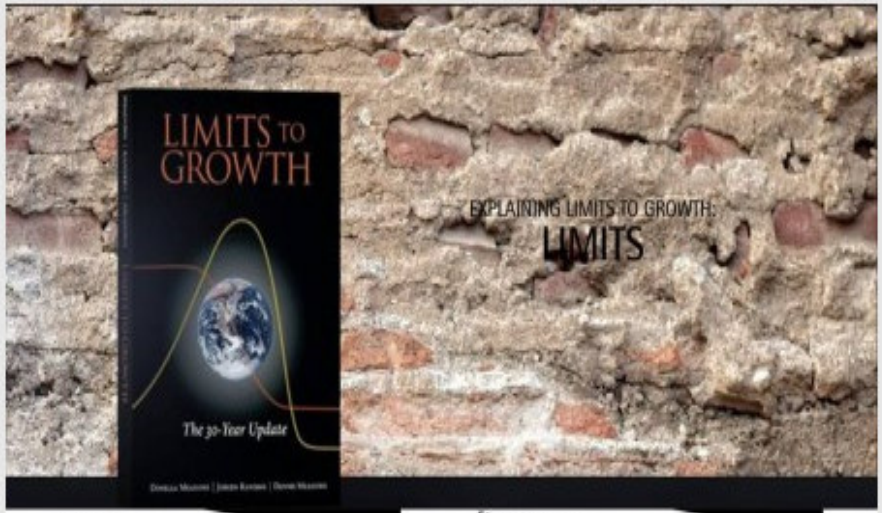
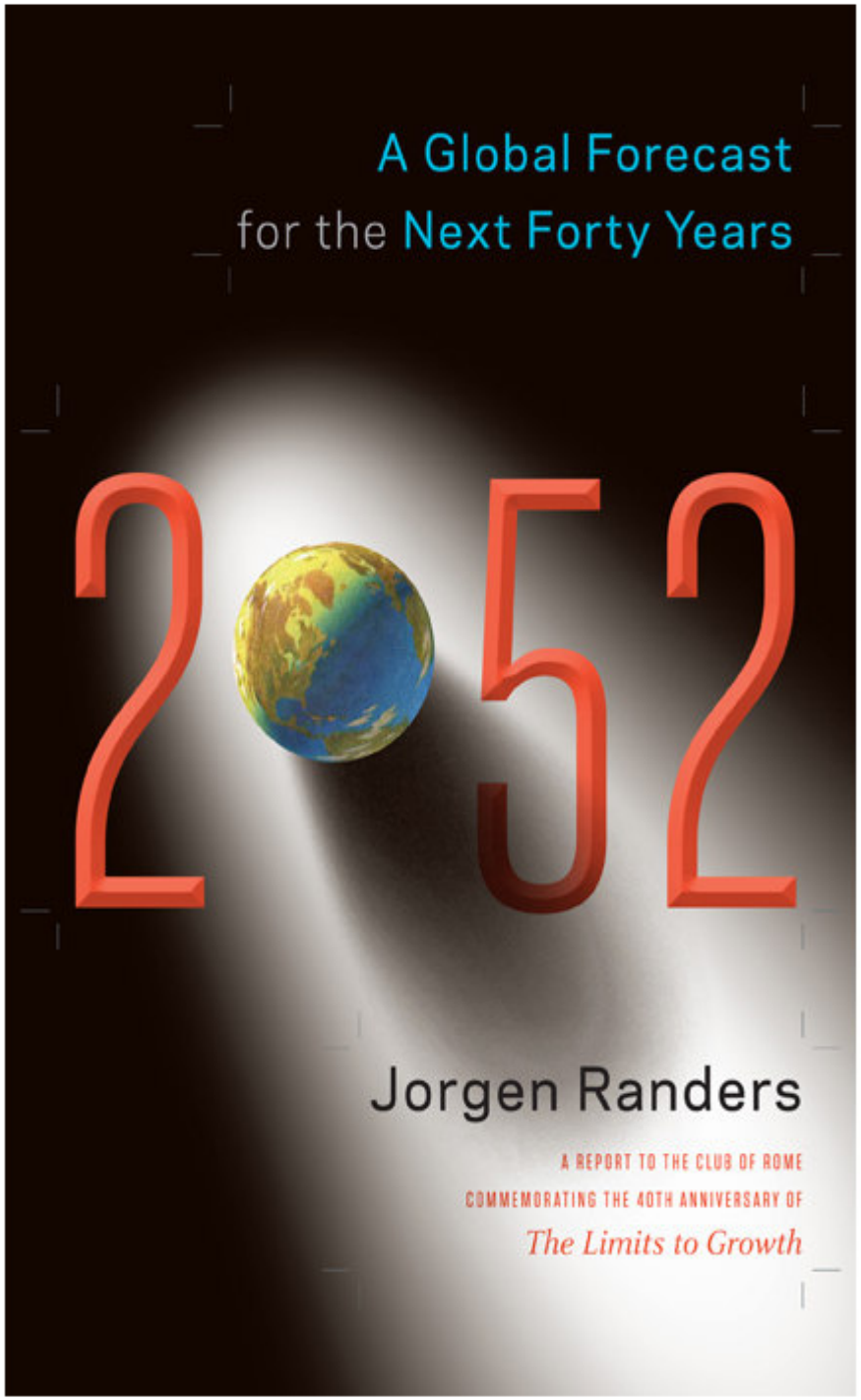

RIO + 20: imparare a vivere nei limiti di un solo Pianeta
Gianfranco Bologna
Direttore scientifico e Senior Advisor WWF Italia

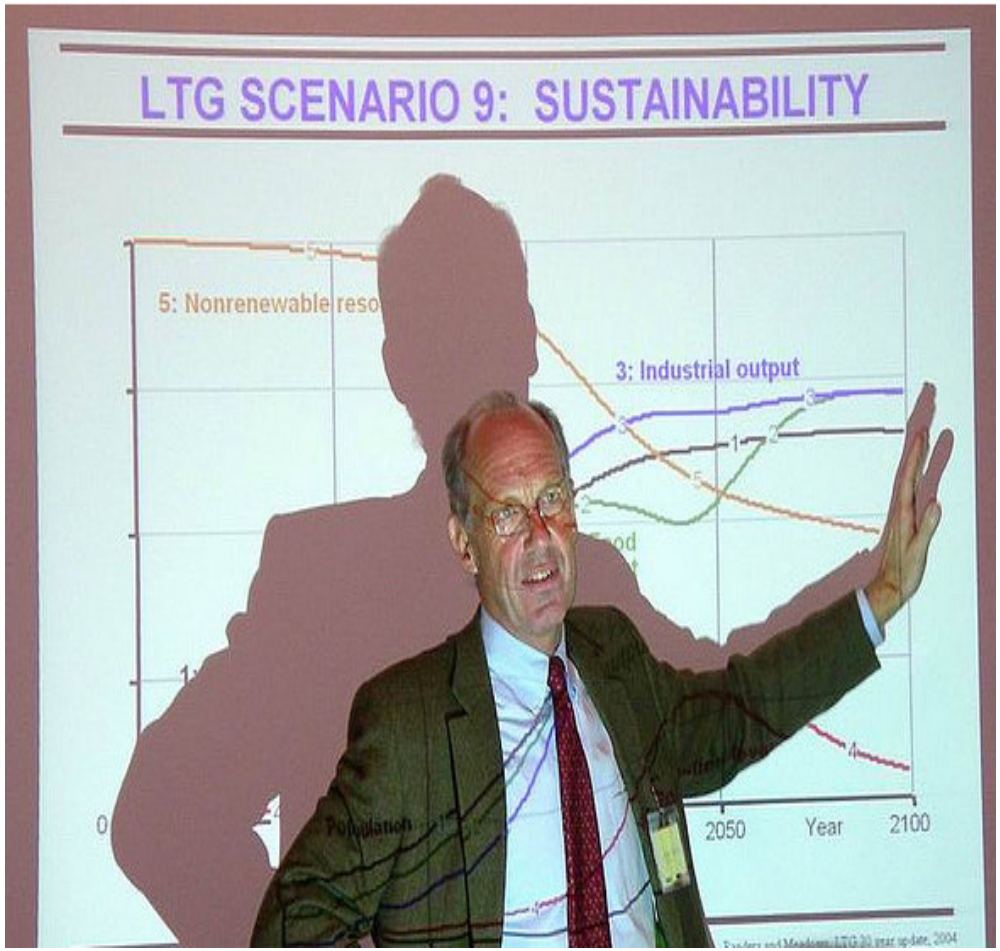
Limits perspective: A small world

Smithsonian.com

Perspectives on Limits to Growth: Challenges to Building a Sustainable Planet




A Global Forecast
for the Next Forty Years
2052
Jorgen Randers
A REPORT TO THE CLUB OF ROME
COMMEMORATING THE 40TH ANNIVERSARY OF
The Limits to Growth


LTG SCENARIO 9: SUSTAINABILITY
5: Nonrenewable reso
3: Industrial output
2050
Year
2100

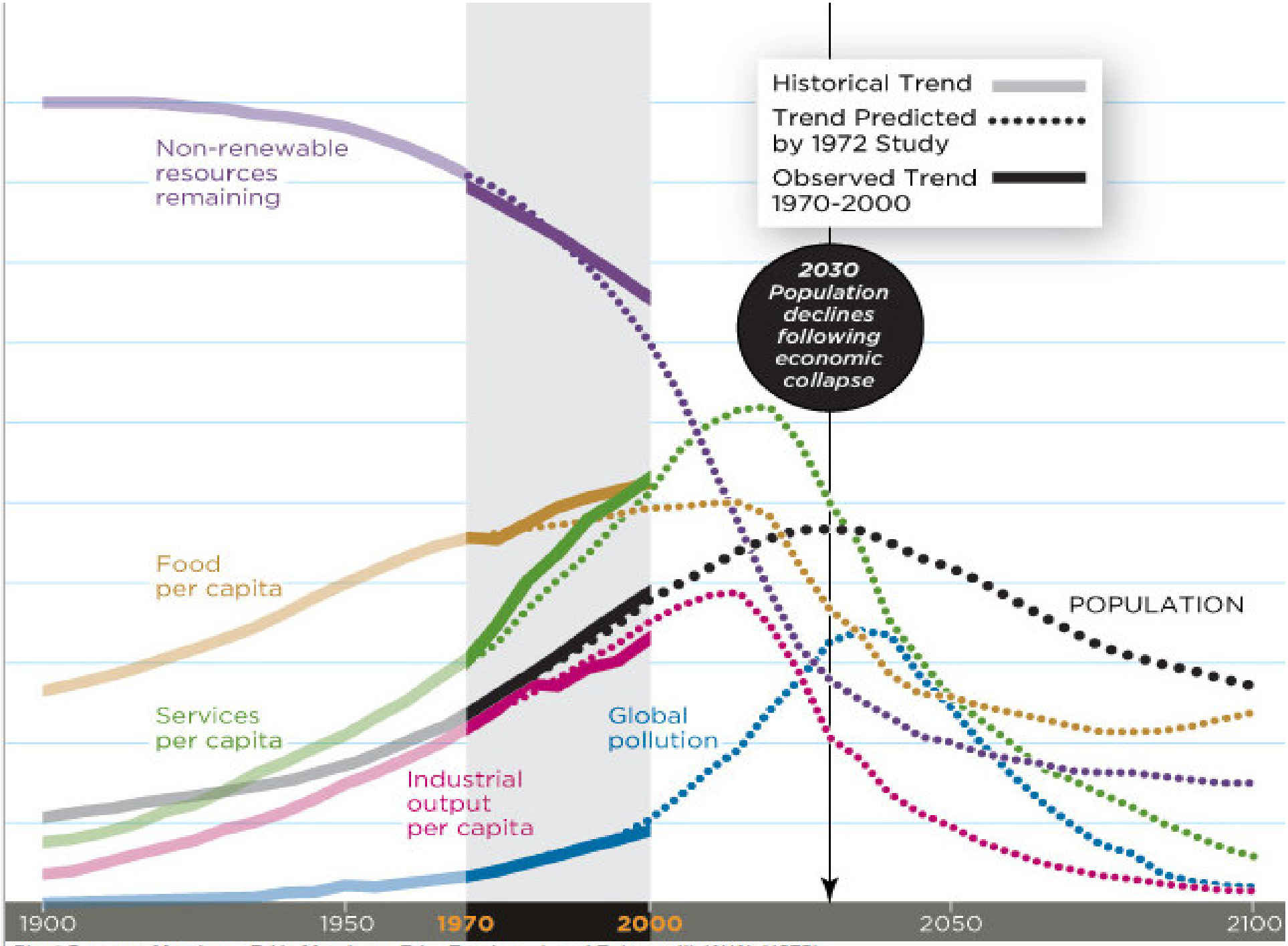


Chart Sources: Meadows, D.H., Meadows, D.L., Randers, J. and Behrens III, W.W. (1972)

PLANET UNDER PRESSURE

2012 MARCH 26-29 LONDON

NEW KNOWLEDGE TOWARDS SOLUTIONS

State of the Planet Declaration

SCIENCE • POLICY • DEVELOPMENT • INVESTMENT
INDUSTRY • ENGINEERING • TECHNOLOGY • MEDIA

Organised by the global change research programmes of the International Council for Science

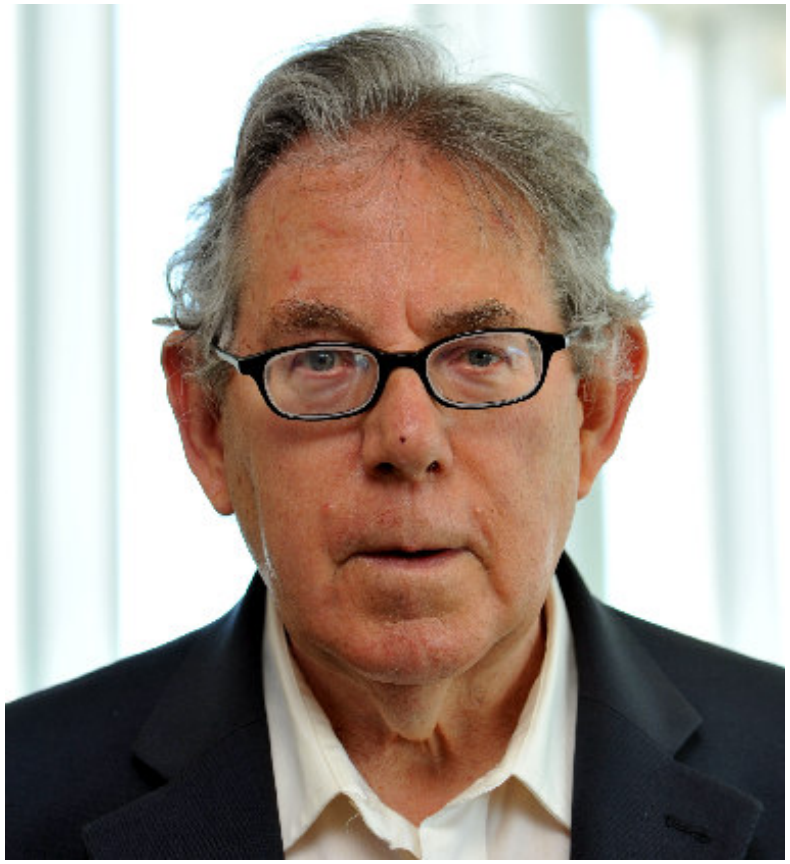
GLOBAL CHANGE IGBP DIVERSITAS IHDP WCRP ICSU

And their Earth System Science Partnership

Future Earth

research for global sustainability

The Anthropocene:
A New Epoch of Geological Time?

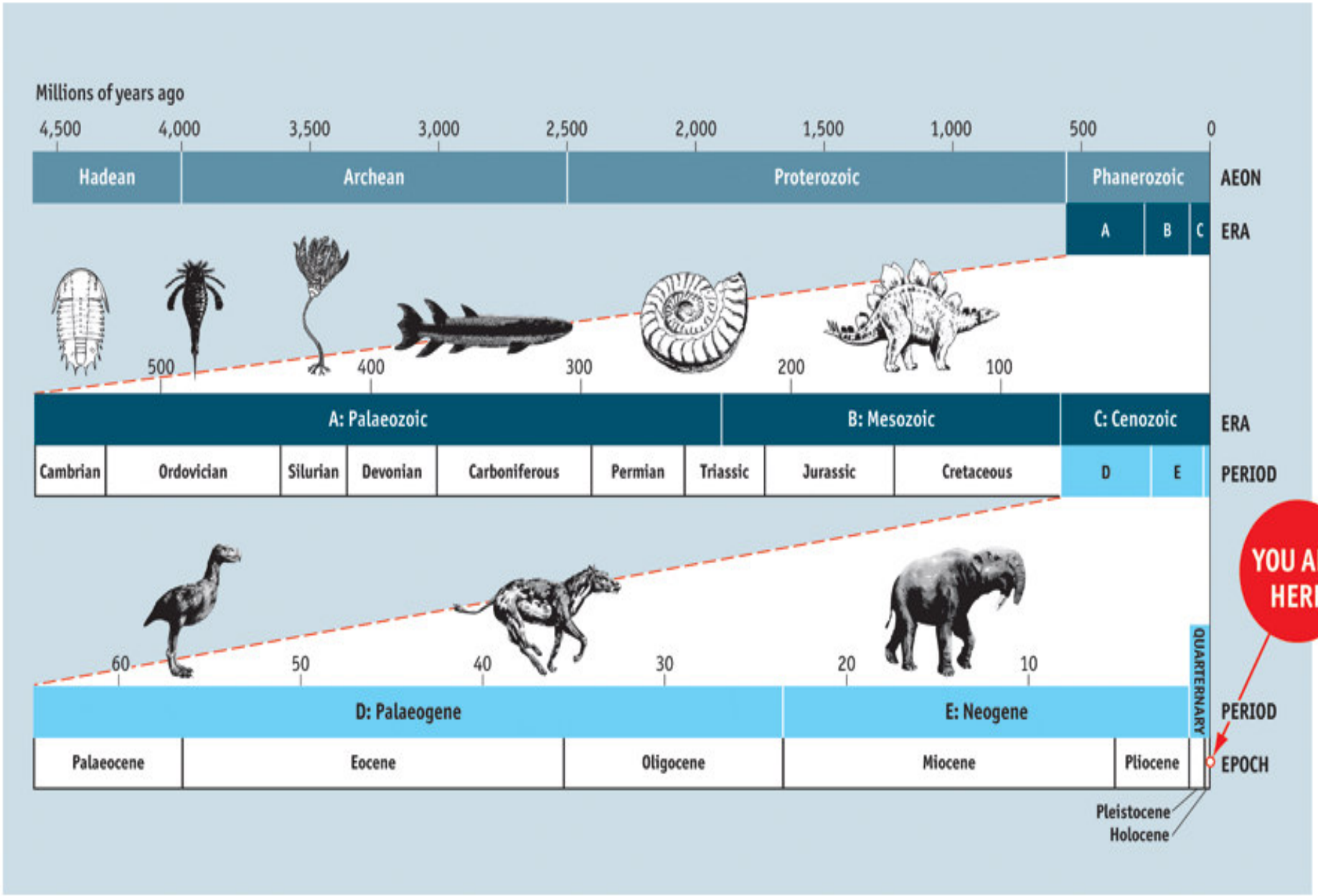


PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A MATHEMATICAL, PHYSICAL & ENGINEERING SCIENCES

The Anthropocene: conceptual and historical perspectives

Will Steffen, Jacques Grinevald, Paul Crutzen and John McNeill

Phil. Trans. R. Soc. A 2011 **369**, 842-867
doi: 10.1098/rsta.2010.0327


Millions of years ago
4,500
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Hadean
Archean
Proterozoic
Phanerozoic
AEON
A
B
C
ERA
500
400
300
200
100
A: Palaeozoic
B: Mesozoic
C: Cenozoic
ERA
Cambrian
Ordovician
Silurian
Devonian
Carboniferous
Permian
Triassic
Jurassic
Cretaceous
D
E
PERIOD
60
50
40
30
20
10
QUARTERNARY
D: Palaeogene
E: Neogene
PERIOD
Palaeocene
Eocene
Oligocene
Miocene
Pliocene
EPOCH
Pleistocene
Holocene
YOU ARE HERE

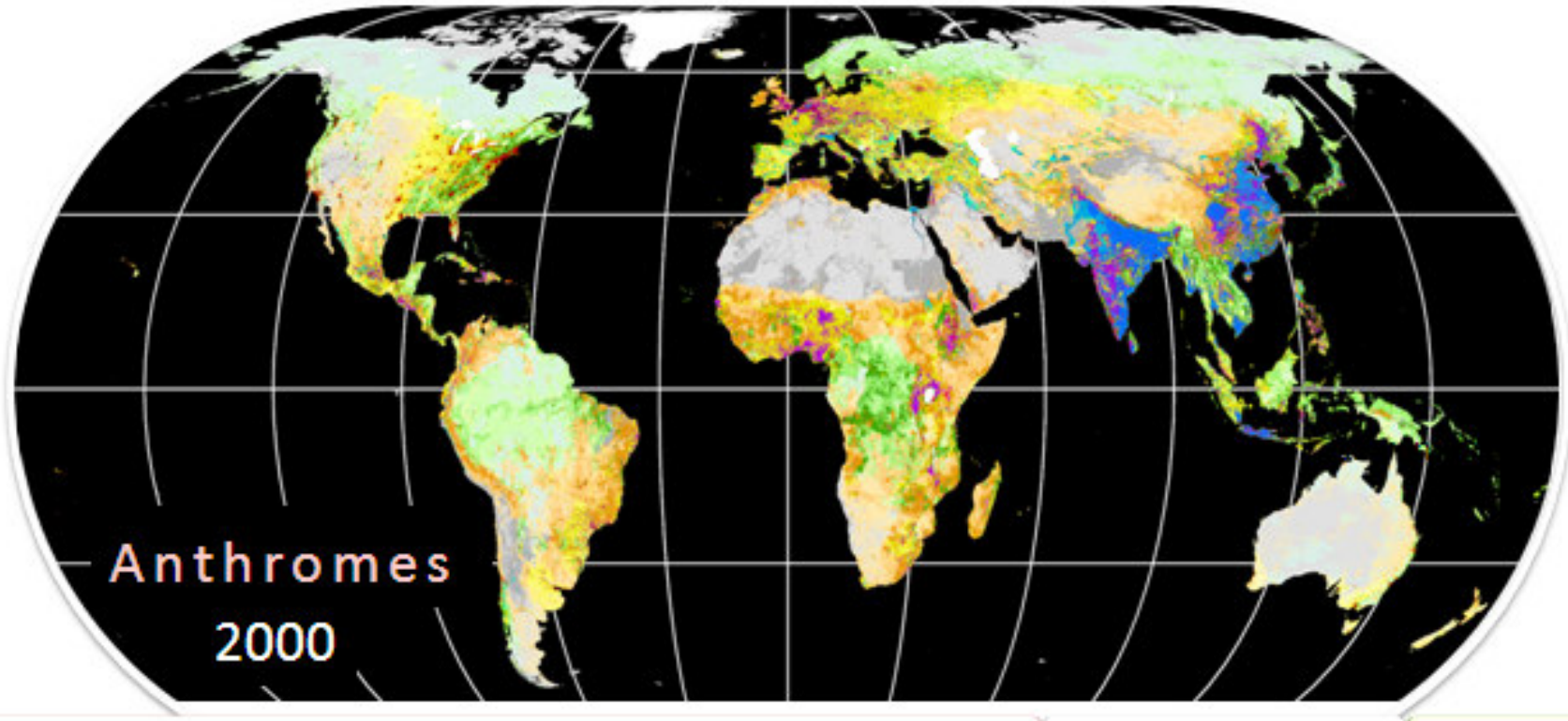
The Anthropogenic Biosphere

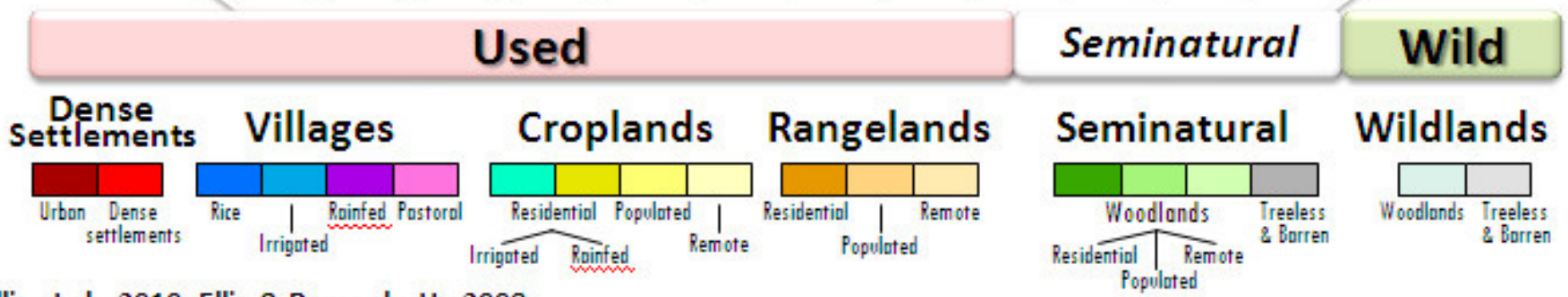
Ecosystems = $f(P, T)$

P = Population density

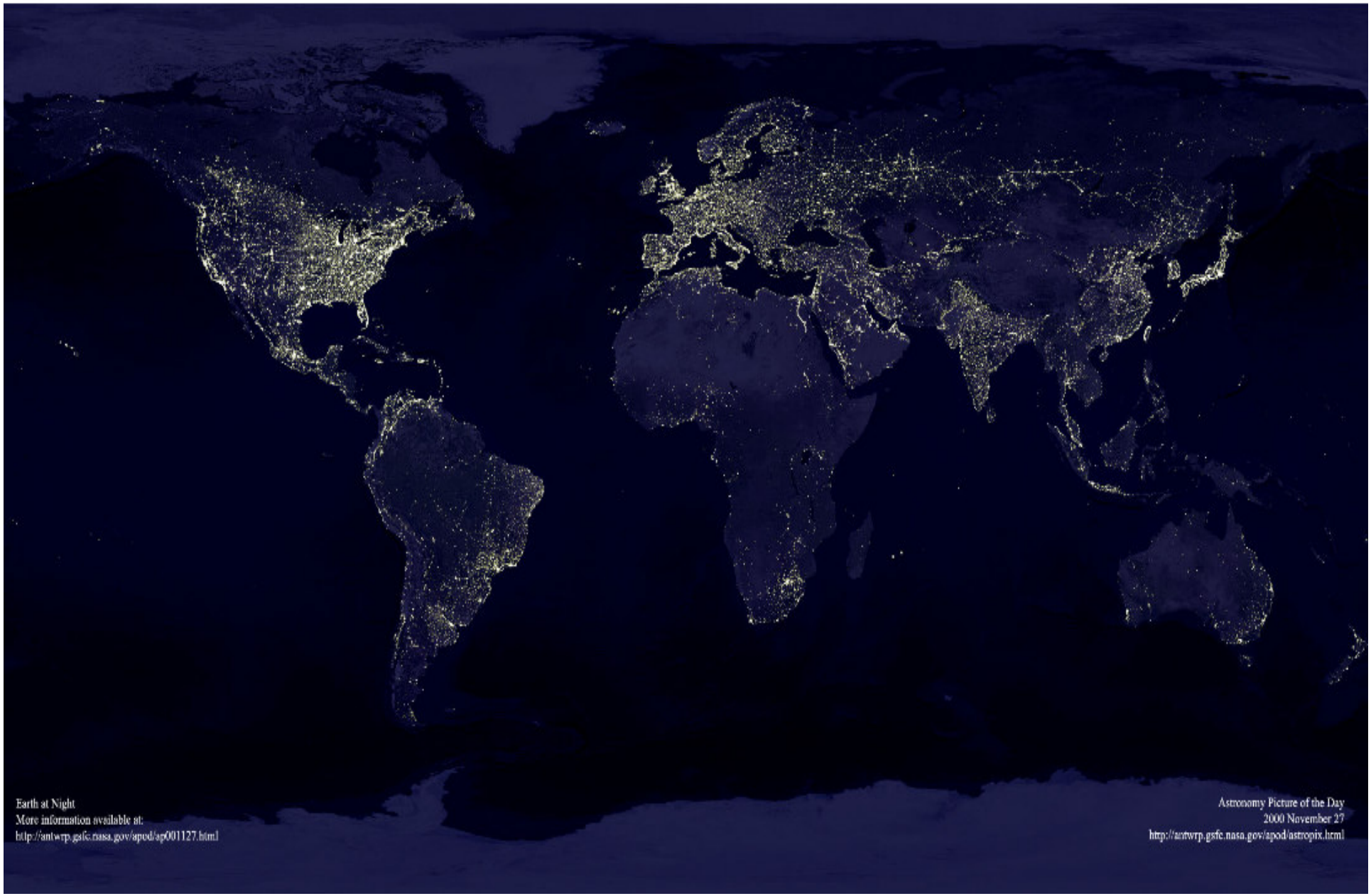
T = Land use

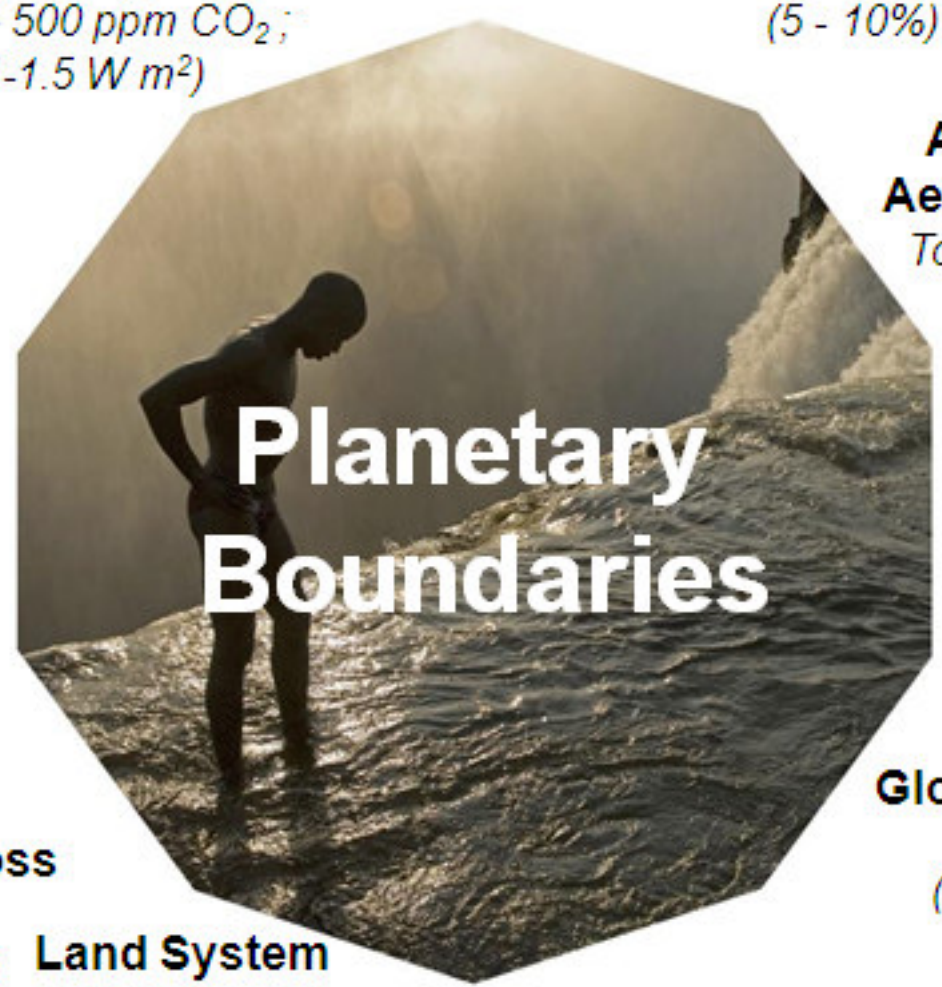
Anthropogenic Biomes





Ellis et al., 2010; Ellis & Ramankutty 2008


Earth at Night
More information available at:
http://antwrp.gsfc.nasa.gov/apod/ap001127.html
Astronomy Picture of the Day
2000 November 27
http://antwrp.gsfc.nasa.gov/apod/astropix.html



Climate Change
< 350 ppm CO_2 < 1W m^2
(350 – 500 ppm CO_2 ; 1-1.5 W m^2)

Ozone depletion
< 5 % of Pre-Industrial 290 DU
(5 - 10%)

Biogeochemical loading: Global N & P Cycles
Limit industrial fixation of N_2 to 35 Tg N yr^{-1}(25 % of natural fixation)
(25%-35%)
P < 10× natural weathering inflow to Oceans
(10× – 100×)

Atmospheric Aerosol Loading
To be determined

Ocean acidification
Aragonite saturation ratio > 80 % above pre-industrial levels
(> 80% - > 70 %)

Rate of Biodiversity Loss
< 10 E/MSY
(< 10 - < 1000 E/MSY)

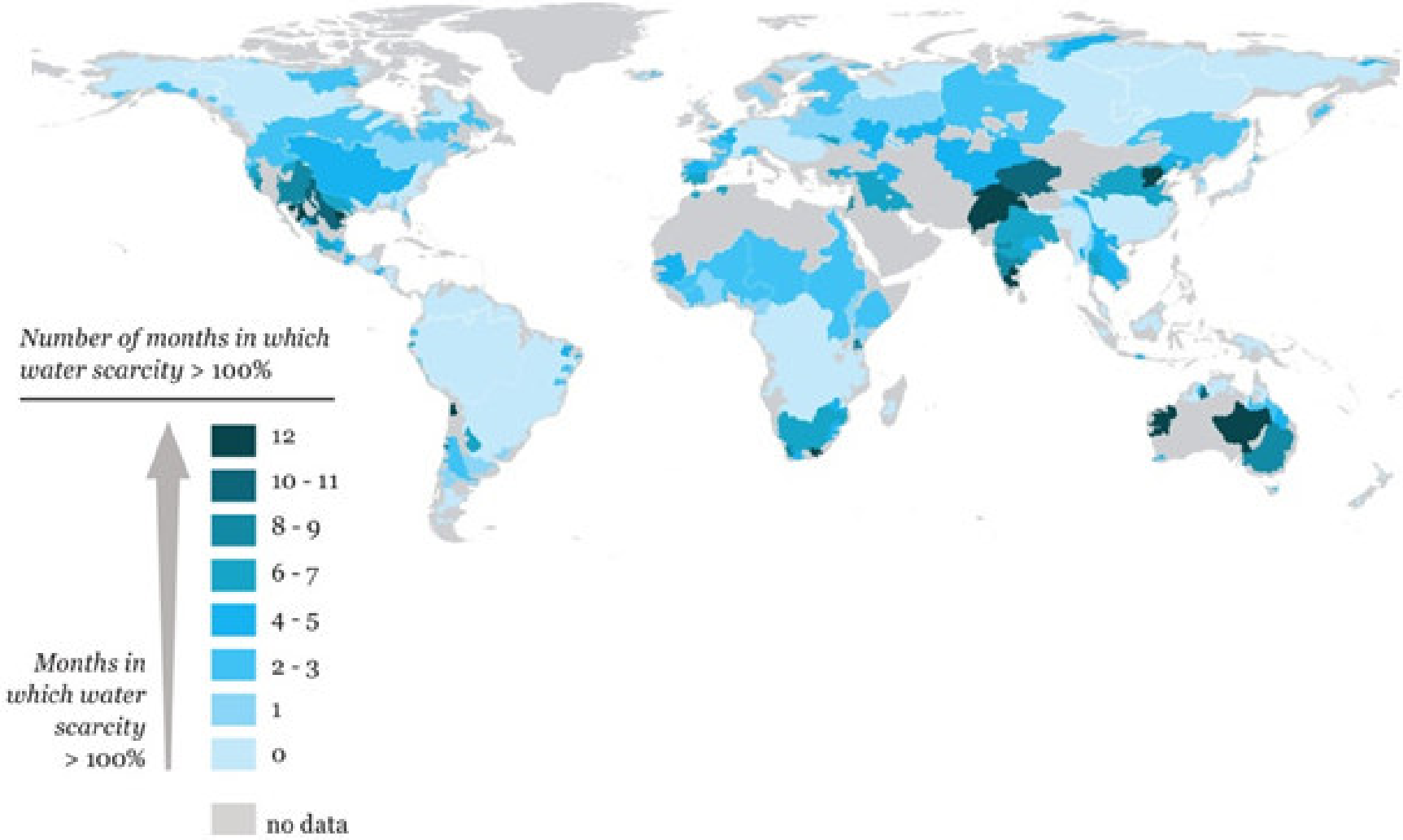
Global Freshwater Use
<4000 km^3/yr
(4000 – 6000 km^3/yr)

Land System Change
≤15 % of land under crops
(15-20%)

Chemical Pollution
Plastics, Endocrine Desruptors, Nuclear Waste Emitted globally
To be determined

Water Footprint: blue water scarcity

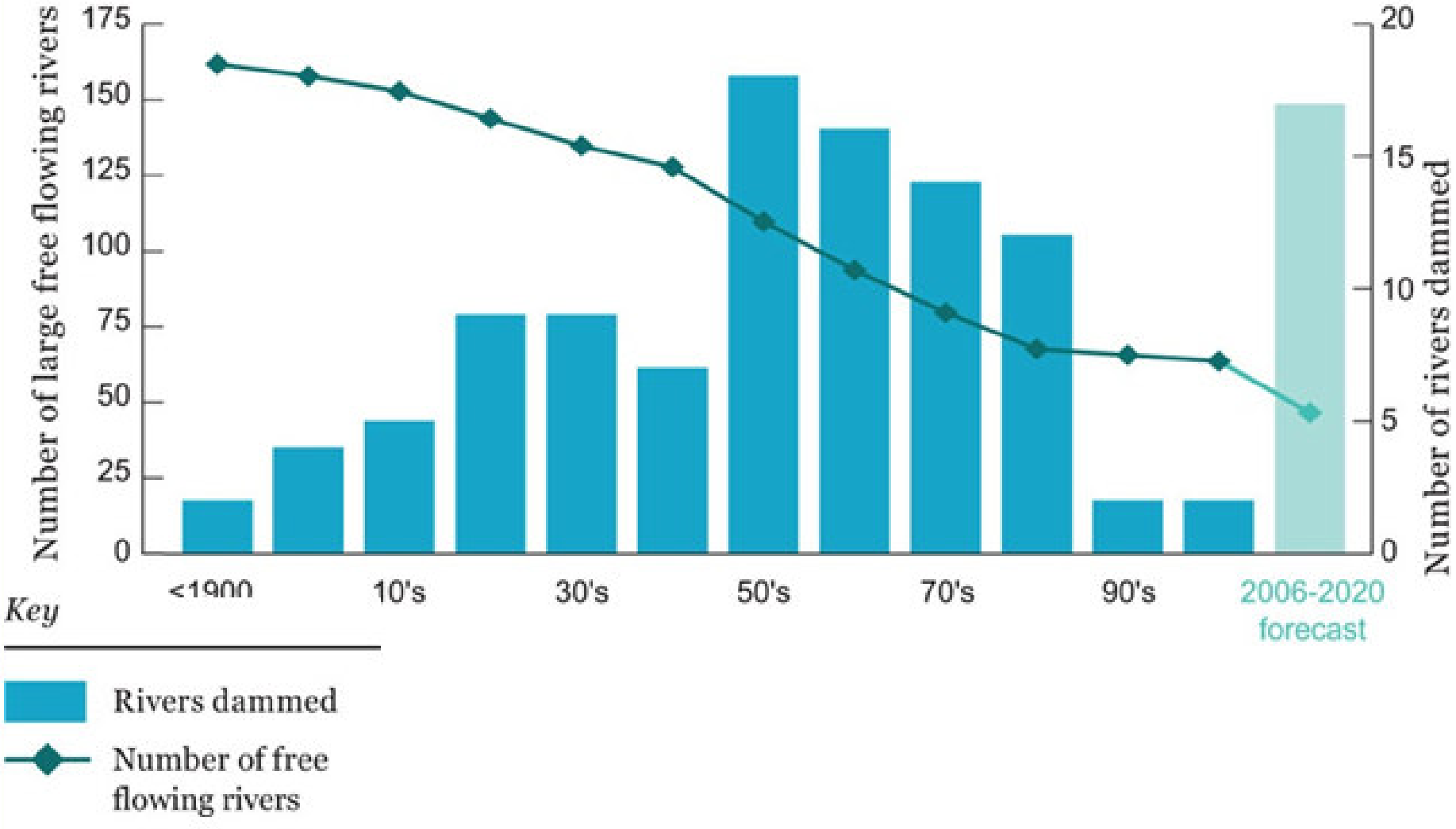
Blue water scarcity in 405 river basins between 1996 and 2005



Hoekstra et al, 2012

Rivers: impacted by infrastructure

Trends in number of global free-flowing rivers greater than 1,000km in length



WWF, 2006a

Sustainability Science

- ***L'integrazione e l'applicazione delle conoscenze del sistema Terra, ottenute specialmente dalle scienze di impostazione olistica e di taglio storico (quali la geologia, l'ecologia, la climatologia, l'oceanografia) armonizzate con la conoscenza delle interrelazioni umane ricavate dalle scienze umanistiche e sociali, mirate a valutare, mitigare e minimizzare le conseguenze, sia a livello regionale sia mondiale, degli impatti umani sul sistema planetario e sulle società. (P.H. Reitan, 2005)***


Worldwatch Institute
STATE OF THE WORLD 2012
Edizione italiana
a cura di
Gianfranco Bologna
VERSO UNA PROSPERITÀ SOSTENIBILE
QUESTO VOLUME È RACCOMANDATO DA WWF ITALIA
WWF
Edizioni Ambiente


Transforming Cultures
from consumerism to sustainability
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Praise


Moving Toward
Sustainable Prosperity
About
State Of The World 2012
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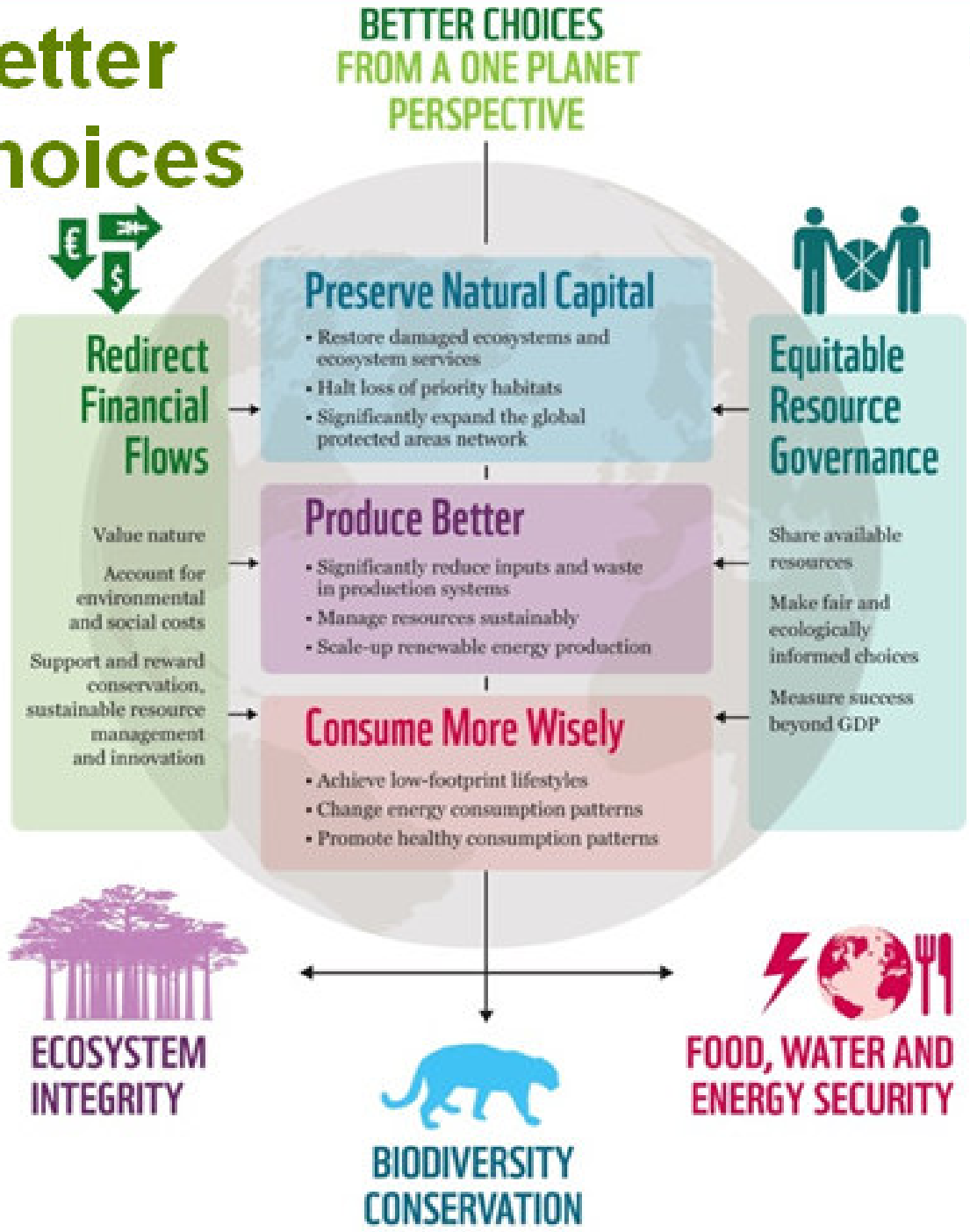
Resources

Better choices



Beyond GDP

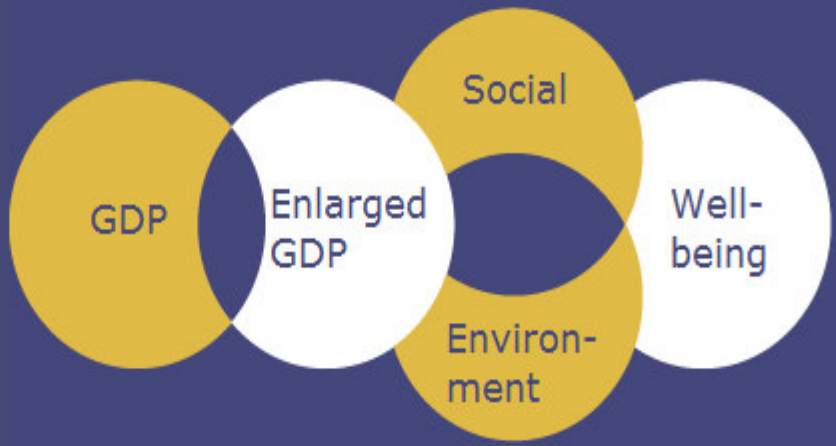
Measuring progress, true wealth, and the well-being of nations

Frequently asked questions

1. What is the 'Beyond GDP' initiative?
2. What does GDP measure?
3. What does GDP not measure?

> More questions and answers

Indicators



European Commission

EUROPEAN PARLIAMENT

WWF

THE CLUB OF ROME

OECD

ResilienceAlliance

research on resilience in social-ecological systems - a basis for sustainability

Stockholm Resilience Centre

Research for Governance of Social-Ecological Systems

Stockholm University

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Sustainable Development Commission

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The Sustainable Development Commission, which closed on 31 March 2011, held Government to account to ensure the needs of society, the economy and the environment were properly balanced in the decisions it made and the way it ran itself. This is an archive site.

UK HOME

Tim Jackson

PROSPERITÀ SENZA CRESCITA

ECONOMIA PER IL PIANETA REALE

Prefazioni di Carlo Petrini, Herman Daly e Bill McKibben

Edizione italiana
a cura di Gianfranco Bologna

Edizioni Ambiente

wwf

La rivoluzione della sostenibilità

- *“Il valore della sostenibilità sta nella sua capacità di visione. Alla domanda cosa stessero facendo, tre tagliapietre rispondono così: uno dice che sta facendo passare le sue otto ore di lavoro, il secondo che sta tagliando la pietra calcarea in blocchi, il terzo che sta costruendo una cattedrale.*
- *La sostenibilità è la cattedrale che tutti stiamo cercando di costruire.”*