SymbioCity

SUSTAINABILITY BY SWEDEN

SymbioCity
Sustainable Urban Development

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The Swedish Experience

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THAILAND AND SWEDEN FORUM

RECONSTRUCTION AND FUTURE DEVELOPMENT

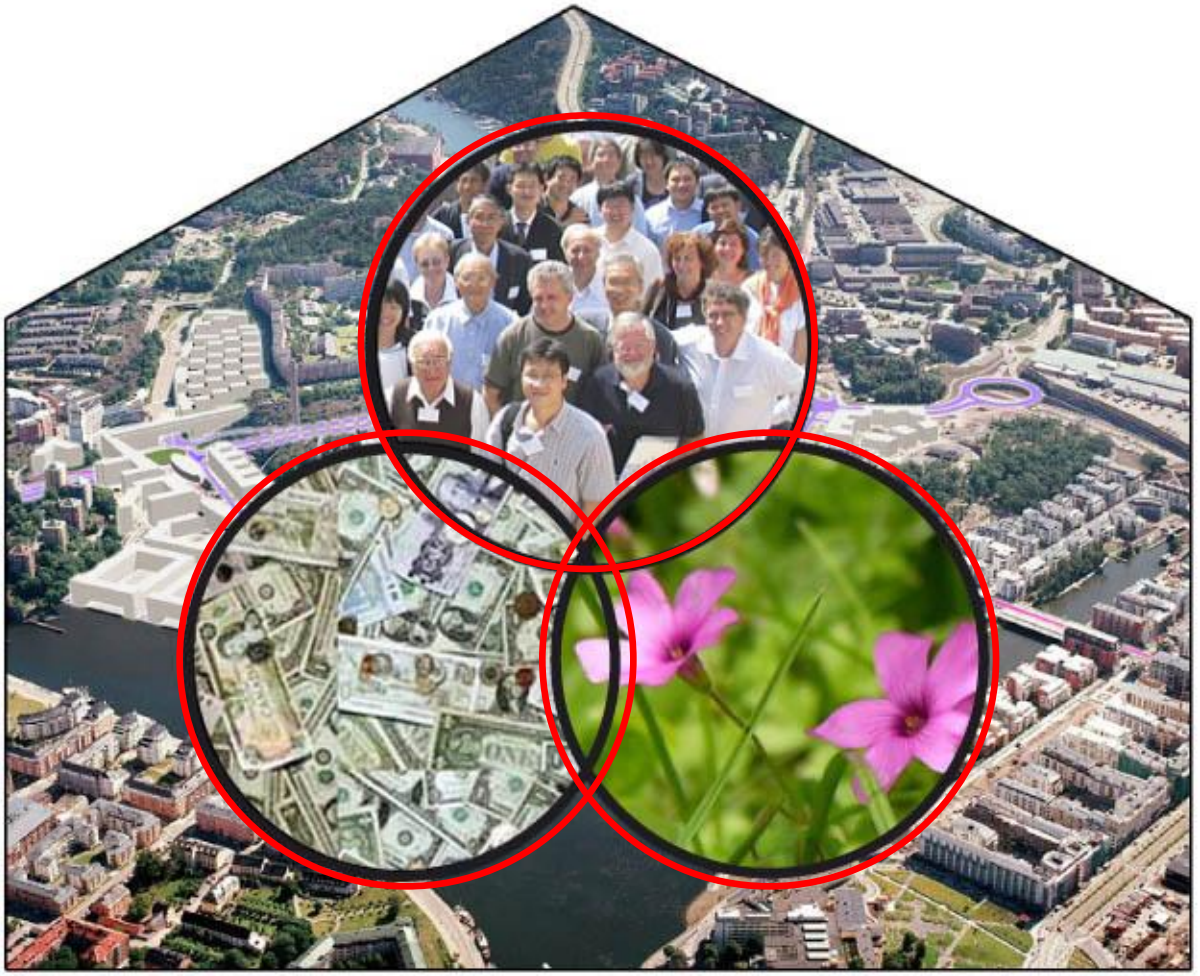
23 February 2012, Bangkok

The overall vision of the concept

To develop a Holistic Concept for sustainable development

consider

Health
Safety
Comfort




37%
1970
50%
2007
60%
2030

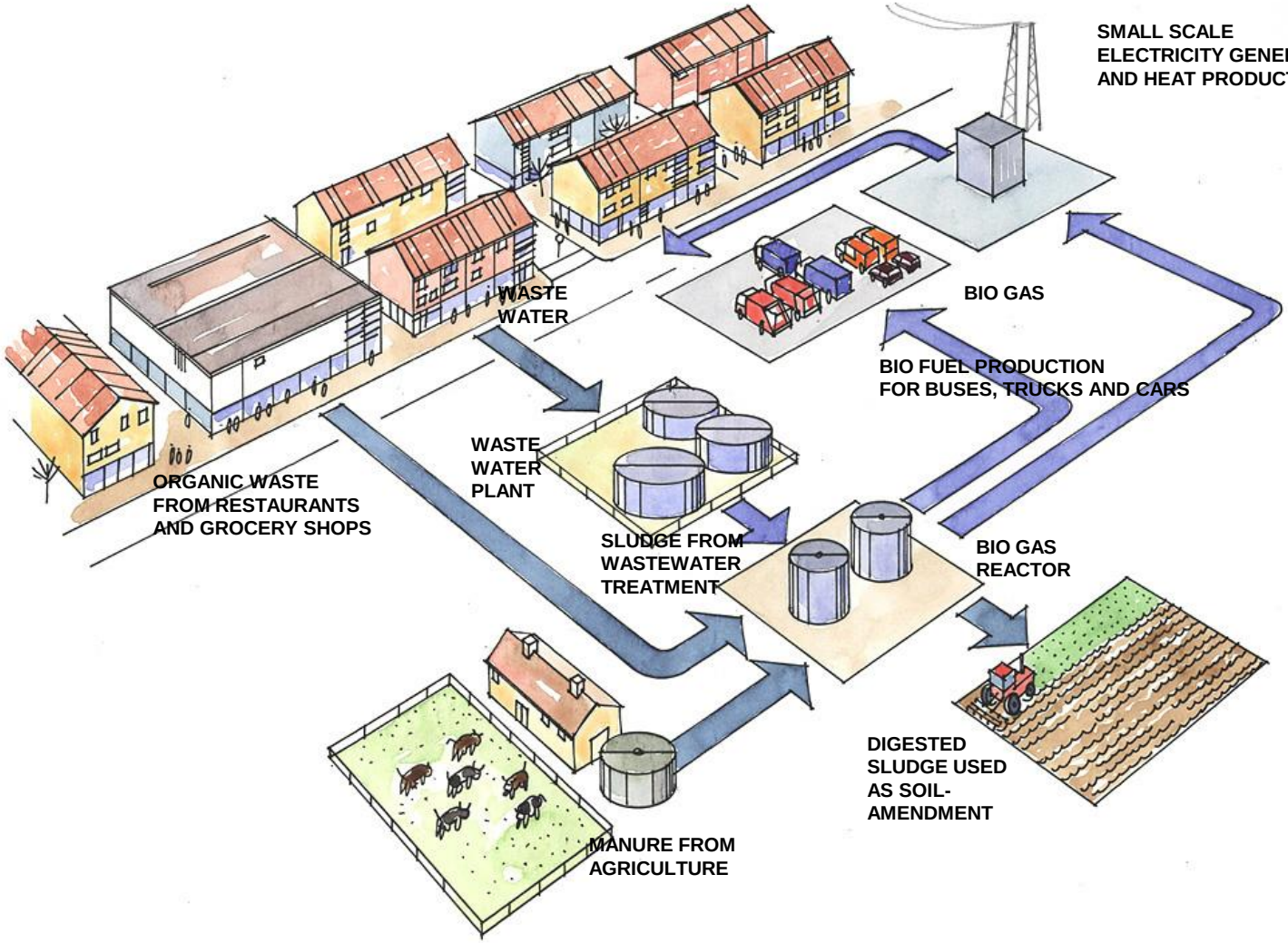
Going from:

To !?


Pampers
Miller
HIGH LIFE
SHOPWELL
Quality Supermarkets


13_12


DANGER
CONTAMINATED WATER
AVOID WATER CONTACT
FROM THIS POINT SOUTH
TO THE
INTERNATIONAL BORDER
PELIGRO
AGUA CONTAMINADA
/ALEJESE
EVITE CONTACTO
CONEL AGUA HASTA
LA LINEA INTERNACIONAL



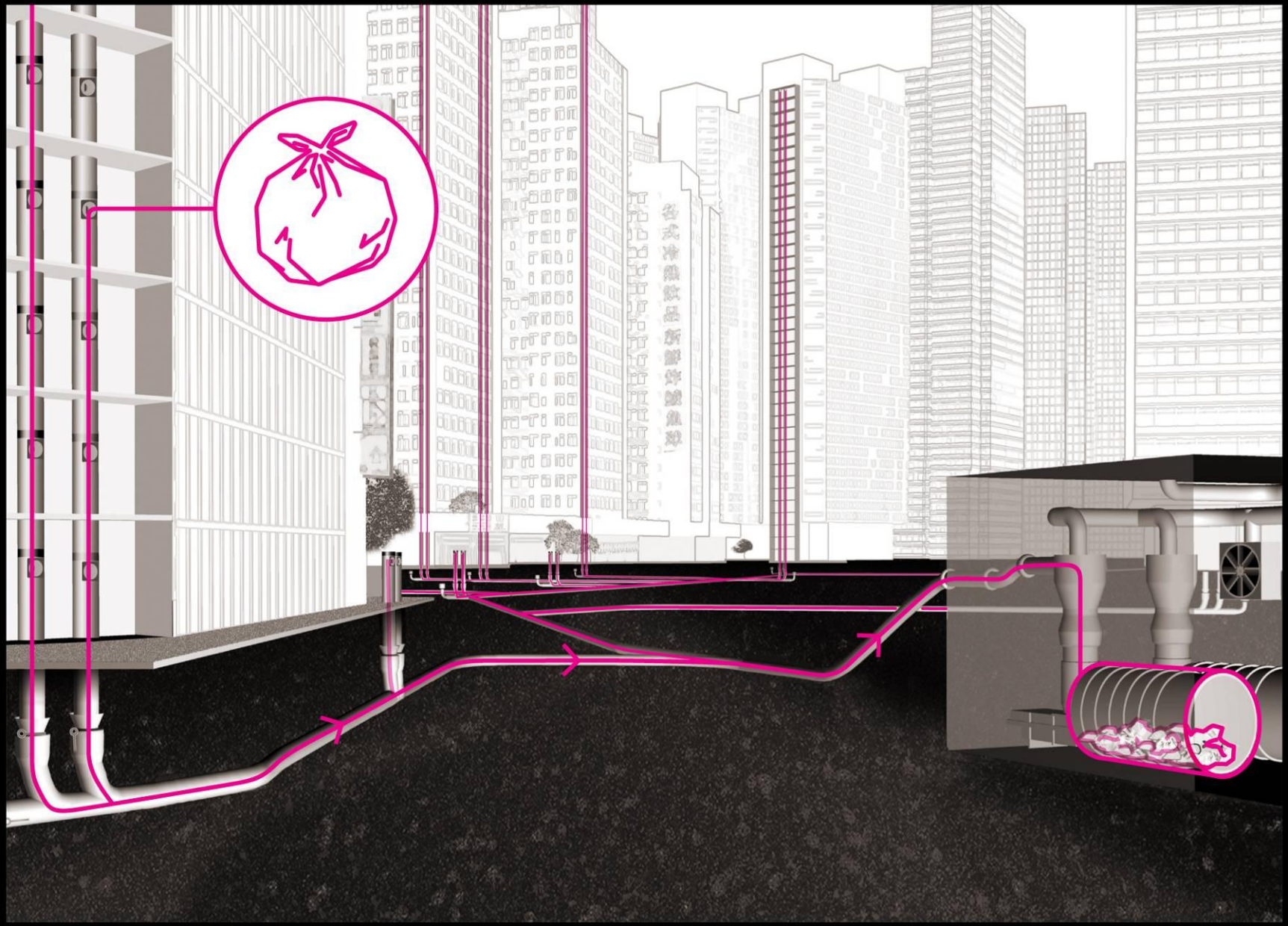
INTEGRATED RESOURCES MANAGEMENT PRODUCTION OF BIOGAS FROM DIGESTED WASTE AND WASTE WATER SLUDGE

SYNERGIES BETWEEN WATER & SEWAGE, WASTE AND ENERGY

Sewerage water for heat, vehicle fuel and fertilizer

- Heat pumps for district heating and cooling
- Biogas uppgraded to a vehicle fuel
- Sewerage sludge used as fertilizer

Waste and biofuels for electricity and heat



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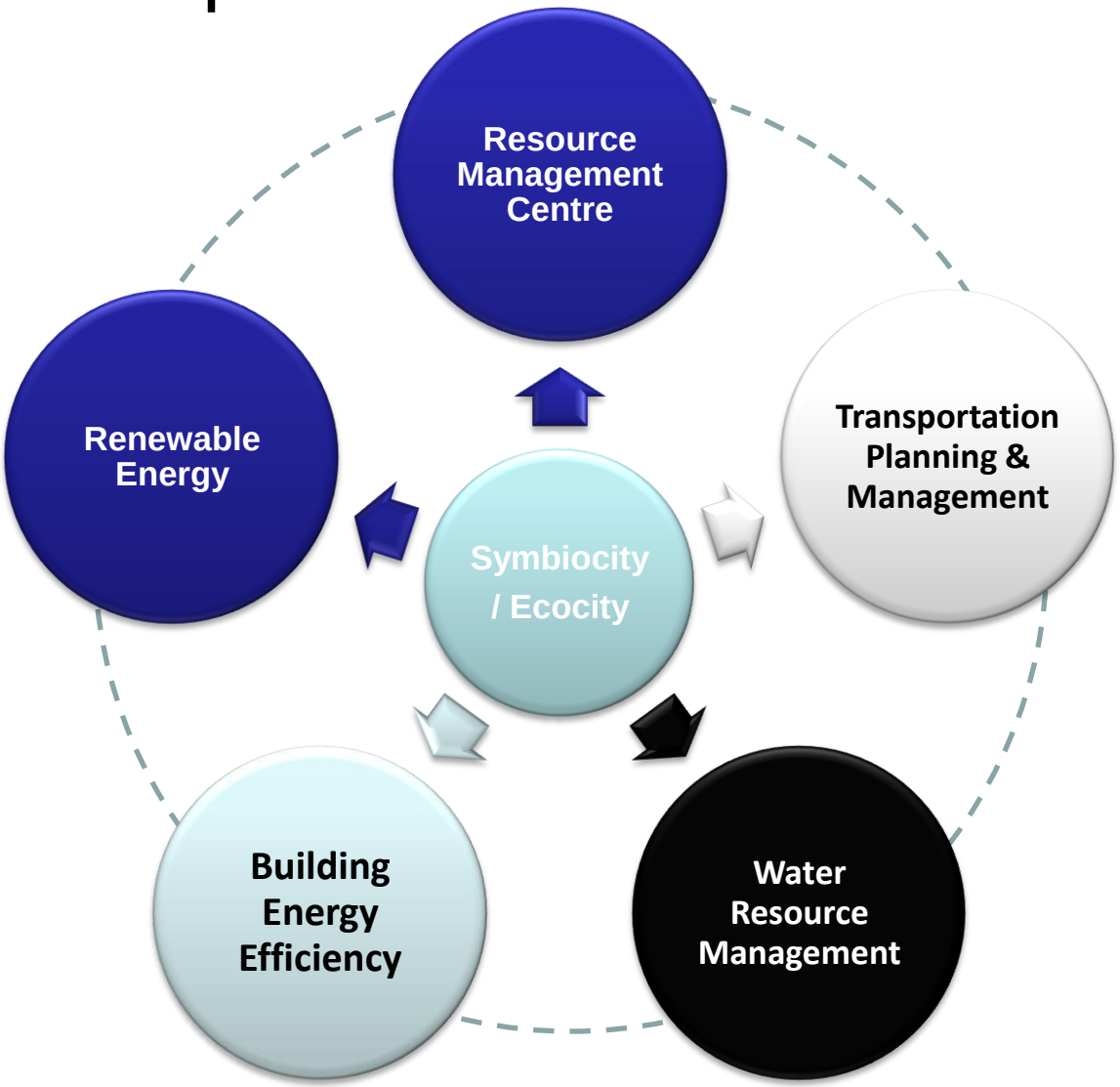
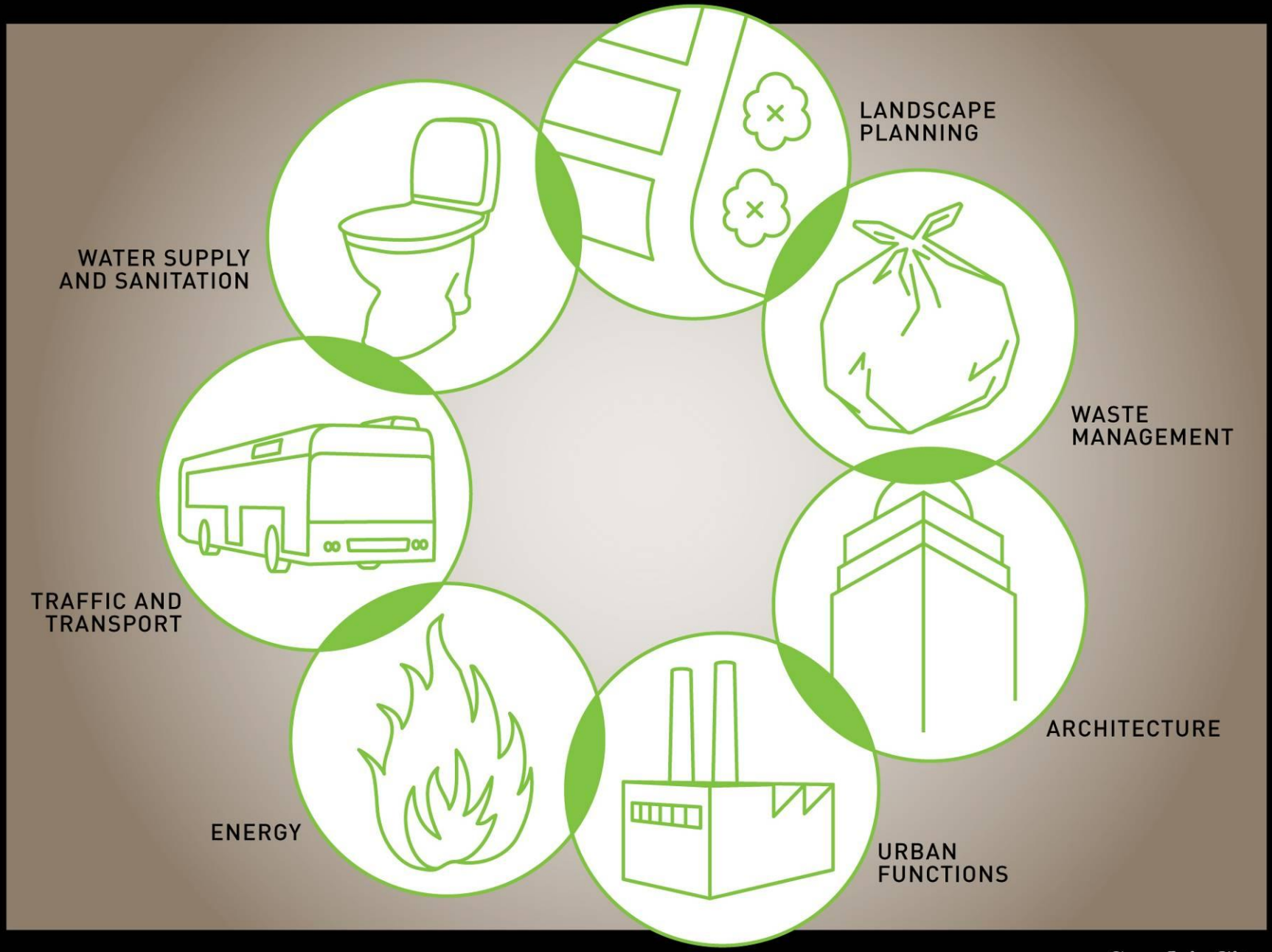
Integrated Solutions
Swedish Expertise + Local Conditions





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Hammarby sjöstad - example on sustainable building

- Stockholm's largest urban project for many years
- Develop the inner city area with its waterside setting in focus
- Transform old industrial and dockland area in to a modern urban environment
- Energy efficiency and renewable energy

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GNP
Carbon dioxide Sweden total
150
140
130
120
110
Index 1993 100
90
80
1993
1995
1997
1999
2001
2003
2005

Western Harbour
Malmö, Sweden

50% less energy used

- **Material**
- **New technologies, construction techniques**
- **Locally produced energy**
- **Renewable energy (wind, solar and ground and seawater heat extraction)**

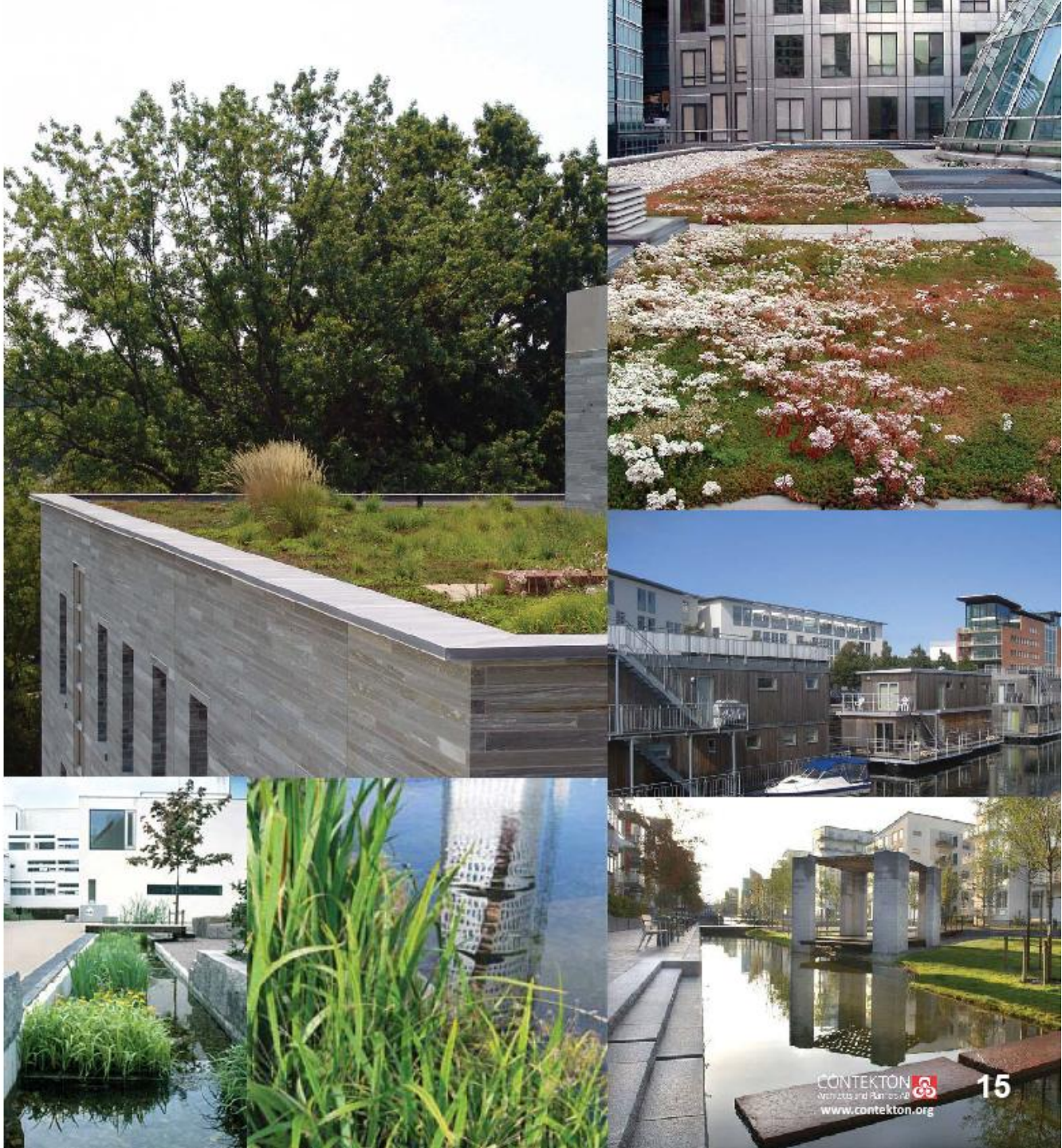
Recycling

- energy an nutritive substances in sludge (from wastewater) is extracted and reused.
- Organic waste in to biogas

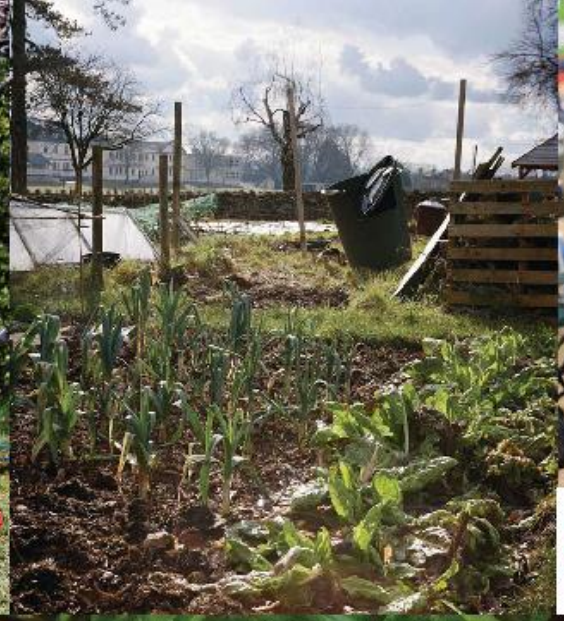
Transport

- Bicycles and pedestrians given priority
- Public transportation systems
- Carpool
- Alternative fuel

Malmö stad



Malmö stad




Coca-Cola
McDonald's
KFC


CONTEKTON
www.contekton.org

Malmö stad

Malmö stad

Tackling transport

Car free areas in centre and residential areas

Low Emissions Zone for HGV's

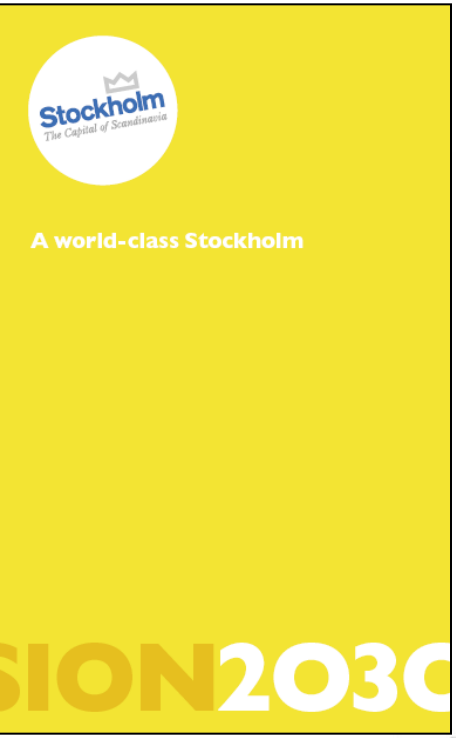
100% gas-powered bus fleet decreasing NOx and particulates

Cycle tracks over 400km

40% travel-to-work / school by bike

Vision 2030

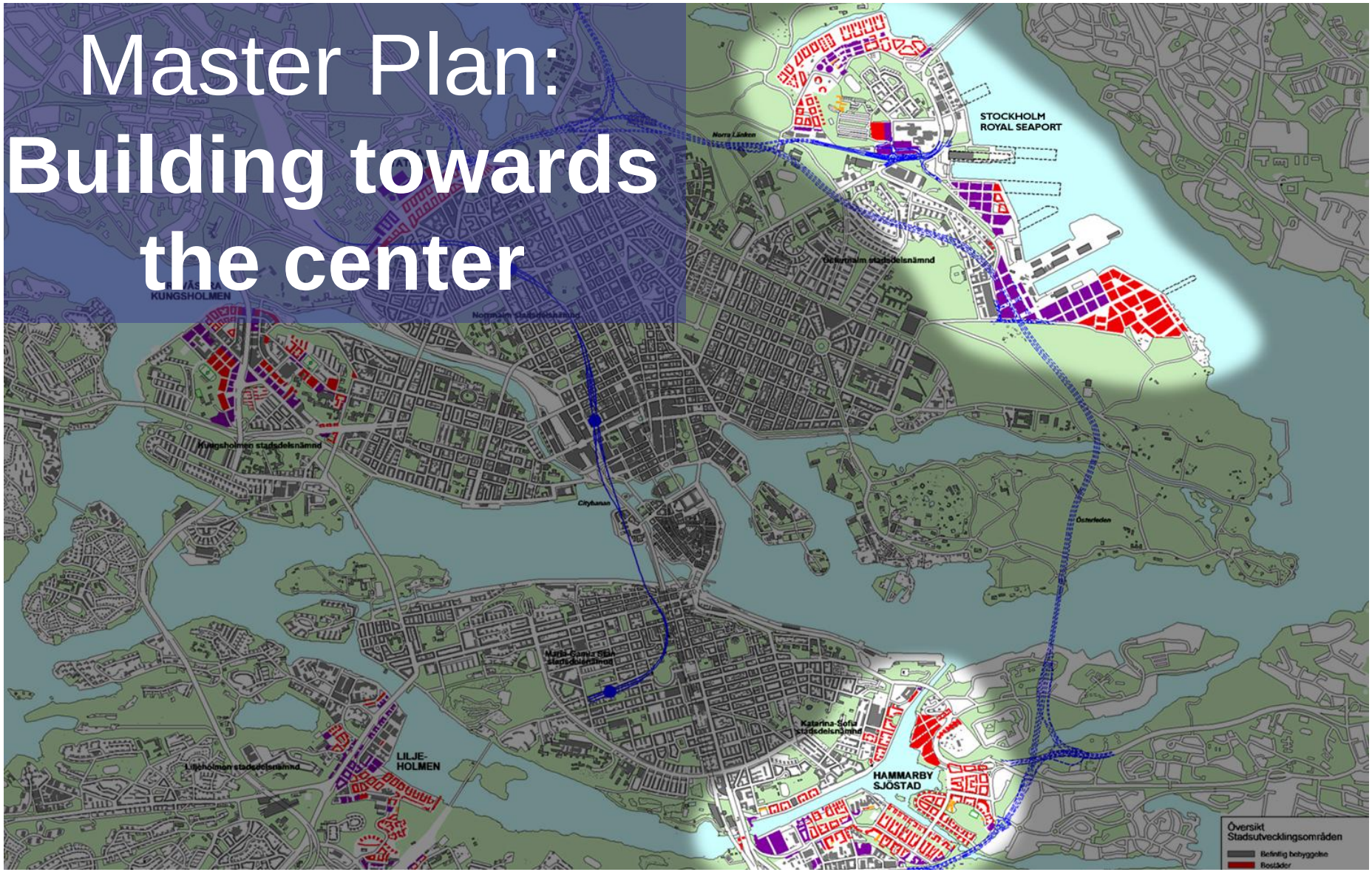
Combining growth with sustainable development



150 000 more citizens

- **Denser city**
- **Fossil free 2050**
- **Waste use – recycling**
- **Urban structure and green belts**
- **Integrated sustainable solutions**
- **Public Awareness**

Master Plan:
Building towards the center



Zero-emission - new urban areas

2010

- Oil depot
- Container terminal
- Ports
- Gas plant

2030

- 10,000 new homes
- 30,000 new work spaces
- 600,000 m2 commercial space
- Modern port and cruise terminal
- 236 hectares sustainable urban district
- Walking distance to city centre

Focus:

Energy
Transports
Climate adaptation
Eco-cycle solutions
Lifestyle

THANK YOU!