

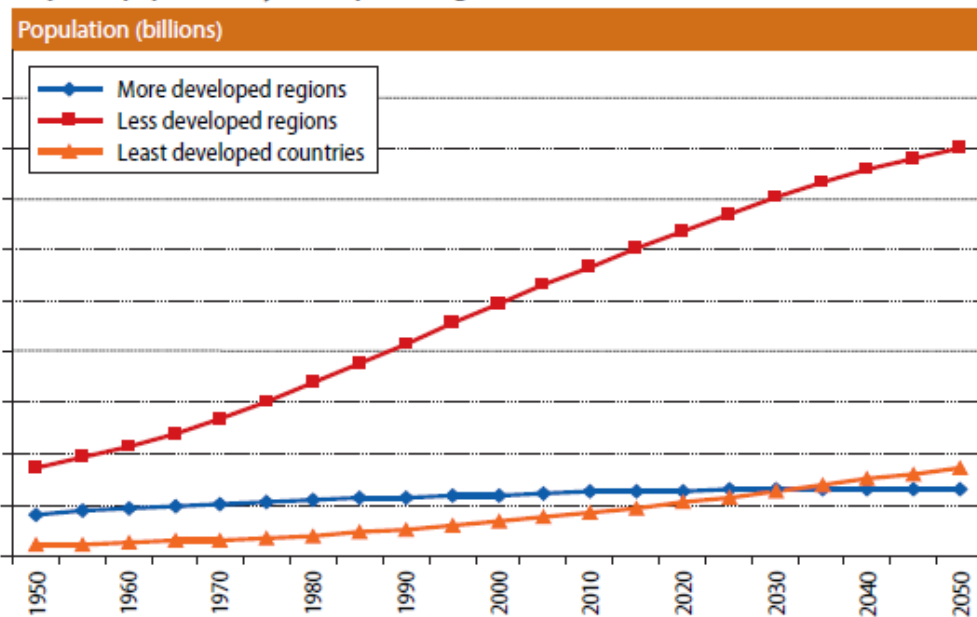
Existing protocols and emerging paradigms  
towards a sustainable economy

# Critical threshold

## BUSINESS AS USUAL SCENARIO:

- Impact of climate change (need to promote integrated and sustainable management of natural resources and ecosystems)
- Hunger and malnourishment
- Income inequality within and among many countries
- Rapid urbanization
- Energy consumption
- Recurrence of financial crisis
- Megatrends are major shifts in economic, social and environmental conditions which change societies and substantially impact people at all levels
- Demographic trends
- Urbanization trends
- Environmental trends
- Social trends

Projected population by development region, medium variant, 1950-2050



# Urbanization trends

Regional figures for share of urban population, 1975, 2000, 2012, 2025, 2050

Percentage					
Country/region	1975	2000	2012	2025	2050
World	37.7	46.7	52.6	58.0	67.2
More developed regions	68.7	74.1	78.0	81.1	85.9
Less developed regions	27.0	40.1	47.1	53.6	64.1
Africa	25.6	35.6	39.9	45.3	57.7
Asia	25.0	37.4	45.7	53.1	64.4
Europe	65.2	70.8	73.1	76.1	82.2
Latin America and the Caribbean	60.7	75.5	79.4	82.5	86.6
North America	73.8	79.1	82.5	85.0	88.6
Australia and New Zealand	85.4	86.9	88.9	90.3	92.4
Oceania	71.9	70.4	70.7	71.1	73.0
Least developed countries	14.7	24.3	28.9	35.2	49.8
Small island developing States	45.8	55.5	59.5	62.4	67.3
Landlocked developing States	22.2	26.1	28.3	32.6	45.6

Source: United Nations, Department of Economic and Social Affairs, Population Division (2012).

# Transnational environmental problems

- Climate Change – Global Warming
- Reduction of ozone layer
- Biodiversity
  - deforestation
  - animals
- Water
- Land use
- Energy
- Waste
- Hydrogeological upheaval

# Social trends

- Shifts in consumption and quality of life
- Change in Materialistic and Post-Materialistic Values
- Factors influencing subjective well-being:
  - Partner and family relationships 47%
  - Health 24%
  - A nice place to live 8%
  - Money and financial situation 7%
  - Religious/Spiritual life 6%
  - Community and friends 5%
  - Work fulfilment 2%

# European policies towards sustainability

- 1994 The Aalborg Commitments  
*Charter of European Cities & Towns Towards Sustainability*
- 1997 Treaty of Amsterdam  
*Introduced principles of SD in EU goals*
- 2000 Council of Lisbon – Lisbon Strategy  
*Emphasis on sustainable economic progress*
- 2001 Council of Göteborg  
*Elaboration of a SD strategy*
- 2005 *Review of SD strategy*
- 2009 *Review of SD strategy*
- 2010 Europe 2020 strategy  
*A strategy for smart, sustainable and inclusive growth*

# Europe 2020

## SD strategies & reviews

### 7 key challenges

1. Climate change and clean energy
2. Sustainable transport system
3. Sustainable consumption and production
4. Conservation and management of natural resources
5. Public health
6. Social inclusion, demography, migration
7. Global poverty and SD challenges

# Climate change and clean energy

The overall objective is to limit climate change and its costs and negative effects to society and the environment.

## Indicators

- Greenhouse gas emissions

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdoc100>

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdoc220>

- Share of renewables in gross final energy consumption

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdoc119>

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdoc312>

## Targets – Europe2020

- Reduction of the greenhouse gas emissions by 20% compared to 1990
- Increase in the share of renewable energy sources in final energy consumption to 20%
- 20% increase in energy efficiency

## What the EU is doing?

- *Ecodesign Directive*
- *Energy Taxation Directive*
- *Biomass Action Plan*
- *Energy Star*



# Sustainable transport system

The strategy's objective is to ensure that our transport systems meet society's economic, social and environmental needs whilst minimising their undesirable impacts on the economy, society and the environment.

## Indicators

- Modal split of passenger transport

<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=1&pcode=tsdtr210&language=en>

- Investment in transport infrastructure by mode
- People killed in road accidents

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&int=1&plugin=1&language=en&pcode=tsdtr420>

## What the EU is doing?

- *Eurovignette Directive*
- *Green Paper on Urban Mobility*
- *Air travel is proposed to come under the EU greenhouse gas emissions trading scheme from 2012 which allows participating countries to buy or sell their emission allowances. This could cut CO2 emissions from aviation by 46% by 2020.*
- *Trans-European Transport Network*

# Sustainable consumption and production

Our consumption in the EU falls into four major categories: food and drink; housing; personal travel and mobility and tourism. The negative effects of European production and consumption can be felt in other parts of the world. According to the European Environment Agency, we are increasingly using resources from abroad for consumption in Europe, putting pressure on the environment in other regions of the world.

## Indicators

- Municipal waste generation and treatment

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&int=1&plugin=1&language=en&ocode=tsdpc31>

- Final energy consumption

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&int=1&plugin=1&language=en&ocode=tsdpc32>

<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=1&ocode=tsdpc30&lang=en>

- Ecolabel licenses

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&int=1&plugin=1&language=en&ocode=tsdpc420>

## What the EU is doing?

- Environment Technology Action Plan (ETAP).
- Thematic Strategy on the Sustainable Use of Natural Resources
- Integrated Product Policy
- Eco-Management and Audit Scheme (EMAS)
- Eco-Label



# Conservation and management of natural resources

to improve management and avoid overexploitation of natural resources, recognising the value of ecosystem services.

## Indicators

- Surface- and groundwater abstraction
- Population connected to urban waste water treatment
- Size of fishing fleet
- Forest increment and fellings
- Build-up areas

<http://www.eea.europa.eu/data-and-maps/figures/land-cover-2006-and-changes>

## What the EU is doing?

- Clean up degraded marine environments by 2015 which would be in line with the Johannesburg Plan
- Promote recycling and cut down on the generation of waste
- Natura 2000 / Life + / Habitat Directive
- Common Fisheries Policy
- Forest Action Plan
- Water Framework Directive
- Integrated Pollution Prevention and Control (IPP C) Directive

# Public health

promoting good public health on equal conditions and improve protection against health threats.

## Indicators

- Suicide death rate

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdph240>

- Death rate due to chronic diseases

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdph210>

- Urban population exposure to air pollution

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdph370>

- Serious accidents at work

<http://epp.eurostat.ec.europa.eu/tgm/table.do?tab=table&init=1&plugin=1&language=en&pcode=tsdph400>

## What the EU is doing?

- the EU is working to make sure doctors, nurses and other professionals can move from country to country easily and work wherever they are needed.
- Registration, Evaluation and Authorisation of Chemicals (REACH)
- Food Hygiene Package
- Community Action in the Field of Consumer Policy (2007-2013)
- European Food Safety Authority (EFSA).

# Social inclusion, demography, migration

creating a socially inclusive society by taking into account solidarity between and within generations and to secure and increase the quality of life of citizens

## Indicators

- People at-risk-of-poverty or social exclusion  
<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&code=tsdc100>
- Total long-term unemployment rate  
<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&code=tsdc330>
- Gender pay gap  
<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&code=tsdc340>
- Public expenditure on education  
<http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&code=tsdc510>
- Early leavers from education and training
- Gross domestic expenditure on R&D

[http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&code=2020\\_20](http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&language=en&code=2020_20)

## Targets – Europe2020

- 75 % of the population aged 20-64 should be employed
- Reduction of poverty by aiming to lift at least 20 million people out of the risk of poverty or social exclusion
- 3% of the EU's GDP should be invested in R&D

## What the EU is doing?

- PROGRESS (2007-2013): Community programme for employment and solidarity
- European Social Fund (ESF)
- European Employment Strategy (EES)
- European Integration Fund
- Socrates, Leonardo da Vinci and Youth
- Directive against Discrimination



# SUSTAINABLE DEVELOPMENT GOALS



# Sustainable cities: UN protocols

Pillars for achieving sustainability of cities

## Sustainable cities

### Social development

- Education and health
- Food and nutrition
- Green housing and buildings
- Water and sanitation
- Green public transportation
- Green energy access
- Recreation areas and community support

### Economic development

- Green productive growth
- Creation of decent employment
- Production and distribution of renewable energy
- Technology and innovation (R&D)

### Environmental management

- Forest and soil management
- Waste and recycling management
- Energy efficiency
- Water management (including freshwater)
- Air quality conservation
- Adaptation to and mitigation of climate change

### Urban governance

- Planning and decentralization
- Reduction of inequities
- Strengthening of civil and political rights
- Support of local, national, regional and global links

Source: UN/DESA, Development Policy and Analysis Division.



## As a reaction: resilient community

“the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses\* and acute shocks\*\* they experience.”

\* slow moving disasters that weaken the fabric of a city

\*\* sudden, sharp events that threaten a city





## As a reaction: smart city

## Smart cities



### DIGITAL CITY ECOSYSTEM COMPONENTS



### SMART SERVICES



### NEXT-GEN INFRASTRUCTURE



### DIGITAL ENABLING LEVERS





## As a reaction: creative cities

## Smart cities

Attraction of the “creative class” a strategic factor for sustainable urban development



R. Florida and the “3T”:

Technology → concentration of hi-tech industries

Talent → leads to economic growth

Tolerance → diversity as a value/other manifestation of human being

# Place branding

## Nation Brand Hexagon



The Nation Brand Hexagon  
© 2000 Simon Anholt

## Place-brand Index (GFK - Anholt)

## City Brand Hexagon



The City Brand Hexagon  
© 2000 Simon Anholt



## Future Brand

STATUS			EXPERIENCE		
VALUE SYSTEM	QUALITY OF LIFE	BUSINESS POTENTIAL	HERITAGE & CULTURE	TOURISM	MADE IN
Political freedom	Health & education	Good for business	Historical points of interest	Value for money	Make products that are authentic
Environmental standards	Standard of living	Advanced technology	Heritage, art & culture	Range of attractions	Make products of high quality
Tolerance	Safety & security	Good infrastructure	Natural beauty	Resort & lodging options	They create unique products
	Would like to live/study there			Would like to visit for a vacation	Would like to buy products made in that country
				Food	

1 Japan	2 Switzerland	3 Germany	4 Sweden	5 Canada
6 Norway	7 United States	8 Australia	9 Denmark	10 Austria
11 New Zealand	12 United Kingdom	13 Finland	14 Singapore	15 Iceland
16 Netherlands	17 France	18 Italy	19 United Arab Emirates	20 South Korea

Rank	Country	STATUS			EXPERIENCE		
		Value System	Quality of Life	Good for Business	Tourism	Heritage & Culture	Made In
1	JAPAN	SWEDEN	SWITZERLAND	JAPAN	ITALY	ITALY	JAPAN
2	SWITZERLAND	CANADA	SWEDEN	UNITED STATES	JAPAN	GREECE	GERMANY
3	GERMANY	SWITZERLAND	NORWAY	GERMANY	UNITED STATES	JAPAN	SWITZERLAND
4	SWEDEN	NORWAY	DENMARK	SINGAPORE	CANADA	FRANCE	UNITED STATES
5	CANADA	NEW ZEALAND	GERMANY	SWITZERLAND	AUSTRALIA	PERU	SWEDEN
6	NORWAY	DENMARK	CANADA	UNITED ARAB EMIRATES	FRANCE	EGYPT	FRANCE
7	UNITED STATES	ICELAND	JAPAN	CANADA	NEW ZEALAND	AUSTRIA	DENMARK
8	AUSTRALIA	FINLAND	AUSTRALIA	SWEDEN	SWITZERLAND	GERMANY	SOUTH KOREA
9	DENMARK	AUSTRALIA	AUSTRIA	NORWAY	GERMANY	INDIA	CANADA
10	AUSTRIA	NETHERLANDS	FINLAND	UNITED KINGDOM	AUSTRIA	SPAIN	NORWAY

## Experiences



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