

The Adam Smith Society

30 June 2021



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The Dasgupta Review - The Economics of Biodiversity

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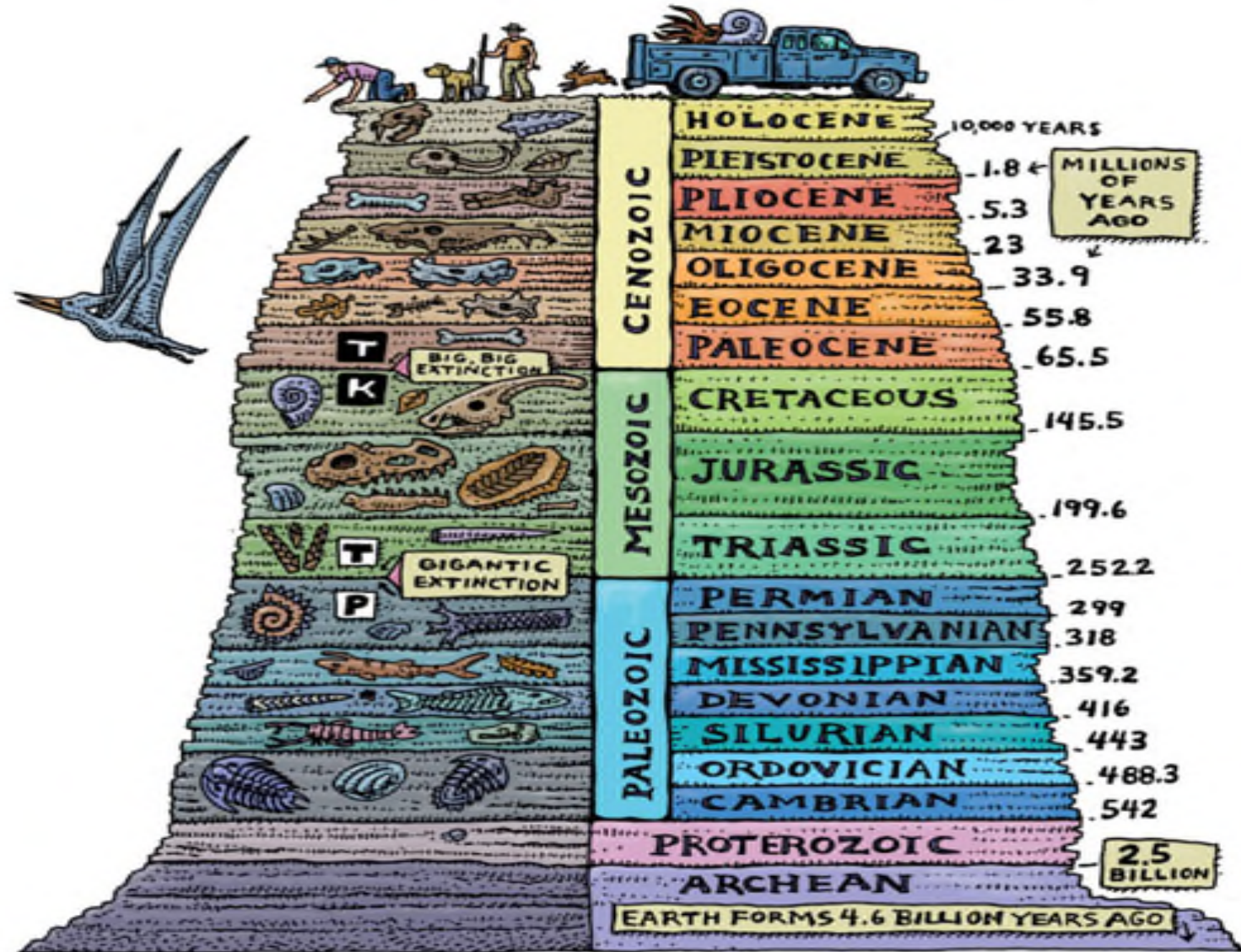
Past President OECD Committee on Biodiversity, Water & Ecosystems

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Contents presented do not represent the positions of the institutions with which he cooperates

From Holocene to Anthropocene?

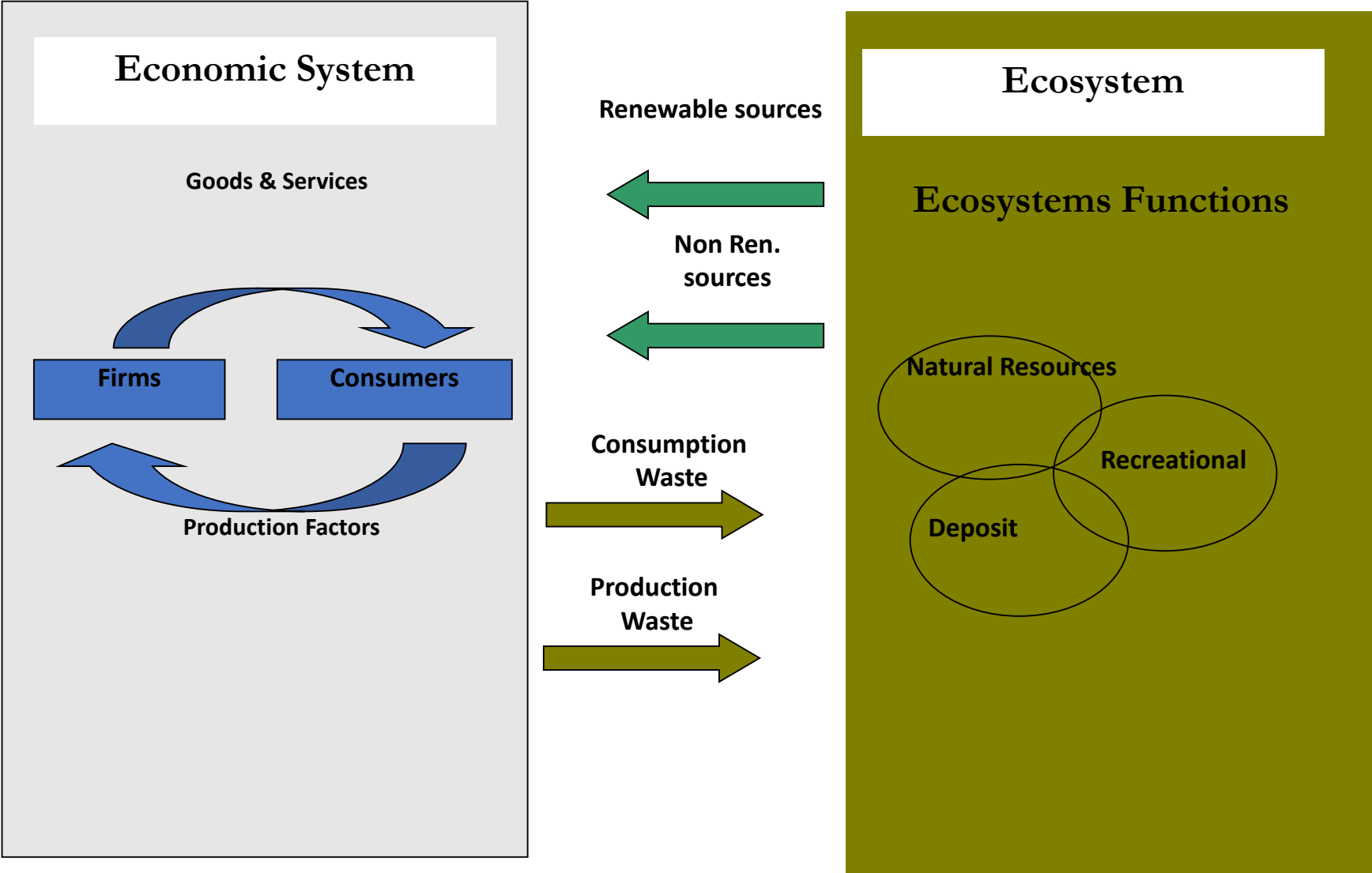


Paul Crutzen

Nobel Prize Chemistry 1995

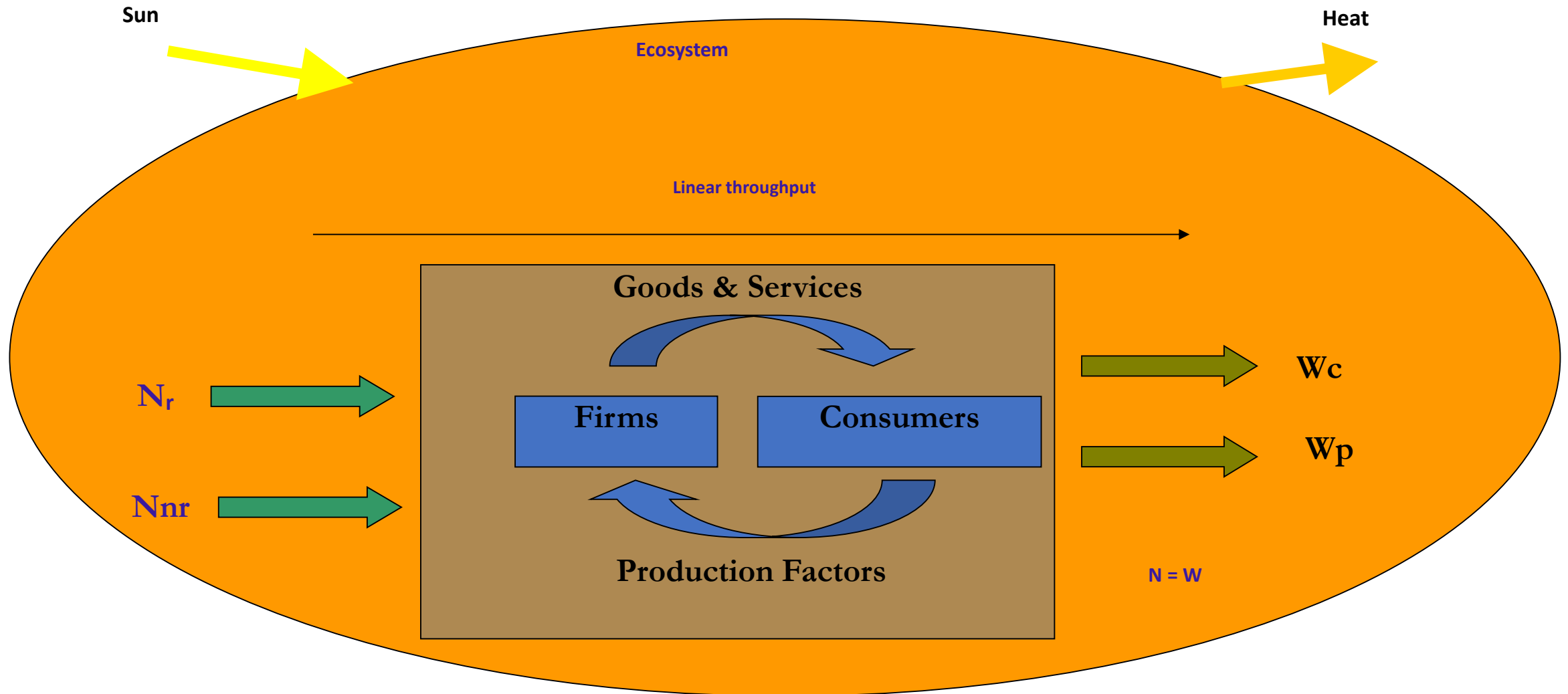
https://en.wikipedia.org/wiki/Paul_J._Crutzen
<https://www.wwf.it/news/notizie/?55882%2FLa-scomparsa-di-Paul-Crutzen-una-grave-perdita-per-tutti>

Traditional relation between Economic and Environmental Systems



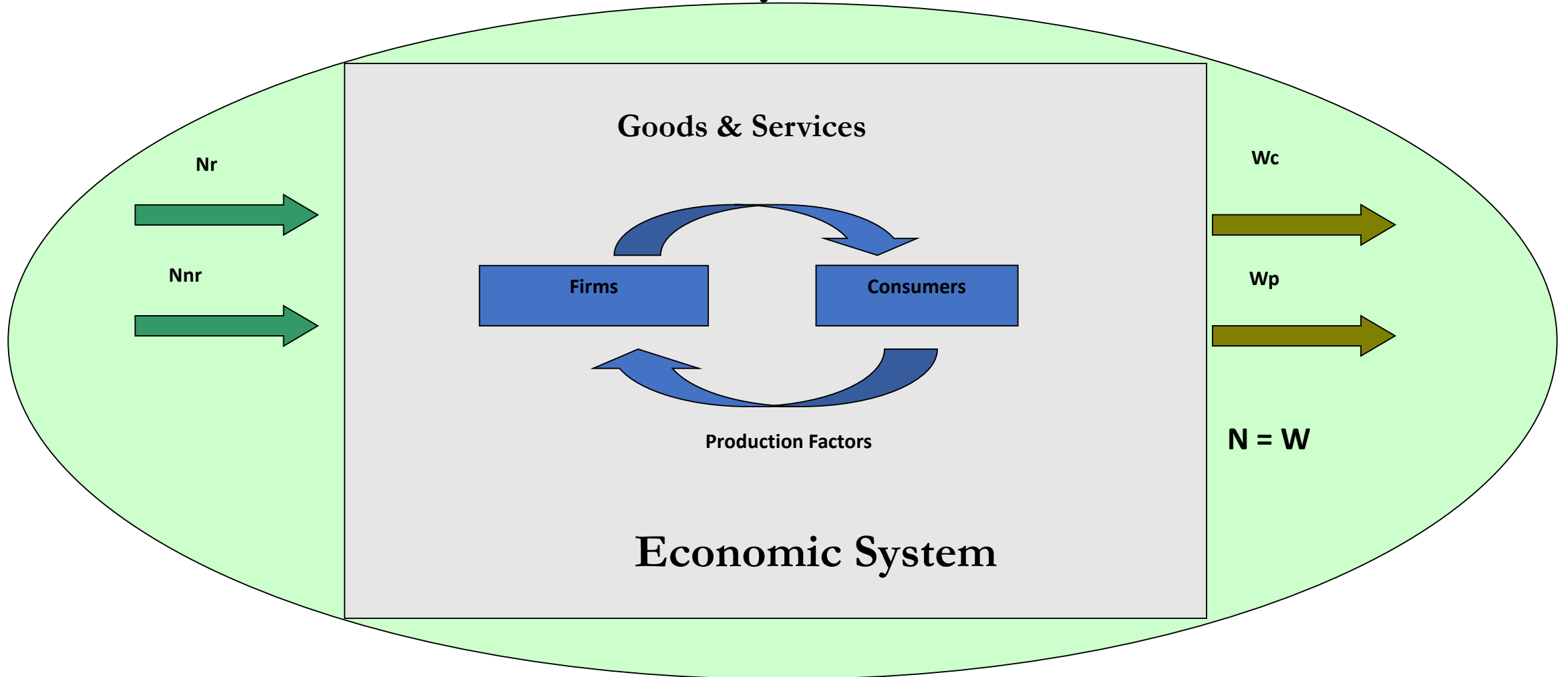
Sustainability: a change of paradigm

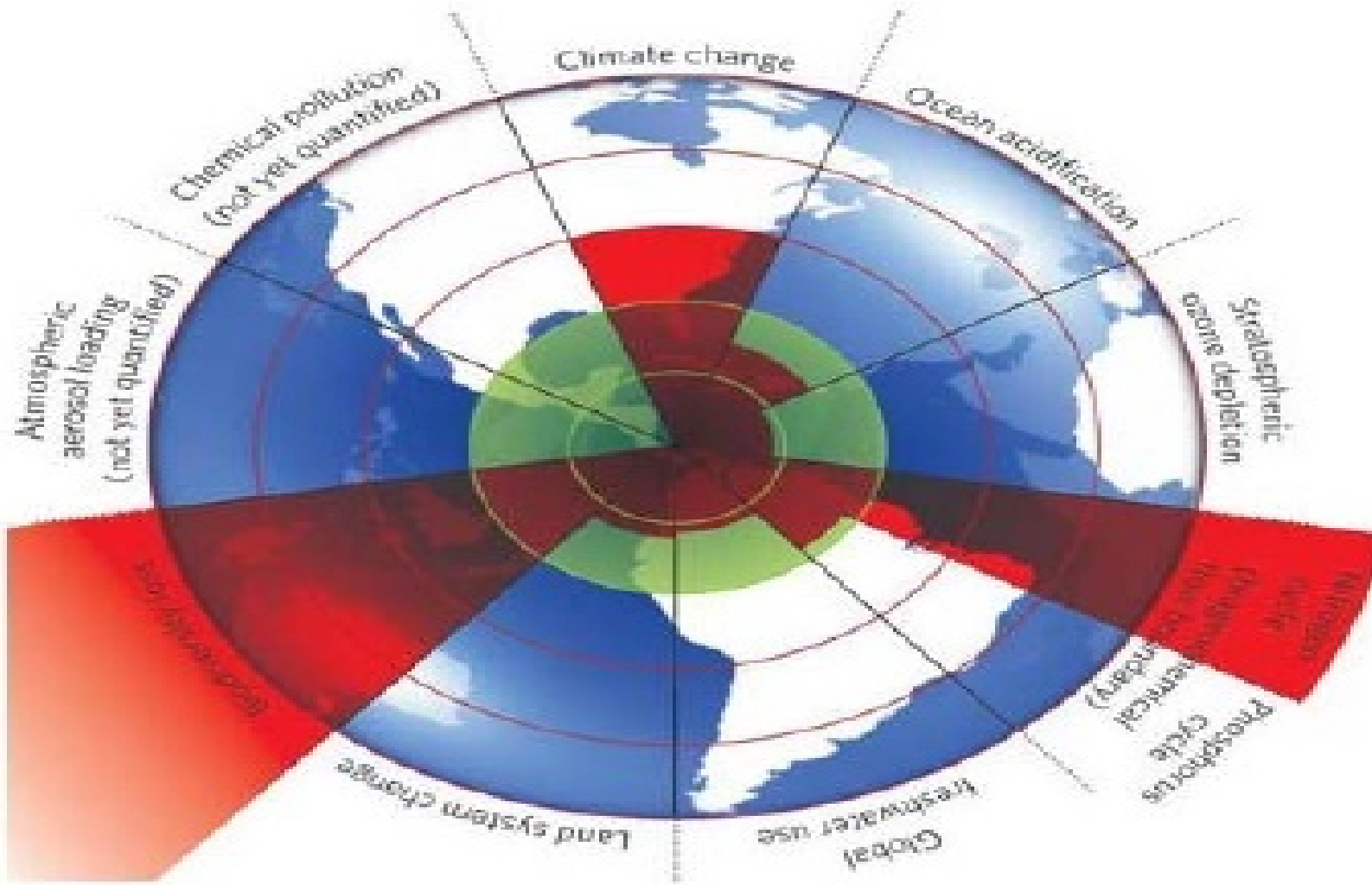
(Herman Daly WB – Francesco La Camera IRENA)



Sustainability: from an Empty World to a Full World

Ecosystem

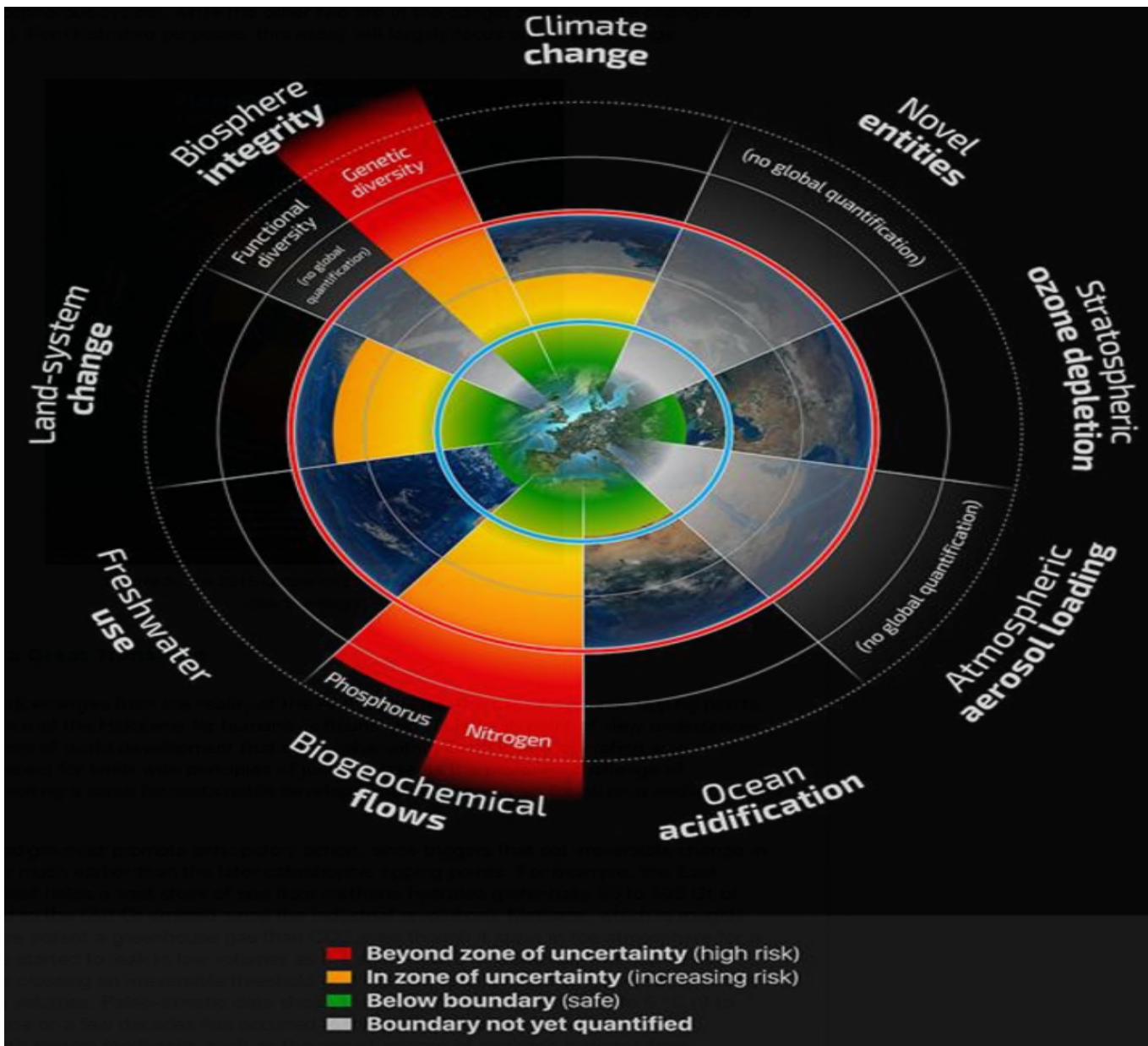




Source: Rockstrom et al (2009)

BE BASED ON AVAILABLE SCIENCE: THE PLANETARY BOUNDARIES

- 10 Planet Ecosystems to be kept under control:
1. Climate change
 2. Biodiversity loss
 3. Nitrogen cycle
 4. Phosphorus cycle
 5. Stratospheric ozone depletion
 6. Ocean acidification
 7. Global freshwater use
 8. Land system change
 9. Atmospheric aerosol loading
 10. Chemical pollution

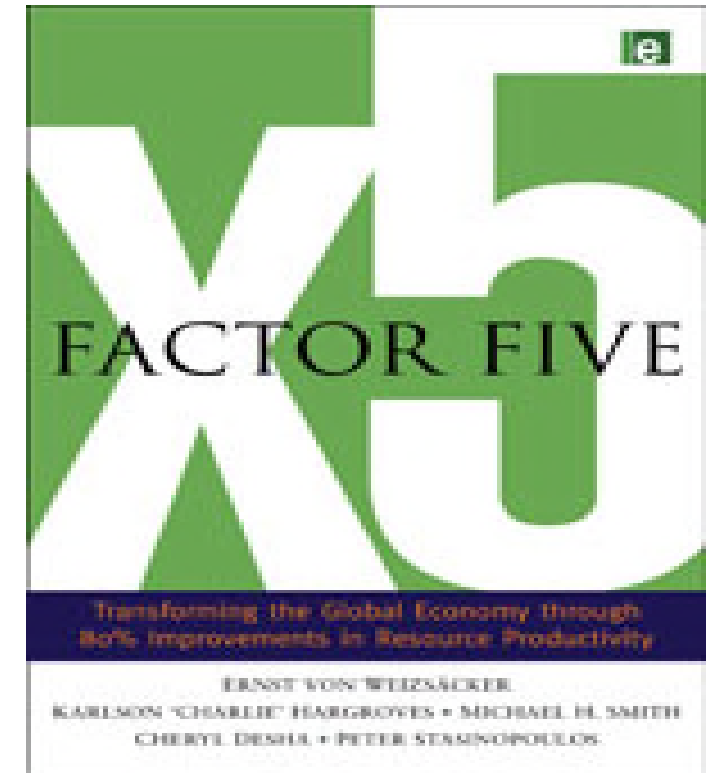
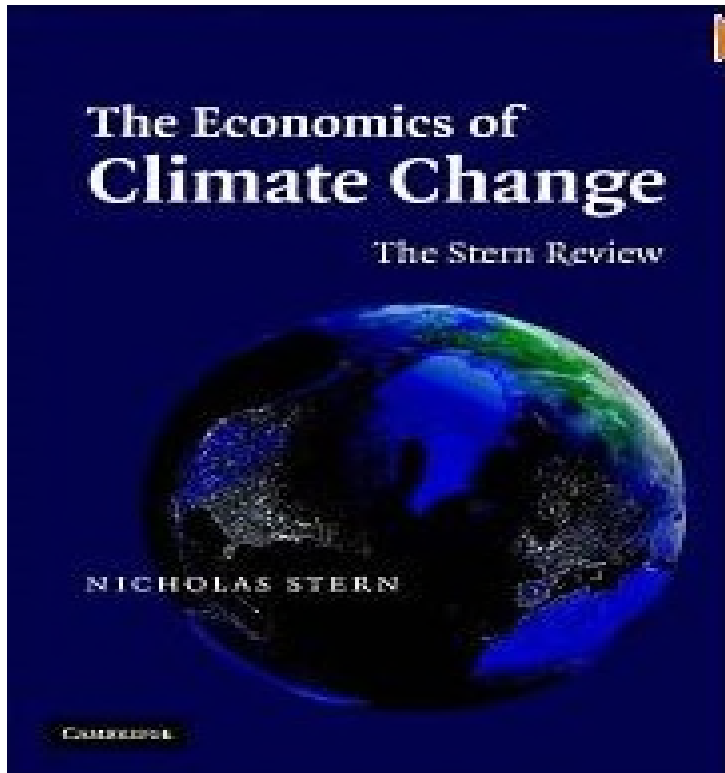


9 Planet Boundaries to be kept under control:

1. *Climate Change*
2. *Biosphere integrity*
(Biodiversity)
3. *Stratospheric ozone*
4. *Atmospheric aerosol*
5. *Ocean acidification*
6. *Biogeochemical flows (P, N)*
7. *Land-system change*
8. *Freshwater use*
9. *Novel entities ...*

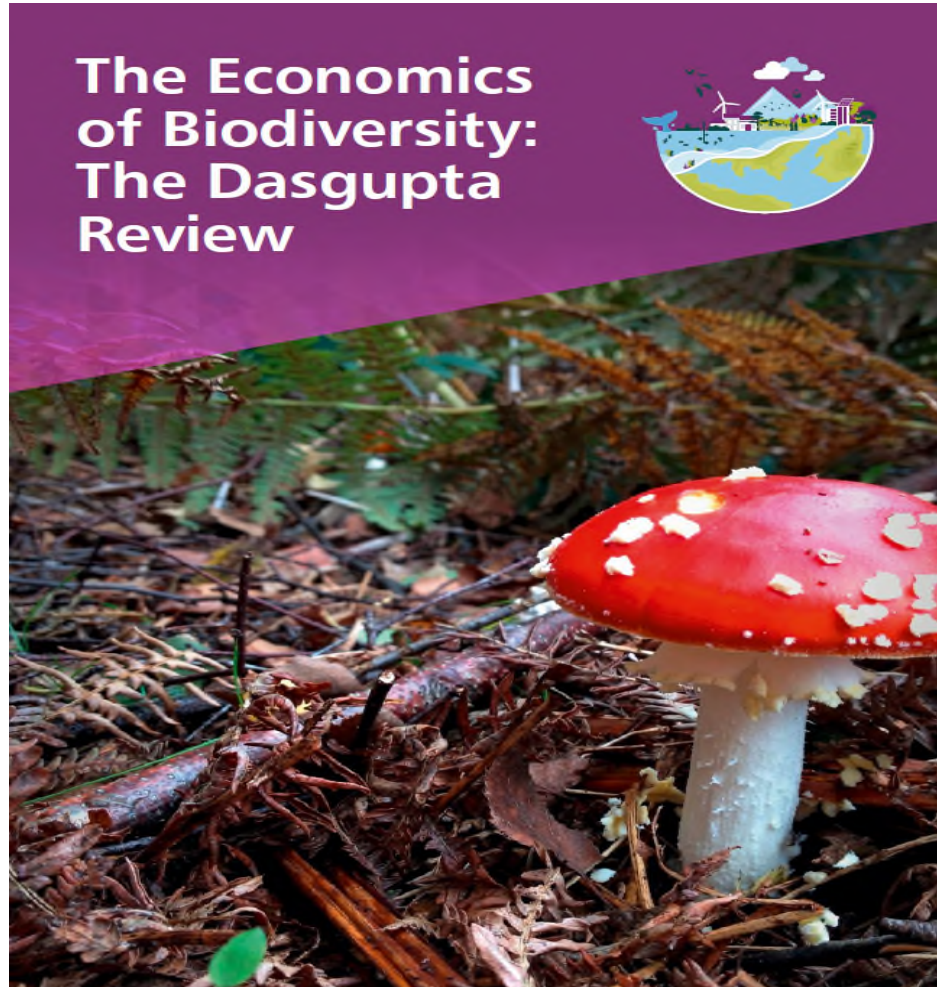
Sustainable Development Economics

(Green Growth, Green Economy, Resource Efficiency, Circular Economy, etc.)

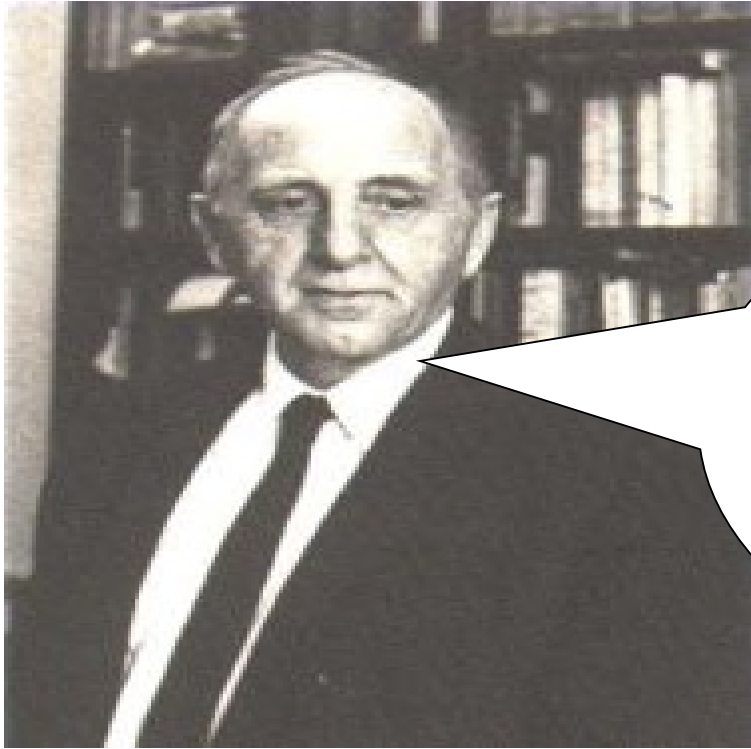


- Nicholas Stern (2006), "The Economics of Climate Change - The Stern Review ", HM Treasury, London
- Pavan Sukhdev ed. (2010 e 2011), "TEEB - The Economics of Ecosystems and Biodiversity", vol.1 "TEEB: Ecological and Economic Foundations , vol.2 "TEEB in National and International Policy Making", Earthscan, London
- E. Von Weizsaecker et al. (2009), "Factor 5 - Transforming the Global Economy through 80% Improvements in Resource Productivity", Earthscan, London

The Economics of Biodiversity: the Dasgupta Report for the G7 2021



What's the Economy for? What's GDP for?



“Distinctions must be kept in mind between quantity and quality of growth, between its costs and return, and between the short and long run... Goals for more growth should specify more growth of what and for what.”

Simon Kuznets, the Nobel Prize-winning economist and creator of the GDP as a measurement tool, warned against treating GDP as a gauge of progress as the unique indicator of welfare; he and his team were well aware of the meaning and of the limits of GDP.

Environmental Accounting – public and private (1)

- Firms' efforts for environmental/sustainability accounting: UN Global Compact (GCNI Italy) - GRI Global Reporting Initiative - WBCSD World Business Council on Sustainable Development - ...
- Beyond GDP – limits of GDP – Green GDP and Satellite Accounts (SEEA)
Measuring production/wealth/welfare/happiness – the Stiglitz-Sen-Fitoussi Commission
- Evolution of definition and measurement of GDP
- Evolution of company's traditional accounts

Environmental Accounting – public and private (2)

- Improvement of traditional company accounts thru the years (demand of transparency, accountability, minority shareholders rights, guarantee for the stock market, data availability thanks to I.T., ...)
- Encourage the 5% of existing best practices (vanguard)
- Bring along the 95% of less involved actors
- Are times ripe for environmental/sustainability minimum contents in company reporting? (just as there are minimum contents for profits & losses, balance sheet, financial statement?) starting from climate, biodiversity, ecosystems and natural capital
- Nobody is complaining apparently on traditional reporting ...

The Forgotten Capital

Il Capitale Dimenticato ...

The 4 forms of capital (Herman Daly)

- **Manufactured capital:** plant and equipment that contribute to production
- **Human capital:** knowledge and experience that contributes to production (can be split into knowledge capital and human capital)
- **Social capital:** institutions and relationships (formal and informal) that contribute to production - can be considered as institutions that are distinct from capital
- **Natural capital:** ecosystem states or processes, biological stocks, physical natural resources that contribute to provision/production

OECD Data, Analysis & Policy Work

Economic Instruments for Environmental Policy

PINE Database Policy Instruments for the Environment

Environmental Performance Country Reviews

Green Tax Reform

Green Budgeting (tax and expenditure)

Effective Carbon Rates (Excise + Ets + CO2 taxes)

Scaling up Financial Instruments for Biodiversity

Work on analysis in view of phasing out of BHS – Link to the CBD-COP Kunming and the Aichi Targets 2010 not achieved by 2020

Inventories of Fisheries Subsidies - Agriculture Subsidies

Inventory of Fossil Fuel Subsidies

Secretariat & Presidency of most G20 Peer Reviews on FFS

OECD classification

Policy Instruments for EP-GE-GG-SD-CP-DC

(Environmental Policy - Green Economy - Green Growth - Sustainable Development - Climate Policy - Decarbonisation - ...)

- **Regulatory Instruments:** Command&Control, regulations, limits, standards (e.g. banned mercury)
- **Voluntary Instruments:** covenants, deals, contracts... Gov-Firms/Sectors, Gov/Regions-Cities, soft measures: education, information, participation
- **Economic Instruments – MBI Market-Based Instruments**
- [+ **Environmental Assessment Instruments** (IA/SDIA/RIA-SEA-EIA-Emas- Ecolabel)]

- Traditional approach based on regulatory instruments
- Relative higher efficiency of economic instruments**
- Economic instruments need in most cases regulations and laws
- Regulatory instruments have in most cases an economic cost
- Reality: Instruments Mixes

Ecological/Environmental/Green Tax/Fiscal Reform - the idea

➤ The idea:

Restructuring the fiscal system shifting the tax burden from labour and firms towards pollution and the use of natural resources

(Delors, EU White paper “Growth, Competitiveness, Employment”, 1994)

(Von Weizsaecker - Jesinghaus, “Ecological Tax Reform”, 1991) (W-R, 2012)

➤ The motivations:

- Giving a price signal discouraging the consumption and production impacting negatively the environment
- Economic instruments can be effective and efficient

➤ The tools:

- Increasing or introducing taxes on goods and services which have an environmental impact (reducing or eliminating externalities)
- Restructuring existing taxes in an environmentally friendly way (ex. car ownership tax)
- Introducing EFSs (Environmentally Friendly Subsidies), Removing EHSs (Environmentally Harmful Subsidies) OECD: Harmful, Usa: Perverse Subsidies, France: Subventions Néfastes)
- Creating markets which do not exist (ex EU-ETS)

NATURAL CAPITAL: MULTI-LEVEL CONTEXT- International

	INITIATIVES / STRATEGIES
INITIATIVES / STRATEGIES	<ul style="list-style-type: none"> ➤ AGENDA 2030 (17 SDGs) ➤ Biodiversity Strategic Plan 2011-2020 (CBD) ➤ IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) ➤ Sendai Framework for Disaster Reduction ➤ MEA (Millennium Ecosystem Assessment) ➤ Natural Capital Coalition (Natural Capital Protocol) ➤ Natural Capital Project ➤ World Forum on Natural Capital
ACCOUNTING / VALUATION	<ul style="list-style-type: none"> ➤ TEEB (The Economics of Ecosystem and Biodiversity) ➤ WAVES (Wealth Accounting and the Valuation of Ecosystem Services) ➤ SEEA (System of Environmental-Economic Accounting) <ul style="list-style-type: none"> ✓ CF (Central Framework) ✓ EEA (Experimental Ecosystem Accounting)

NATURAL CAPITAL: MULTI-LEVEL CONTEXT- EU

	INITIATIVES / STRATEGIES
INITIATIVES / STRATEGIES	<ul style="list-style-type: none">➤ 7th Environment Action Plan➤ Biodiversity Strategy➤ Green Infrastructure Strategy➤ Action Plan for Nature, People and the Economy
ACCOUNTING / VALUATION	<ul style="list-style-type: none">➤ CICES (Common International Classification of Ecosystem Services)➤ MAES (Mapping and Assessment of Ecosystems and their Services)➤ KIP-INCA (Knowledge Innovation Project on Accounting for Natural Capital and Ecosystem Services)➤ Eurostat Environmental Accounts

NATURAL CAPITAL: MULTI-LEVEL CONTEXT- Italy

	INITIATIVES / STRATEGIES
INITIATIVES / STRATEGIES	<ul style="list-style-type: none">➤ Biodiversity Italian Strategy (MATTM)➤ Committee on Urban Greening (MATTM)➤ Report on Policies for Landscape (MIBACT)➤ Tourism Strategic Plan (MIBACT)
ACCOUNTING / VALUATION	<ul style="list-style-type: none">➤ Report on Land Consumption (ISPRA)➤ Material Flows, Environmental Accounts (ISTAT)➤ <u>Italian Natural Capital Committee</u>

Italian policy attempts

Italian Law on Green Economy & Resource Efficiency (L. 221/2015) inter alia:

- committed to update its **National Strategy for Sustainable Development**;
- established the **Catalogue of Environmentally Harmful Subsidies**;
- launched the **Italian Natural Capital Committee**.

Inspired by the UK Natural Capital Committee:

- 7 independent scientists: public reports to Defra (MoE UK)
- Defra is obliged to react publicly

The Italian Natural Capital Committee, chaired by the Minister for Ecological Transition, includes:

- 10 Ministers;
- 2 representatives of Regions and Cities;
- 5 public research institutions (including the Bank of Italy and the National Statistical Office – BdIt-Istat-Ispra-Enea-Cnr);
- 10 independent experts from universities, environmental associations, business and research organizations.

Italian Natural Capital Committee

Duties:

- a) Prepare a **yearly report** on the State of Natural Capital in Italy
- b) **Assess the impact of policies** (including new laws, plans and strategies) on **Natural Capital**
- c) Formulate recommendations for a higher **integration of Natural Capital in public & private decision-making processes**

the Report

- confirms the extraordinary richness in biodiversity of our country;
- BUT also delivers us worrying data on the ecological state of birdlife, wetlands, plains, and marine ecosystems.



forest area (about
40% of the national
surface)



bird species in
**UNFAVOURABLE-
INADEQUATE
CONSERVATION STATUS**



**ENDANGERED
ECOSYSTEM AREA**
at a national level



underwater meadows
lost over the past
century

RESTORATION ECOLOGY

**The major REPORT 's recommendation has been
“WITHOUT NATURE THERE IS NO RECOVERY”**

**The REPORT highlights the necessity to start a great
public work of restoration of terrestrial and marine
ecosystems, as an economic opportunity considering the
launch of new employment**

→ Brought to discussion of the G20 Environment Track - to be followed at Naples and Rome Summits



BIODIVERSITY FINANCING GAP

The distance between “where we are” and “where we should be” represents the gap that we should fill: a political, cultural, and financial gap.

The REPORT underlines that the **Biodiversity Financing Gap** corresponds to the economic resources needed to achieve national and international environmental goals.

BIODIVERSITY HARMFUL SUBSIDIES

The 4th Natural Capital REPORT underlines that to **close the Biodiversity Financing Gap** it is necessary to generate new funding flows and to **eliminate Biodiversity Harmful Subsidies**

The estimate from the 3rd Catalogue of EHSs-EFSs in Italy for 2018 was:

- 19,7 B€ EHS (Harmful) (of which 17,7 FFS)
- 15,3 EFS (Friendly),
- 8,1 EUS (Uncertain)



**€28
billion**

BHS - BIODIVERSITY HARMFUL SUBSIDIES FOR THE YEAR 2018

(estimated using the Institute for European Environmental Policy - IEEP method and DNSH criteria)

BIODIVERSITY FINANCIAL SOLUTIONS

New efforts are needed to **complement traditional financing sources with innovative financial instruments** in a longer-term view, the REPORT includes for the **first time an Italian translation of over 150 financial solutions**, both public and private, **from the UNDP-BIOFIN Catalogue.**

NATURAL CAPITAL REPORTS & PUBLICATIONS



<http://www.minambiente.it/pagina/capitale-naturale>

Italian version - ISBN: 9788866272434

English version - ISBN: 9788866272595

**Professor Nicholas Stern, LSE, and
past Chief Economist, Bank of
England**

The Dasgupta Review shows that we are taking out much more from the Earth than it can stand, we are running it down fast, and ***we will pay the price***. With its clear, comprehensive and conceptually well-founded framework, it provides the foundation for ***urgent action needed now*** to tackle the interconnected challenges of climate change and biodiversity loss.

The Adam Smith Society 30 June 2021



**Sunny Verghese, Co-Founder CEO of Olam International,
Chair of the World Business Council for Sustainable
Development**

Now more than ever, it is vital to recognise the interdependence of protecting our natural resources and improving social equality alongside global prosperity.

Economic growth and sustainable development must not be viewed as a binary choice. Businesses and policymakers must urgently and collectively work to drive changes that will conserve our world now and for the future. ***Businesses must accelerate their reporting to account for their natural and social capitals,*** while governments must establish clear policies to promote and incentivise investment to conserve our natural world. The Dasgupta Review shows clearly that if we are to reverse – and restore – the negative impacts on our planet and people, we cannot wait to do the right thing.

Pavan Sukhdev, CEO GIST Impact; Goodwill Ambassador, UNEP; former Study Leader, TEEB; past economist at Deutsche B. The ***economic invisibility of nature***, despite its many and valuable contributions to human well-being, continues to plague the worlds of policy-making and business decision-making and drives the accelerating losses of biodiversity and ecosystem services that, regrettably, we continue to see to this day. Correcting this problem at its root ***requires changing how we value and account for natural capital*** in every dimension of human endeavour. It is therefore heartening to see the publication of the Dasgupta Review, a timely and trenchant reminder about why and how we must change the way we make policy, do business and account for our true wealth, if human society is to continue to thrive on earth.