

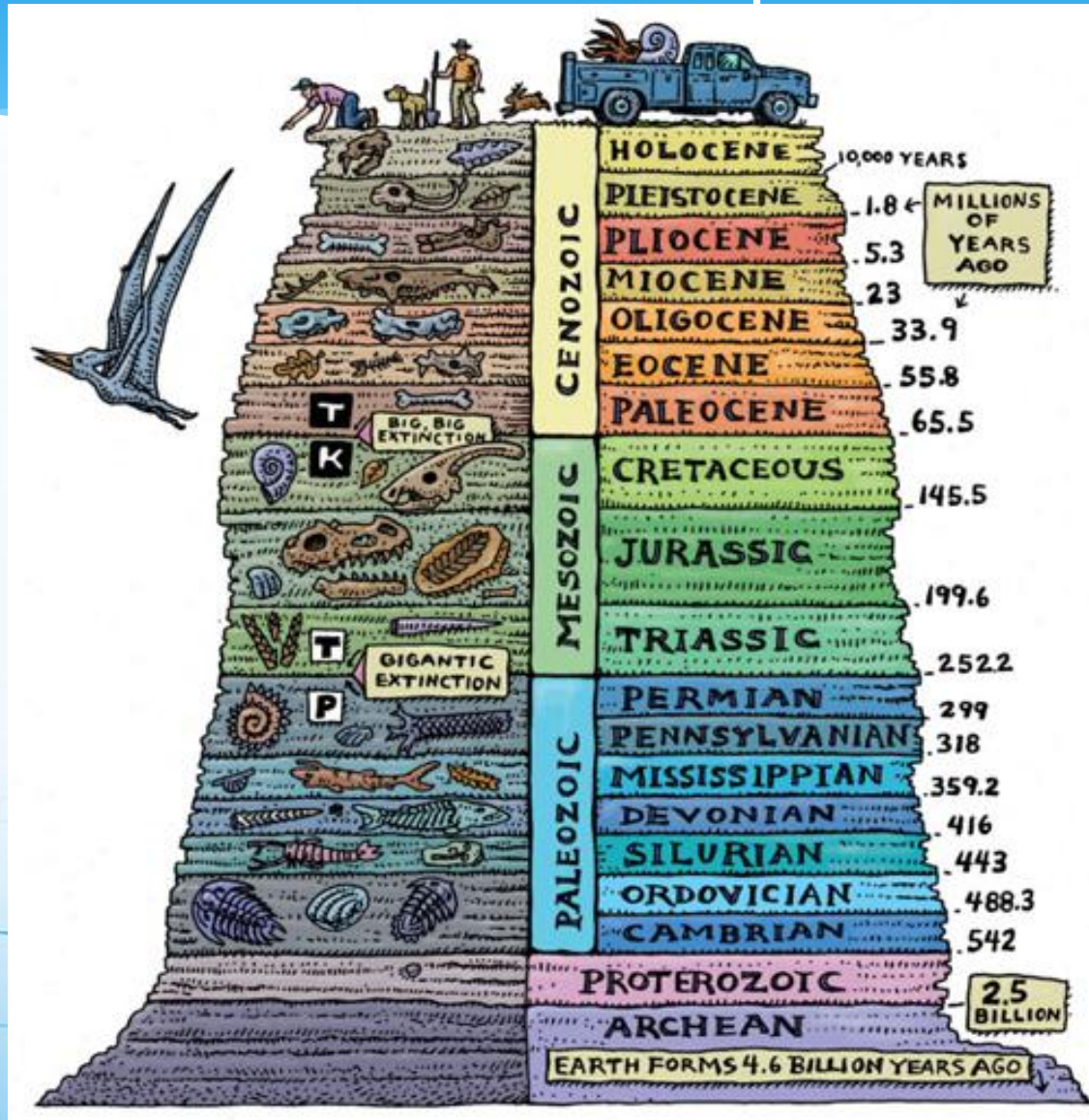
Movimento Europeo BOLOGNA, 18-19 luglio 2018

**SDGs & Circular Economy - A New Successful Economic,
Industrial, Financial, Territorial Management Model**

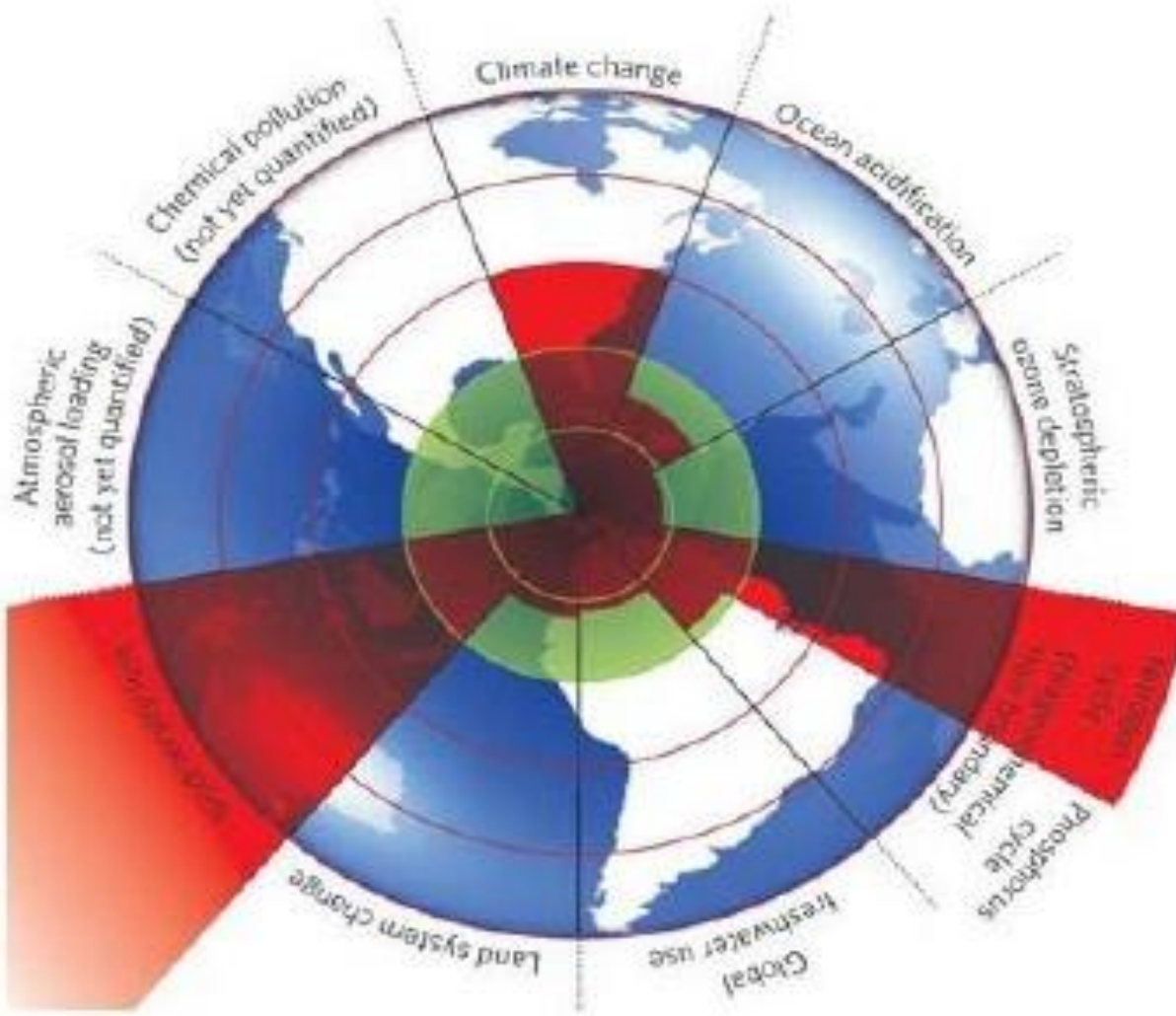
Conclusioni

Aldo Ravazzi Douvan, capo economista
Ministero dell'Ambiente, DG Sviluppo Sostenibile / Sogesid AT
Presidente Comitato OCSE Esami Ambientali dei Paesi
Rappresentante italiano all'IRP – International Resource Panel
ravazzi.aldo@minambiente.it

From Olocene to Anthropocene?

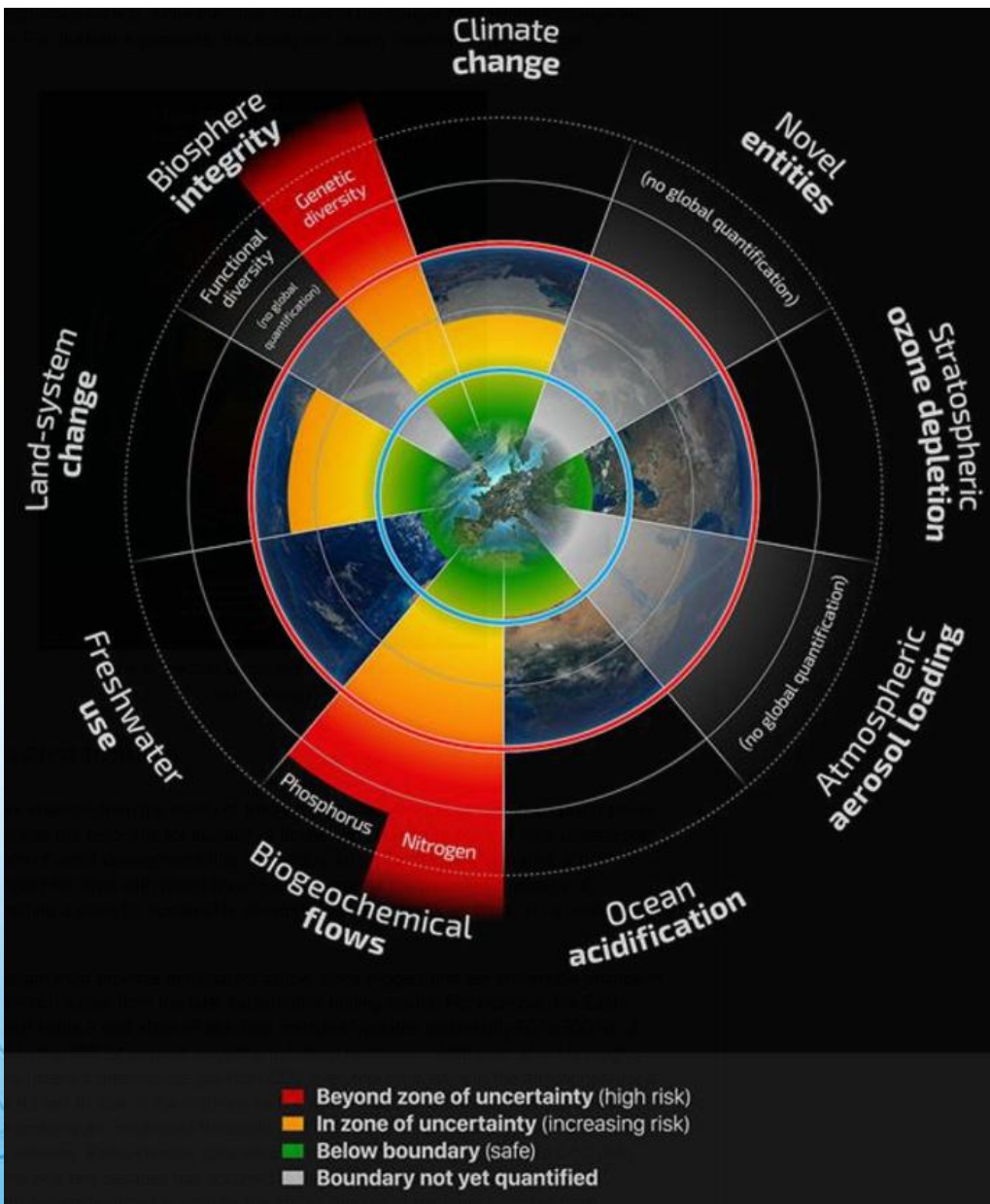


- # 10 Planet Ecosystems to be kept under control:
1. Climate change
 2. Biodiversity loss
 3. Nitrogen cycle
 4. *Phosphorus cycle*
 5. Stratospheric ozone depletion
 6. *Ocean acidification*
 7. *Global freshwater use*
 8. *Land system change*
 9. Atmospheric aerosol loading
 10. Chemical pollution



Source: Rockstrom et al (2009)

BE BASED ON AVAILABLE SCIENCE: THE PLANETARY BOUNDARIES

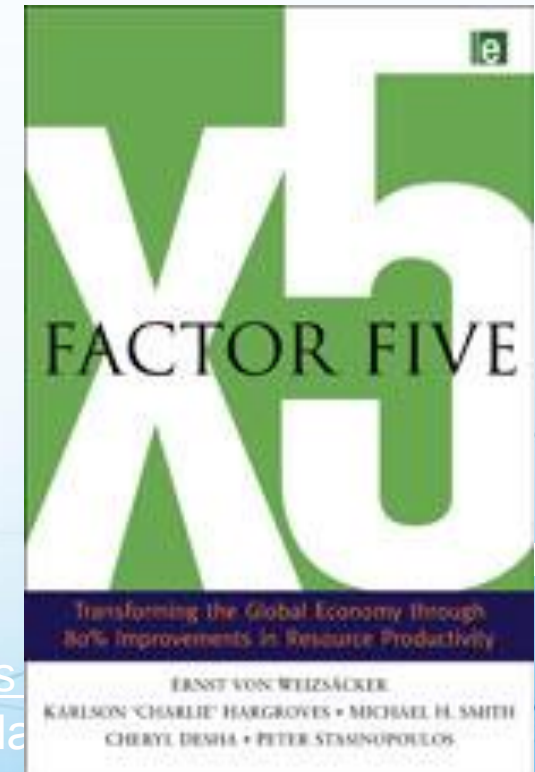
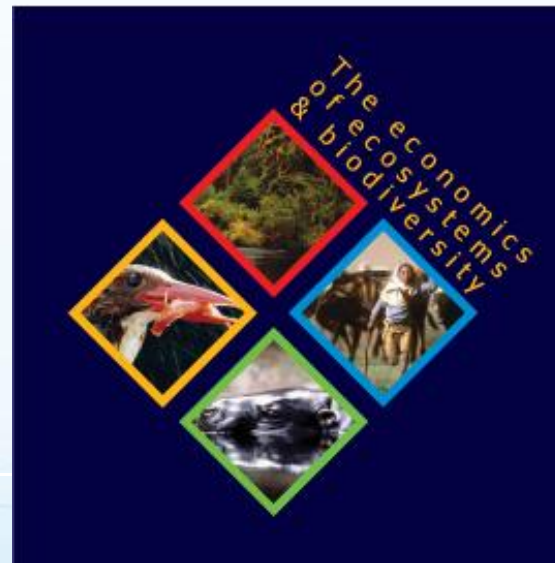
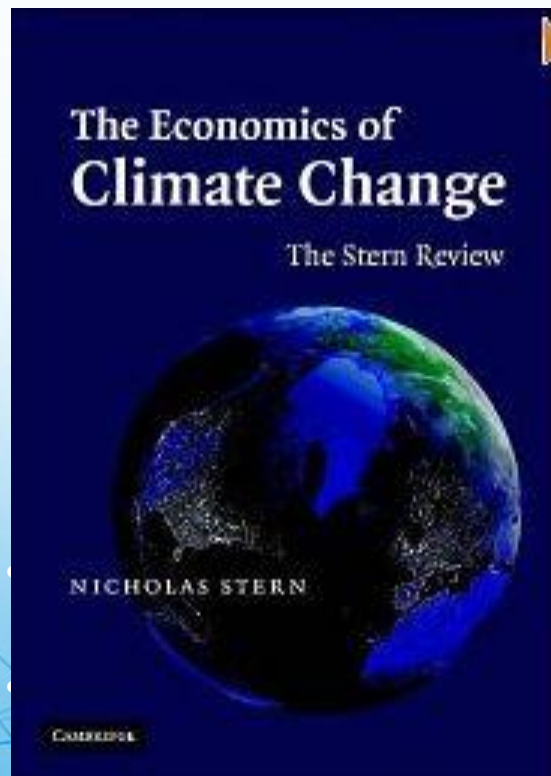


9 Planet Boundaries to be kept under control:

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 ...

Source: Rockstroem et al. (2009) and Steffen et al. Planetary Boundaries: Guiding human development on a changing planet, Science, 16.1.2015; <http://www-ramanathan.ucsd.edu/files/pr210.pdf>

Economia dello Sviluppo Sostenibile (Crescita Verde, Green Economy, Efficienza delle Risorse, Economia circolare, etc.)

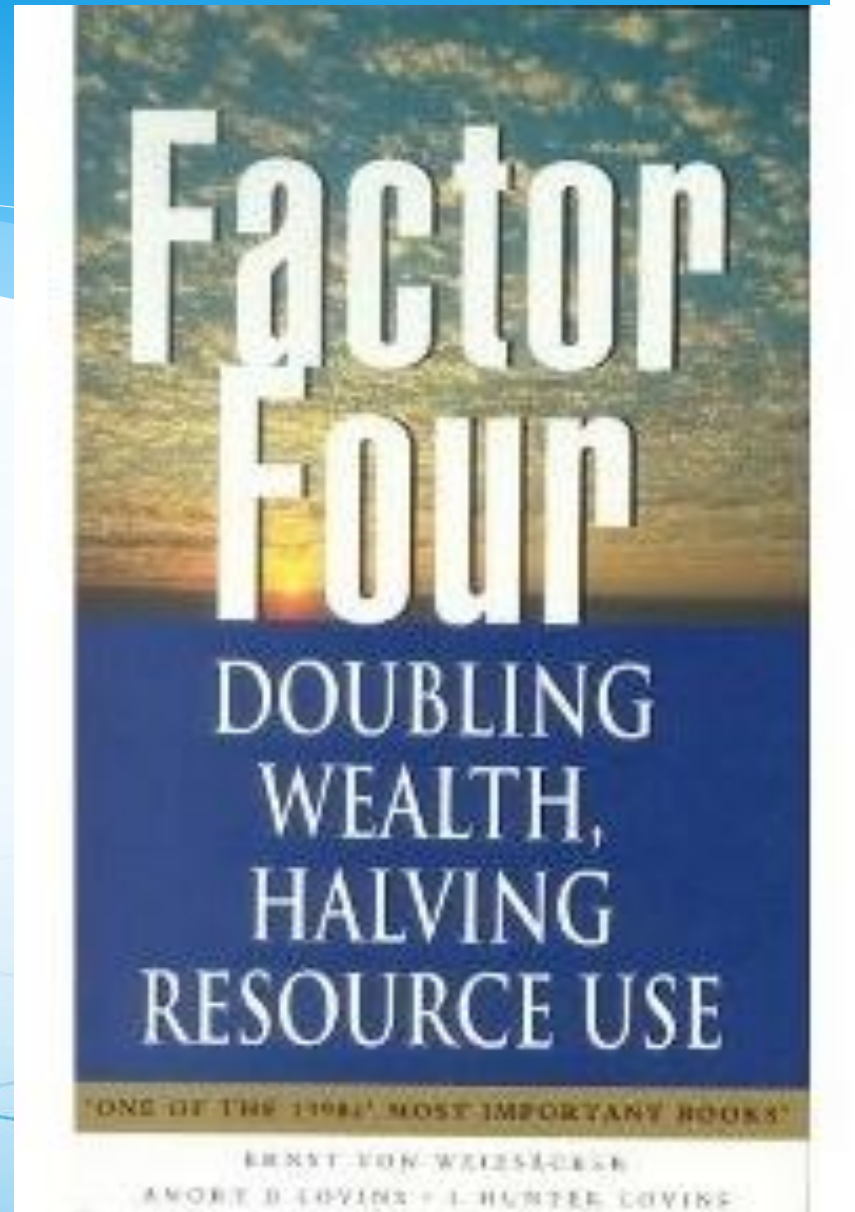


National and International Policy Making", Earthscan, London

- E. Von Weizsaecker et al. (2009), "Factor 5 - Transforming the Global Economy through 80% Improvements in Resource Productivity", Earthscan, London

Origini dell'Efficienza delle Risorse: Il “Fattore 4”

- * Fattore 4: l'obiettivo di essere due volte più produttivi usando metà delle risorse (materiali ed energia).
- * In altri termini: pratiche produttive che usano $\frac{1}{4}$ delle risorse ovvero 4 volte più efficaci con le stesse risorse.
- * Il concetto è stato introdotto nel 1998 dal libro, [Factor 4](#), di L. Hunter Lovins e Amory Lovins del Rocky Mountain Institute, e del Ernst von Weizsäcker, fondatore del the Wuppertal Institute for Climate, Environment & Energy.





THE GLOBAL GOALS For Sustainable Development





1. Relazione fra strumenti strategici e di pianificazione SNSvS

SEN – Strategia Energetica
Strategia Bioeconomia
Doc pos. Economia Circolare
Strategie settoriali
Legge Finanziaria-Stabilità
DPF - PNR

3. Indicatori

SDG ONU
SNSvS
BES
BES nel DEF
(indicatori GdL Doc. Pos. Eco. Circolare)

Beyond GDP

2. Relazione fra livelli di pianificazione

SNSvS

Strategie Regionali di Sviluppo Sostenibile

Strategie e Documenti Regionali Settoriali ed Economico-Finanziari



ECONOMIA CIRCOLARE E SNSvS: PIANETA

AREAS	NATIONAL OBJECTIVES	CIRCULAR ECONOMY
HALT THE LOSS OF BIODIVERSITY	Safeguard and improve the conservation status of species and habitats in terrestrial and aquatic ecosystems	
	Halt the spreading of invasive alien species	
	Increase terrestrial and maritime protected areas and ensure their effective management	
	Protect and restore genetic resources and natural ecosystems linked to farming, forestry and aquaculture	√
	Mainstream natural capital accounting in planning, programming and national accounting	
ENSURE THE SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES	Provide biological diverse and dynamic seas and prevent impacts on maritime and coastal environment	
	Halt soil consumption and combat desertification	√
	Minimize pollutant loads in soils, water bodies and aquifers, considering the good ecological status of natural systems	
	Implement integrated water resource management at all levels	√
	Maximize water efficiency and adjust withdrawals to water scarcity	√
	Minimize emissions and reduce air pollutants concentration	
	Ensure sustainable forest management and combat forest abandonment and degradation	√
CREATE RESILIENT COMMUNITIES AND TERRITORIES, PROTECT LANDSCAPES AND CULTURAL HERITAGE	Prevent anthropogenic and environmental risk and strengthen urban and territorial resilience	
	Guarantee high environmental performances of buildings, infrastructures and open spaces	
	Boost urban regeneration, ensure sustainable urban accessibility and mobility	√
	Ensure ecosystems restoration and defragmentation, strengthen ecological urban-rural connections	
	Ensure the development of potential and the sustainable management of territories, landscapes and cultural heritage	



ECONOMIA CIRCOLARE E SNSvS: PROSPERITA'

AREAS	NATIONAL OBJECTIVES	CIRCULAR ECONOMY
FUND AND PROMOTE SUSTAINABLE RESEARCH AND INNOVATION	Increase the investments in research and development	
	Implement the digital agenda and improve the spread of smart networks	
	Innovate processes and products and promote technological transfer	√
ENSURE FULL EMPLOYMENT AND HIGH QUALITY TRAINING	Ensure accessible, high quality and permanent training	
	Increase sustainable and high quality employment	√
ENSURE SUSTAINABLE PRODUCTION AND CONSUMPTION PATTERNS	Dematerialize the economy, improving the efficient use of resources and the circular economy	√√
	Promote environmental taxation	
	Ensure fair access to financial resources	
	Promote social and environmental responsibility in companies and institutions	
	Reduce waste production and promote secondary raw material market	√√
	Promote the demand and increase the supply of sustainable tourism	
	Boost sustainable farming and forestry throughout the production and supply chain	√
	Boost sustainable fishing and aquaculture throughout the production and supply chain	√
	Promote Italian excellence worldwide	√
DECARBONIZE THE ECONOMY	Increase energy efficiency and renewable energy production, avoiding or reducing impacts on natural and cultural heritage and landscapes	√
	Increase sustainable mobility of people and goods	
	Reduce greenhouse gas emissions in non-ETS sectors	



EUROPA: HLEG SU FINANZA SOSTENIBILE



6. ESTABLISH 'SUSTAINABLE INFRASTRUCTURE EUROPE'



- **Climate and Energy:** Meeting the targets of the 'Clean Energy for All Europeans' package by 2030 requires an estimated €11.2 trillion of investment between 2021 and 2030, with an average investment gap of €170 billion per year. The nature of energy investments being small and disaggregated across Europe, Sustainable Infrastructure Europe would leverage multiple retail channels, facilitate aggregation and mitigate risk through new financial products.
- **Water treatment and supply:** Investment needs are thought to be around €90 billion per year, while obsolete and inadequate infrastructure creates additional risks of financial losses.
- **Circular economy:** Investment needs are estimated at €98 billion per year, comprising €23 billion for food, €28 billion for mobility systems and €46 billion for the built environment, according to the Ellen MacArthur Foundation.
- **Waste:** Investment needs are to be further assessed, with current flows at around €12.5 billion per year for all waste management. These are expected to increase as newer member states catch up to achieve the 2025 and 2030 waste-related targets proposed by the Commission in its circular economy package.



Finanziamenti per l'Italia con lo Juncker Plan

- The European Fund for Strategic Investments – the EFSI – is the central pillar of the Investment Plan for Europe.
- ...
- At least 40% of EFSI infrastructure and innovation projects will aim to contribute to climate action in line with the Paris Agreement. EFSI 2.0 also explicitly targets new sectors: sustainable agriculture, forestry, fisheries and aquaculture.

THE JUNKER PLAN IN ITALY

Operations approved in **Italy** under the Juncker Plan's European Fund for Strategic Investments (EFSI) now represent a total financing volume of **€7.4 billion**. This is expected to trigger **€41.1 billion** in investments.



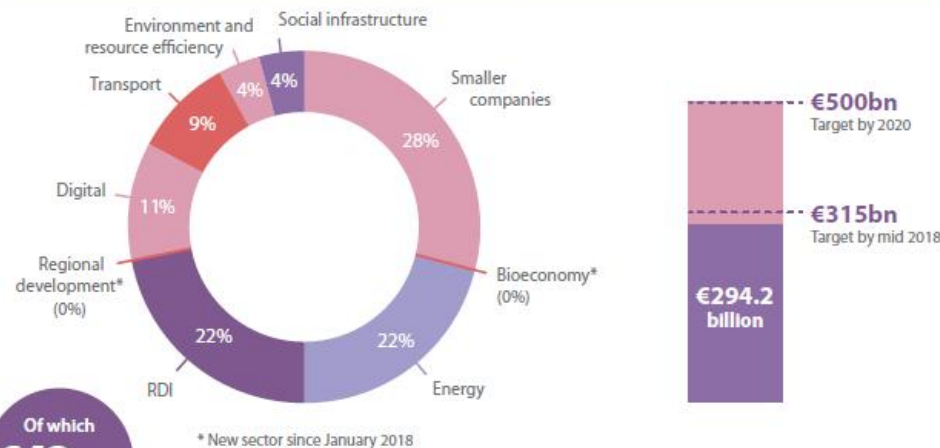
EFSI-triggered investment in Italy



Investment Plan for Europe

State of Play | June 2018

RESULTS SO FAR ACROSS ALL 28 MEMBER STATES



APPROVED EFSI
FINANCING**

€58.9 bn

TOTAL INVESTMENT RELATED TO EFSI APPROVALS

€294.2 bn

**EIB-approved: €44.4 bn
EIF-approved: €14.5 bn

Progetti finanziati finora nel settore
«Ambiente ed Efficienza delle
Risorse»:

- *Acquedotto Pugliese water services*
- *Treviso hospital*
- *Dolomiti Energia*
- *Italgas Gas Smart Metering*
- *Umbria Legno: wooden furniture*

- https://ec.europa.eu/commission/sites/beta-political/files/italy-investment-plan-factsheet-17x17-june18_en.pdf



DOCUMENTO STRATEGICO ECONOMIA CIRCOLARE

APRILE 2017 – NOVEMBRE 2017
DOCUMENTO STRATEGICO

Verso un modello di economia circolare per l'Italia

Documento di inquadramento
e di posizionamento strategico





DOCUMENTO STRATEGICO: CONTENUTI

1. Principi ed Obiettivi

- Uso Efficiente e Sostenibile delle Risorse
- Nuovo Modello Integrato Produzione-Distribuzione-Consumo

2. La Situazione Corrente

- Contesto Internazionale
- Contesto Europeo
- Italia: Stato dell'arte, sfide ed opportunità

4. Il Processo di Transizione

- Ripensare il Concetto di Rifiuto
- Green Public Procurement
- Risorse e Prodotti (tracciabilità)
- Indicatori

3. Il Cambio di Paradigma

- Produzione
- Consumo
- Strumenti Economici



SEZIONE 1: PRINCIPI ED OBIETTIVI

UPSTREAM (A MONTE)

AUMENTARE L'EFFICIENZA NELL'USO DELLE RISORSE => **DECOUPLING**
MIGLIORARE I MODELLI DI PRODUZIONE => **ECO-DESIGN, EPR**

NUOVI MODELLI DI BUSINESS

DOWNSTREAM (A VALLE)

MIGLIORARE IL SISTEMA DI GESTIONE DEI RIFIUTI
(NON SOLO RIDURRE MA REINTRODURRE NEL SISTEMA SOCIO-ECONOMICO)
PIRAMIDE GERARCHICA (3R, 4R)



SEZIONE 2: LA SITUAZIONE CORRENTE (2016)

LEGGE 221/2015
(COLLEGATO
AMBIENTALE)

DECRETO 26/5/2016
LINEE GUIDA PER IL
CALCOLO DELLA
PERCENTUALE DI
RACCOLTA
DIFFERENZIATA DEI
RIFIUTI URBANI

LEGGE 166/2016
SPRECO PRODOTTI
ALIMENTARI E
FARMACEUTICI

1/2016

4/2016

5/2016

6/2016

8/2016

10/2016

DECRETO 50/2016
NUOVO CODICE
DEGLI APPALTI
PUBBLICI (E CRITERI
AMBIENTALI
MINIMI)

DECRETO
MINISTERIALE
140/2016
PROGETTAZIONE E
PRODUZIONE
ECOCOMPATIBILI DI
RIFIUTI ELETTRICI
ED ELETTRONICI

DECRETO
MINISTERIALE
264/2016
QUALIFICA DI
SOTTOPRODOTTO



SEZIONE 2: LA SITUAZIONE CORRENTE (2017)

DECRETO
MINISTERIALE
266/2016
COMPOSTAGGIO
RIFIUTI ORGANICI

LANCIO STRATEGIA
NAZIONALE
BIOECONOMIA

DECRETO
MINISTERIALE
20/4/2017
CRITERI CALCOLO
TARIFFA PUNTUALE
RIFIUTI URBANI
(PAY-AS-YOU-
THROW)

DECRETO
MINISTERIALE
142/2017
SPERIMENTAZIONE
VUOTO A RENDERE
(DEPOSIT REFUND
SYSTEM)

2/2017

4/2017

5/2017

6/2017

8/2017

12/2017

1° RAPPORTO SUL
CAPITALE
NATURALE

1° CATALOGO
SUSSIDI
AMBIENTALI
(DANNOSI E
FAVOREVOLI)

G7 AMBIENTE E
5-YEAR BOLOGNA
ROADMAP

LEGGE 123/2017
IMBALLAGGI
BIODEGRADABILI
PER PRODOTTI
ALIMENTARI SFUSI



SEZIONE 3: CAMBIO DI PARADIGMA

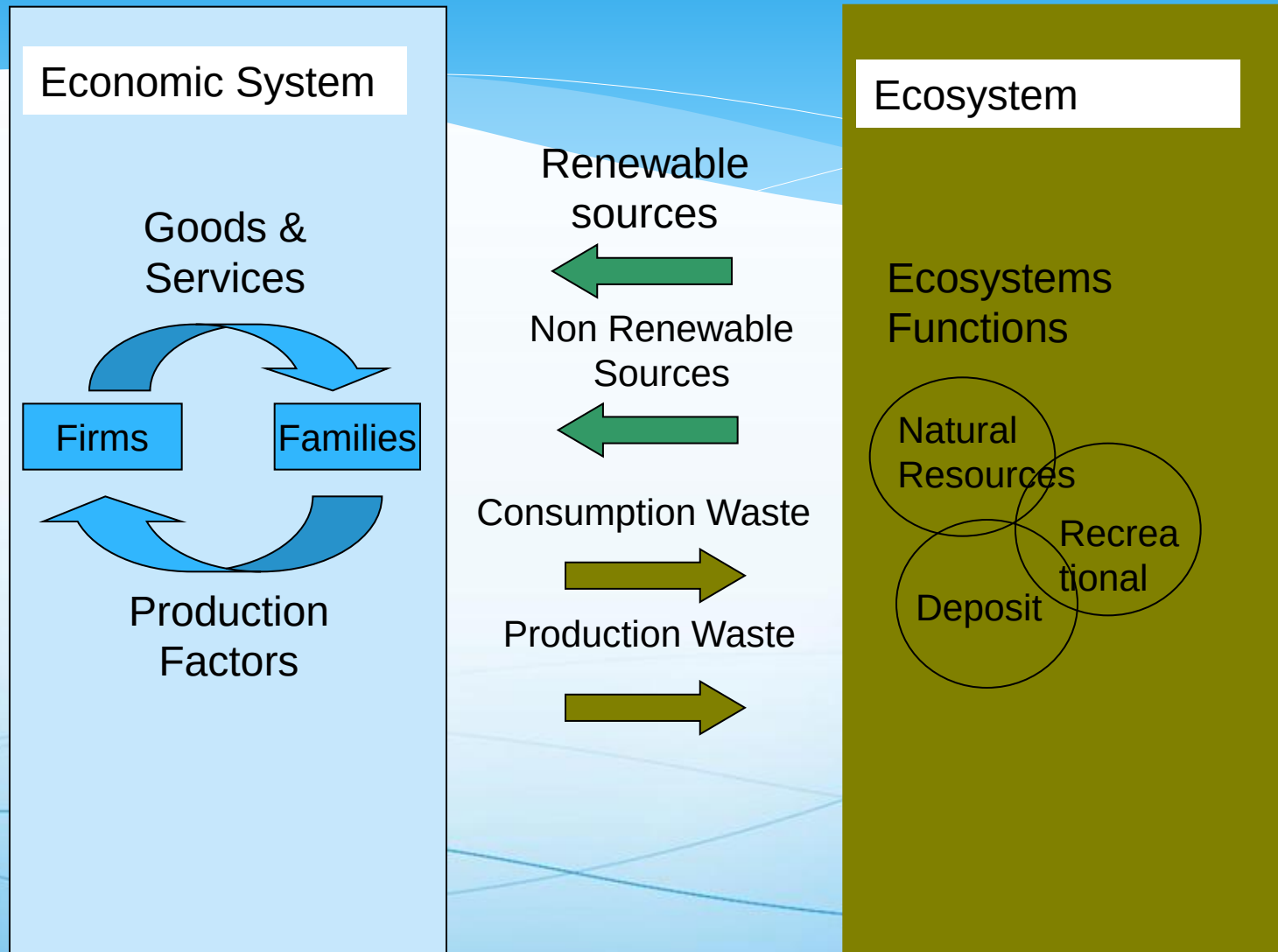


Grafico 12 – Il processo di design per lo sviluppo di prodotti circolari

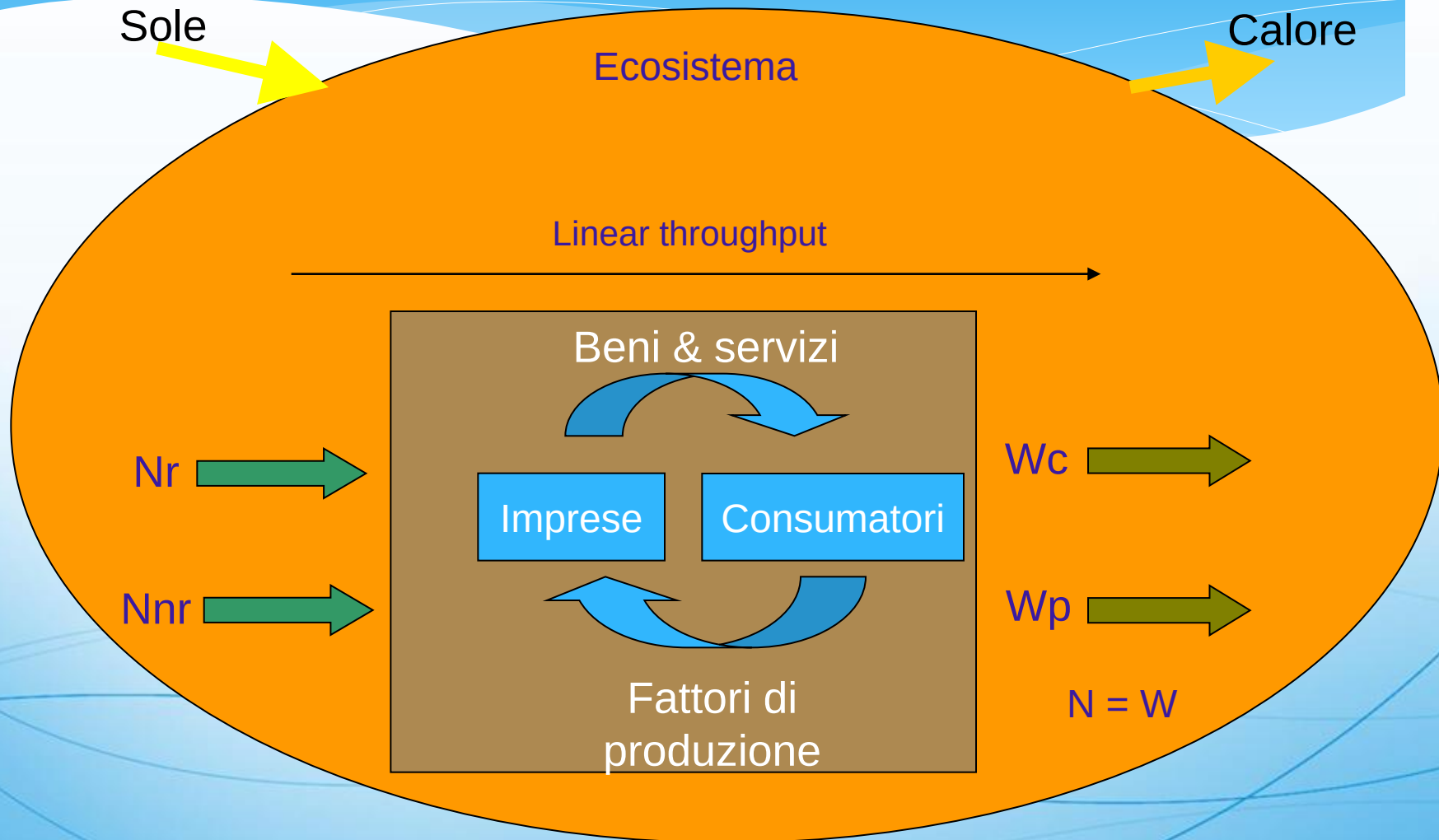


Grafico 13 – Approccio circolare per lo sviluppo di prodotti e servizi

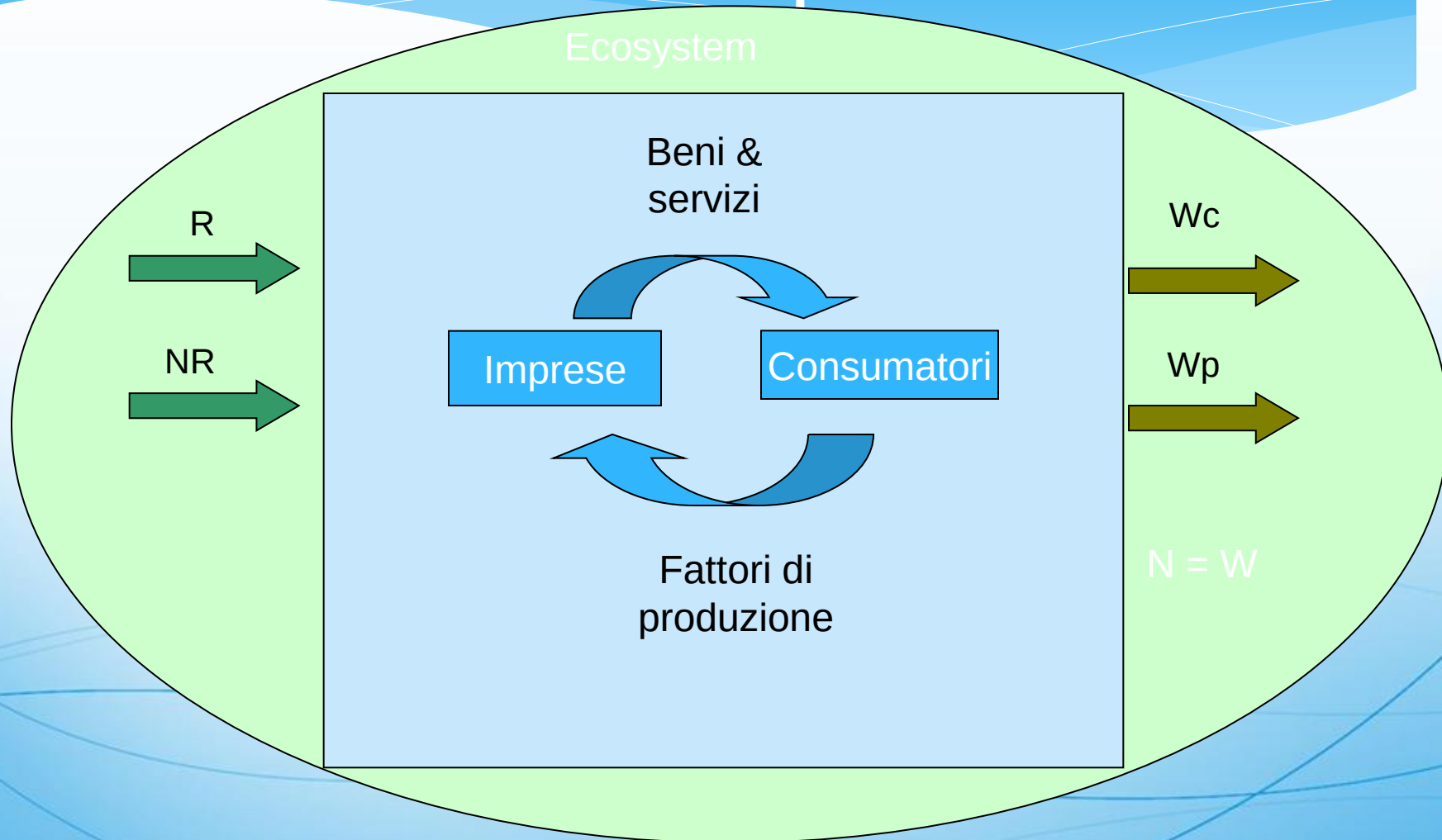
La relazione tradizionale fra Sistemi Economici ed Ambientali



Sostenibilità: un cambio di paradigma (Daly-LaCamera)



Sostenibilità: da un mondo vuoto a un mondo pieno





SEZIONE 3: CAMBIO DI PARADIGMA

CHIUDERE IL
CERCHIO

RALLENTARE IL
FLUSSO DI
RISORSE

DIMINUIRE
L'USO DI
RISORSE

- ✓ ECO-DESIGN
- ✓ RESPONSABILITA' ESTESA PRODUTTORE
- ✓ MODULARITA', RIPARABILITA'
- ✓ ETICHETTATURA
- ✓ PRODOTTO vs SERVIZIO
- ✓ SIMBIOSI INDUSTRIALE
- ✓ BIOECONOMIA

- ✓ NUOVI MODELLI DI BUSINESS
- ✓ PROPRIETA' vs POSSESSO
- ✓ ECONOMIA DELLA CONDIVISIONE
- ✓ ECONOMIA DEL NOLEGGIO/AFFITTO
- ✓ MERCATI DELL'USATO/RIPARATO

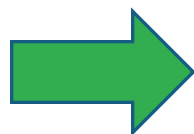


SEZIONE 3: STRUMENTI DI POLICY (OECD, 2016)

	Economic instruments	Regulatory instruments	Environmental labelling and information schemes	Voluntary approaches	Public financial support
Extraction	Taxes on virgin materials.	Bans, restrictions on mining of materials.	Good mining practices.	Agreements on managing environmental impacts of mining.	Tax breaks on exploration, mining.
Design	Advance disposal fees.	LCA-based standards, take-back requirements, standards e.g. for durability.	Environment technology verification schemes.	Research partnerships.	Tax breaks, grants for R&D.
Production	Product taxes or charges.	Emission or performance standards.	Advisory services for SMEs.	Agreements to develop more efficient, less polluting production methods.	Soft loans to SMEs.
Consumption	Deposit refund schemes; pay-as-you-throw pricing for waste collection systems.	Product restrictions or bans.	Labelling and certification schemes.	Behaviourally-informed interventions ("nudges").	Grants for the purchase of eco-labelled products or services.
Recycling	Tax differentiation between virgin and recycled materials.	Standards for recycled materials.	Platforms to match supply of and demand for secondary raw materials.	Agreements to create hubs promoting industrial symbiosis.	Tax breaks, grants for research on recycling, industrial symbiosis.
Waste disposal	Landfill and incineration taxes; tradable landfill permits.	Bans, restrictions on landfill.	Information on dismantling products.	Voluntary take-back schemes.	Grants, soft loans to construct waste disposal facilities.



Policy Guidance
on Resource Efficiency





SEZIONE 3: FATTORI ABILITANTI (EEA, 2016)

Box 1.2 Key characteristics and enabling factors of a circular economy

Key characteristics	Enabling factors
Less input and use of natural resources • minimised and optimised exploitation of raw materials, while delivering more value from fewer materials; • reduced import dependence on natural resources; • efficient use of all natural resources; • minimised overall energy and water use.	Eco-design • products designed for a longer life, enabling upgrading, reuse, refurbishment and remanufacture; • product design based on the sustainable and minimal use of resources and enabling high-quality recycling of materials at the end of a product's life; • substitution of hazardous substances in products and processes, enabling cleaner material cycles.
Increased share of renewable and recyclable resources and energy • non-renewable resources replaced with renewable ones within sustainable levels of supply; • increased share of recyclable and recycled materials that can replace the use of virgin materials; • closure of material loops; • sustainably sourced raw materials.	Repair, refurbishment and remanufacture • repair, refurbishment and remanufacture given priority, enabling reuse of products and components. Recycling • high-quality recycling of as much waste as possible, avoiding down-cycling (converting waste materials or products into new materials or products of lesser quality); • use of recycled materials as secondary raw materials; • well-functioning markets for secondary raw materials; • avoidance of mixing and contaminating materials; • cascading use of materials where high-quality recycling is not possible.
Reduced emissions • reduced emissions throughout the full material cycle through the use of less raw material and sustainable sourcing; • less pollution through clean material cycles.	Economic incentives and finance • shifting taxes from labour to natural resources and pollution; • phasing out environmentally harmful subsidies; • internalisation of environmental costs; • deposit systems; • extended producer responsibility; • finance mechanisms supporting circular economy approaches.
Fewer material losses/residuals • build up of waste minimised; • incineration and landfill limited to a minimum; • dissipative losses of valuable resources minimised.	Business models • focus on offering product-service systems rather than product ownership; • collaborative consumption; • collaboration and transparency along the value chain; • industrial symbiosis (collaboration between companies whereby the wastes or by-products of one become a resource for another).
Keeping the value of products, components and materials in the economy • extended product lifetime keeping the value of products in use; • reuse of components; • value of materials preserved in the economy through high-quality recycling.	Eco-innovation • technological innovation; • social innovation; • organisational innovation. Governance, skills and knowledge • awareness raising about changing lifestyles and priorities in consumption patterns; • participation, stakeholder interaction and exchange of experience; • education; • data, monitoring and indicators.

INCENTIVI ECONOMICI E FINANZIARI

- Riforma fiscale ecologica (spostamento carico fiscale dal lavoro alle risorse)
- Eliminazione sussidi dannosi per l'ambiente
- Internalizzazione costi ambientali
- Sistemi di vuoto a rendere
- Responsabilità estesa del produttore
- Finanza sostenibile



SEZIONE 4: ACQUISTI PUBBLICI VERDI

1° PIANO D'AZIONE NAZIONALE (Decreto 11/04/2008)	Volontario
2° PIANO D'AZIONE NAZIONALE (aggiornamento) (Decreto 10/04/2013)	Volontario
Collegato Ambientale	Obbligatorio

Criteri Ambientali Minimi
(CAM) per categorie settoriali
(art. 34 Decreto 50 del
18/04/2016 Codice degli Appalti
Pubblici)



Caratteristiche Principali

CAM di base e premianti

- eco-design
- design modulare
- durata dei materiali
- contenuto di materiale riciclato
- criteri per riuso e riparazione
- noleggio vs acquisto



DOCUMENTO STRATEGICO ECONOMIA CIRCOLARE

APRILE 2017 – NOVEMBRE 2017
DOCUMENTO STRATEGICO

Verso un modello
di economia circolare
per l'Italia

Documento di inquadramento
e di posizionamento strategico



DICEMBRE 2017 – MAGGIO 2018
TAVOLO INDICATORI

**ECONOMIA CIRCOLARE ED USO
EFFICIENTE DELLE RISORSE**

**INDICATORI PER LA MISURAZIONE
DELL'ECONOMIA CIRCOLARE**

Documento redatto dal Ministero dell'Ambiente e della Tutela del Territorio e del
Mare in collaborazione con il Ministero dello Sviluppo Economico



INDICATORI: QUADRO UE E PROPOSTA PER L'ITALIA

COM(2018) 29 final
«on a monitoring framework
for the circular economy»

Circular economy monitoring framework

1 EU self-sufficiency for raw materials

The share of a selection of key materials (including critical raw materials) used in the EU that are produced within the EU

2 Green public procurement

The share of major public procurements in the EU that include environmental requirements

3a-c Waste generation

Generation of municipal waste per capita; total waste generation (excluding major mineral waste) per GDP unit and in relation to domestic material consumption

4 Food waste

Amount of food waste generated

7a-b Contribution of recycled materials to raw materials demand

Secondary raw materials' share of overall materials demand - for specific materials and for the whole economy

8 Trade in recyclable raw materials

Imports and exports of selected recyclable raw materials

5a-b Overall recycling rates

Recycling rate of municipal waste and of all waste except major mineral waste

6a-f Recycling rates for specific waste streams

Recycling rate of overall packaging waste, plastic packaging, wood packaging, waste electrical and electronic equipment, recycled biowaste per capita and recovery rate of construction and demolition waste

9a-c Private investments, jobs and gross value added

Private investments, number of persons employed and gross value added in the circular economy sectors

10 Patents

Number of patents related to waste management and recycling



- **3 categorie:**

- ✓ Economici
- ✓ Materici
- ✓ Ambientali (circolarità vs sostenibilità)

- **3 prospettive:**

- ✓ Macro (nazionale)
- ✓ Meso (settori/distretti, regioni, aree urbane)
- ✓ Micro (imprese)

- **5 Dimensioni:**

- ✓ Produzione/design; Materie Prime e Seconde (mercati, flussi, tracciabilità);
- ✓ Prodotto come Servizio (nuovi modelli di business lato «imprese»)
- ✓ Condivisione/Noleggio (nuovi modelli di business lato «consumatori»)
- ✓ Durabilità/Riparabilità/Rimanifattura
- ✓ Gestione Rifiuti



DOCUMENTO STRATEGICO ECONOMIA CIRCOLARE

APRILE 2017 – NOVEMBRE 2017
DOCUMENTO STRATEGICO

Verso un modello
di economia circolare
per l'Italia

Documento di inquadramento
e di posizionamento strategico



**ECONOMIA CIRCOLARE ED USO
EFFICIENTE DELLE RISORSE**

**INDICATORI PER LA MISURAZIONE
DELL'ECONOMIA CIRCOLARE**

Documento redatto dal Ministero dell'Ambiente e della Tutela del Territorio e del
Mare in collaborazione con il Ministero dello Sviluppo Economico

DICEMBRE 2017 – MAGGIO 2018
TAVOLO INDICATORI

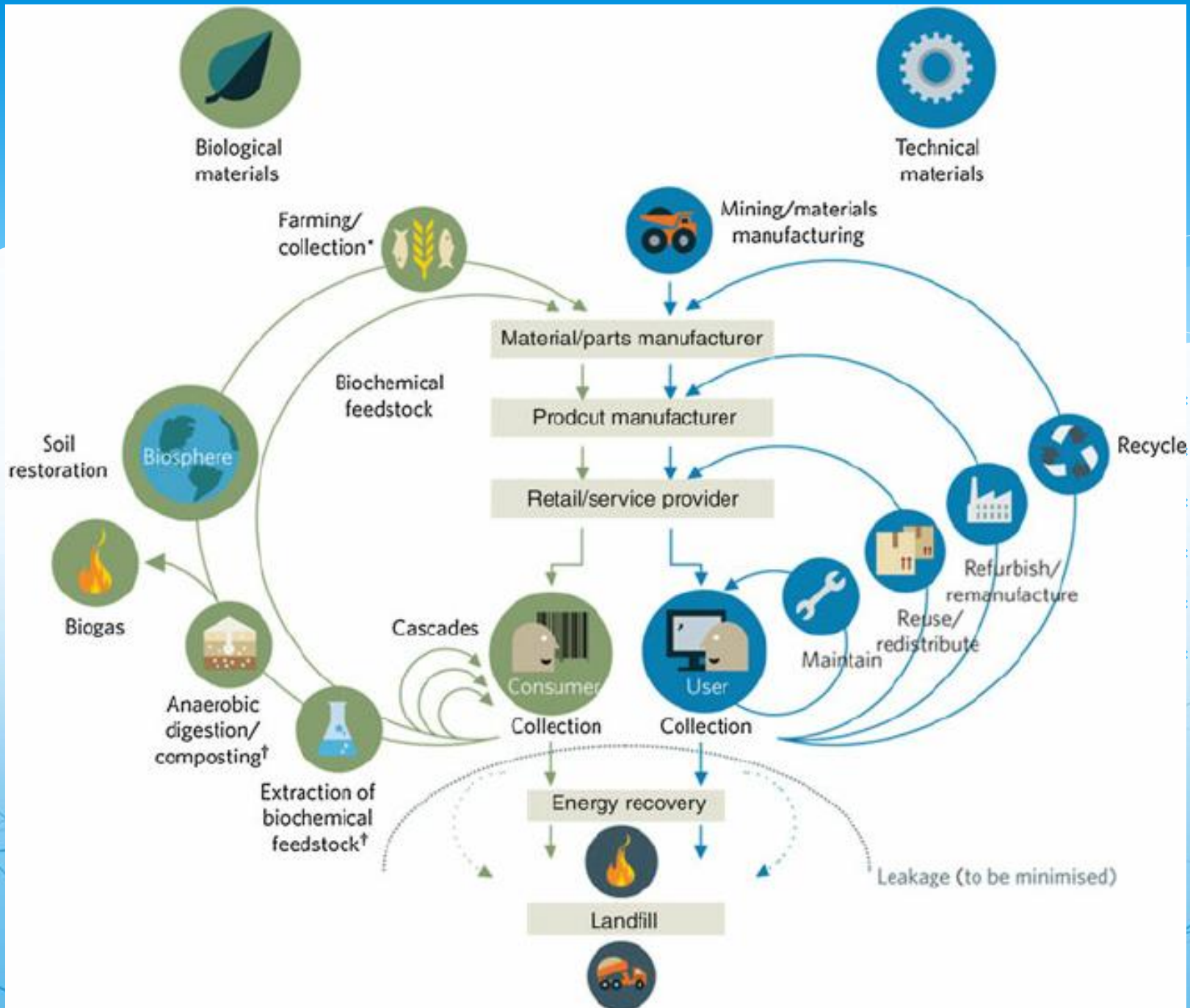
Documento bozza per consultazione
Maggio 2018



**NUOVO GOVERNO
(INSIEME AD ICESP)
STRATEGIA O PIANO D'AZIONE**

3Rs – CE – RE - Convergenza di concetti e politiche

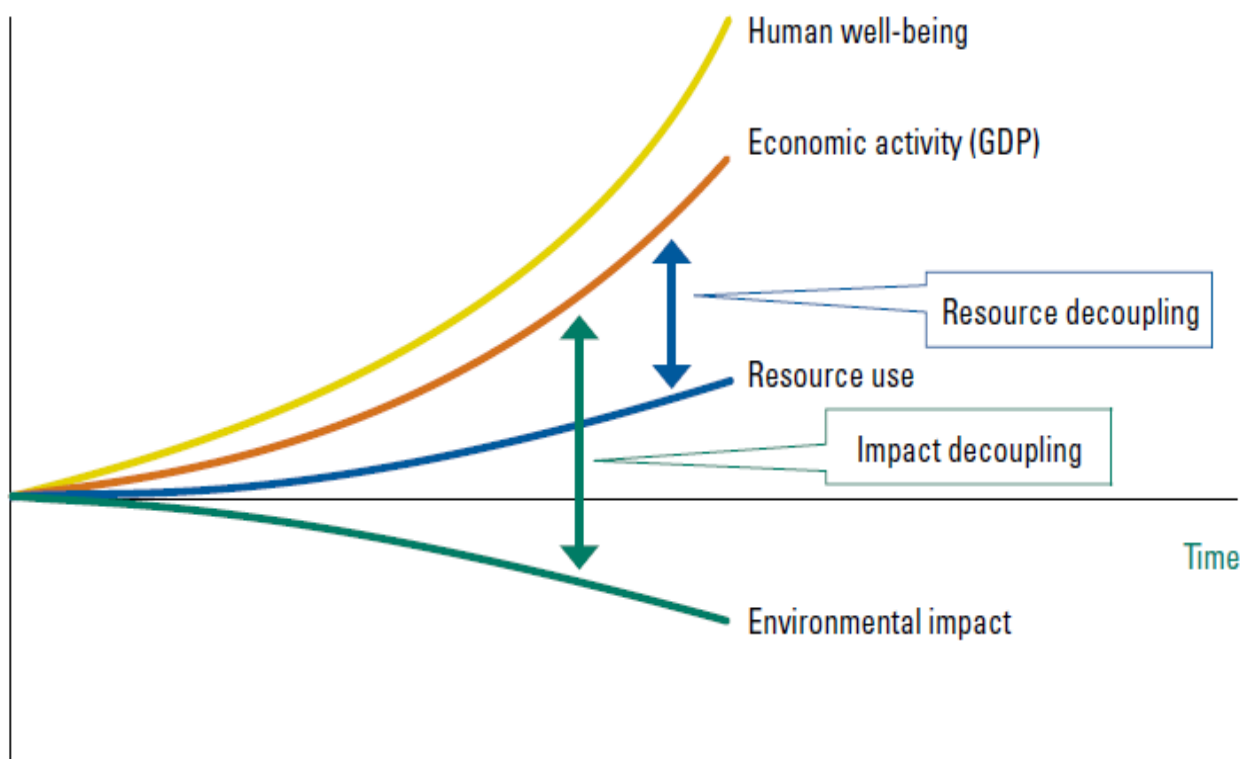
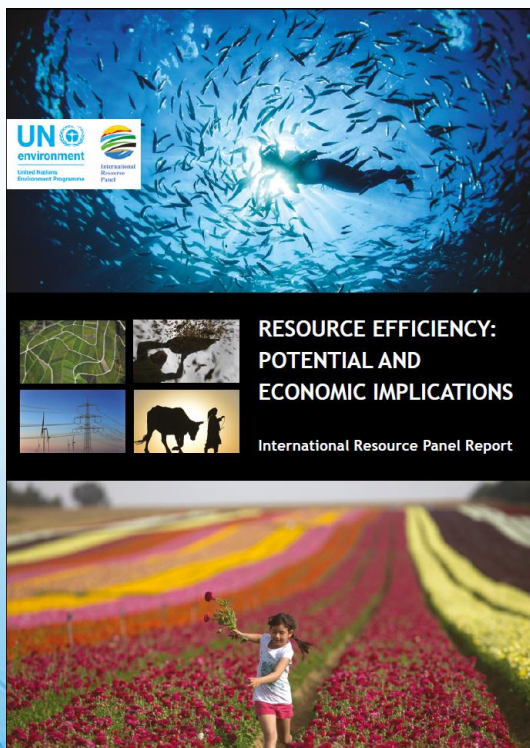
- ✱ **3Rs (Reduce, Reuse, Recycle) – Japan – G8**
- ✱ **Waste Hierarchy - Resource Efficiency - Circular Economy -EU**
- ✱ **Material flows and resource productivity, Sustainable materials management - OECD**
- ✱ **Circular Economy - China**
- ✱ **Zero-Waste or Low-Waste Economy or Sound Material Cycle Economy - Japan**
- ✱ **Cleaner Production and Technologies - USA**
- ✱ **Product design, Life cycle assessment, GPP**
- ✱ **From Cradle to Cradle**
- ✱ **Sustainable Production & Consumption Models – UN-UNEP-CSD**
- ✱ **Extended Producer Responsibility**
- ✱ **Green Purchasing Procurement**
- ✱ **Factor 4 policies**



Source:
Ellen
Mc
Arthur
Foun
Dation
(2012)

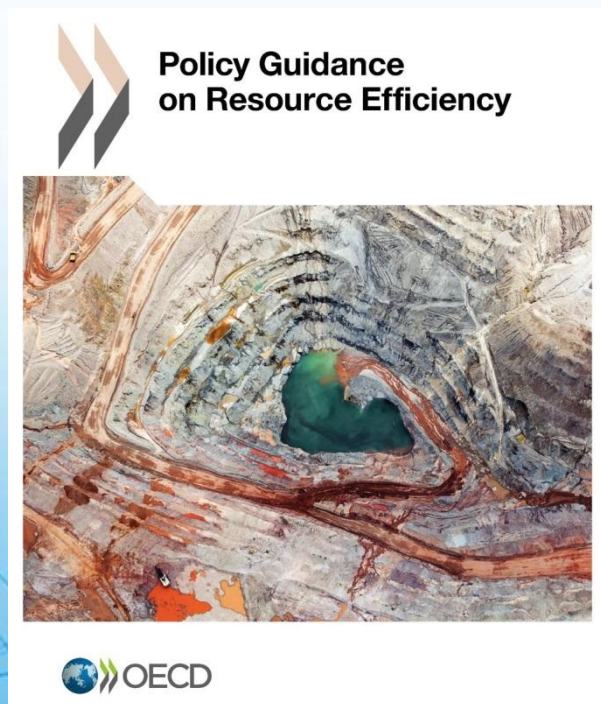
CIRCULAR ECONOMY: DECOUPLING

Rapporto UNEP per il G7 - Von Weizsaecker – Khosla – Potocnik - Ekins



CIRCULAR ECONOMY: POLICY OPTIONS

Rapporto OCSE per il G7



CATEGORY OF INSTRUMENTS

- ✓ REGULATORY (COMMAND & CONTROL, PERFORMANCE E TECHNOLOGY STANDARDS)
- ✓ VOLUNTARY (MoU, COVENANTS, /DEALS, LABELS, REPORTING, ...)
- ✓ ECONOMIC (TAXES, TARIFFS/CHARGES/FEES, MARKET CREATION, SUBSIDIES EHS_EFS, SANCTIONS)

• EFFICIENCY ASSESSMENT

- ✓ ENVIRONMENTAL EFFECTIVENESS (CONSISTENCY ALONG THE WHOLE LIFE CYCLE)
- ✓ ECONOMIC EFFICIENCY
- ✓ INCENTIVE TO INNOVATION
- ✓ ADMINISTRATIVE COSTS
- ✓ DISTRIBUTIONAL IMPACT
- ✓ COMPETITIVENESS IMPACT



European reflection

Examples of economic instruments and other measures to provide incentives for the application of the EU waste hierarchy

1. Charges and restrictions for the landfilling and incineration of waste
2. 'Pay-as-you-throw' schemes
3. Fiscal incentives for **donation** of products, in particular food
4. Extended producer responsibility schemes
5. Deposit-refund schemes
6. Investments in waste management infrastructure
7. Sustainable[/Green] public procurement [GPP]
8. Phasing out subsidies [EHSs, BHSs, FFSS, RECEHSs]
9. Fiscal measures to promote the **uptake of recyclable products & materials** [tax/fee on caves, quarries, mines, gravel/sand from riverbeds, ...]
10. Support to research and innovation [Eco-Innovation]



FRAMEWORK CONDITIONS

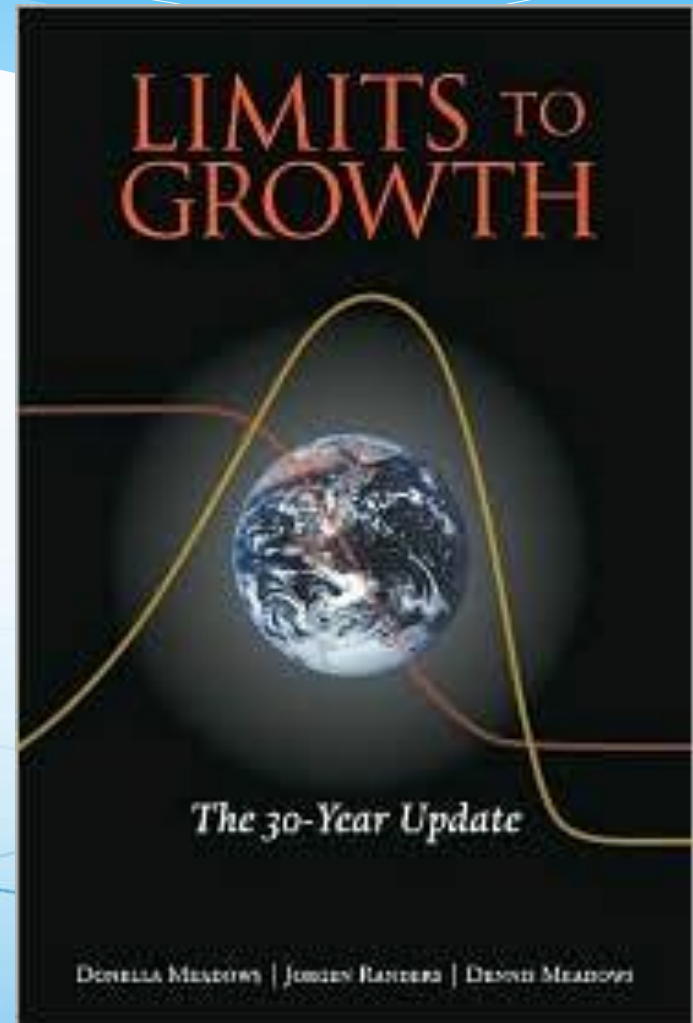
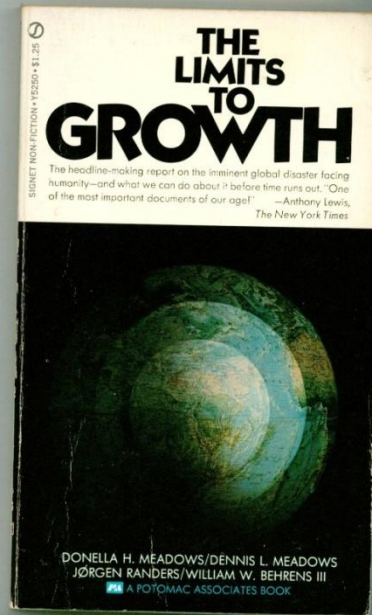
- i. measuring the environmental impact of human activities and internalizing environmental costs;
- ii. considering natural capital next to traditional invested capital, human capital and social capital in public and private decision-making;
- iii. restoring fair market conditions through ecological fiscal reform, carbon pricing and phasing out environmentally harmful subsidies;
- iv. supporting international cooperation and aid development which respects planetary boundaries;
- v. promoting sustainable finance.



SOME KEY QUESTIONS

- a) Best practices: blessed and welcome; best practices mythology – 10% showing the way forward – how do we bring with us the remaining 90%?
- b) Innovation, deep innovation, disruptive innovation, green innovation, eco-innovation – how do we guarantee that innovation arrives in time?
- c) Firms maximise Resource Efficiency every day, they practice Circular economy whenever it is convenient: they reduce costs, they maximize profits: why is the cumulative behaviour at economy level insufficient, why do we need public intervention?

Club of Rome (1968): the MIT study 1972 - Oct. 2018: 50 years celebration in Rome





RECENT ADVANCEMENT IN ITALY ON RESOURCE EFFICIENCY AND CIRCULAR ECONOMY

- ✓ Establishment of the Italian **Natural Capital Committee** (like UK and Mexico);
- ✓ National **Report on Sustainable Finance** (like France and EU); OIFS; CIFS; FC4S
- ✓ Italian Catalogue of **EFSs & EHSs** - Environmental Friendly & Harmful Subsidies (like Germany & France)
- ✓ Support to the work of **OECD and IRP** on resource efficiency and circular economy (like Germany and Japan).



MINISTERO DELL'AMBIENTE
E DELLA TUTELA DEL TERRITORIO E DEL MARE

Bologna Summit - IRP-UNEP, OECD, WRI support to G7 Environment Italian Presidency

