



INNOVATING WITH NATURE

Nature-based solutions are designed to bring more nature and natural features and processes to cities, landscapes and seascapes. These innovative solutions also support economic growth, create jobs and enhance our well-being.

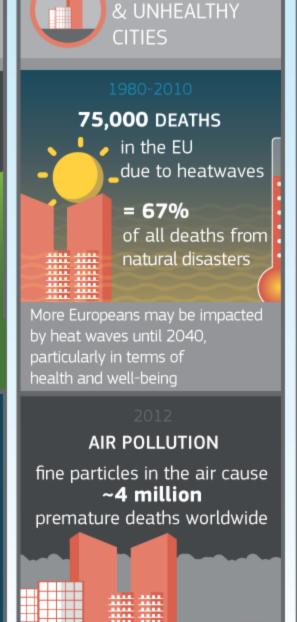


UNSUSTAINABLE



BUILDINGS 35% of the EU's

CO₂ emissions 40% of energy consumption



DEGRADATION OF ECOSYSTEMS up to **€50 billion**/year EU OPPORTUNITY COST of not halting biodiversity loss and degradation of ecosystem services Degradation of ecosystems

> LESS WATER PURIFICATION Globally, 20% of urban drinking

> > water is polluted

Currently, emissions from drained peatlands

5% of total global anthropogenic greenhouse gas emissions





sustainable



RESILIENCE Green roofs can cool buildings in the summer

and prevent heat loss in the winter -**10%**) energy use





Malmö, Sweden The city invested in

regeneration, and installed

sustainable urban

green roofs and an open storm water system -50% less flood run-off \forall damage



+50%

environmental





STRESS Trees, green space and vegetation can attenuate

reduce temperatures by up to 13°C compared to full sunlight

urban heat stress and



Trees and green walls can halve the amount of health threatening

HEALTH AND WELL-BEING

particles in the air 10% more urban green space

can reduce health care and sick leave costs by **€400m/**year per 10m inhabitants





FUNCTIONING ECOSYSTEMS Restoration and preservation of ecosystems can provide very **high**

returns on investment and help to avoid costs of expensive infrastructure



EFFECTIVE CO, STORAGE

OF DRAINED PEATLANDS avoids damages worth

from CO₂ emissions WATER SUPPLY AND PURIFICATION

€22m/year

North Western England RECOVERING PEATLANDS

is estimated to achieve ~€3m/year of saved water supply and purification costs

> Vienna 32,000ha of forests Schneealpe mountains

plant

eliminating the need

for a water treatment



EU RESEARCH AND INNOVATION IN NATURE-BASED SOLUTIONS **THROUGH HORIZON 2020**

in 2016-17 for 'Innovating with Nature' research and innovation activities in cities and rural areas

€120m

LARGE-SCALE

DEMONSTRATION PROJECTS

CO-DESIGN.

open access to evidence and

data to support and stimulate

public and private investment



TURAS SUSTAINABLE CITIES



EXAMPLES

→ green walls and roofs

→ social agriculture

- → novel design

→ urban brownfields

→ biomimicry – innovation inspired by nature

GREEN SURGE MAJOR URBAN CHALLENGES

http://goo.gl/c2ZsI5

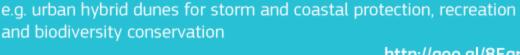
http://goo.gl/SCGsqv



→ identifies, develops and tests ways to link green spaces, biodiversity, people and the green economy

OPERAS ECOSYSTEM SCIENCE FOR POLICY & PRACTICE





applies nature-based solutions in the real world:

http://goo.gl/8EqrLD



Source: European Commissi