIVES FOR URBAN UPGRADING PROGRAMS

Social Sustainability

Multiple social issues
Sufficient and good quality housing
Demographic change (ageing, migration and mobility);
Poverty reduction
Educational & skills
Social inclusion
Cultural identity
Image improvement
Conviviality, well being

Crime and violence prevention

Climate Change Adaptation

Micro climate / Heat island reduction
Flood protection
Drought prevention
Disaster prevention and erosion control

Climate Change Mitigation (Reduction of CO₂ Emissions)

Reduction of Non-Renewable Energy Demand
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Ecological Sustainability

Combating resource depletion
Preserving Biodiversity
Healthy cities – healthy living
Air pollution control
Noise pollution control

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RENEWAL
IN EUROPE**



OBJECTIVES
FOR URBAN
UPGRADING
PROGRAMS

**URBAN
RENEWAL
ANYWHERE**

THANK YOU