

CONTRIBUTION OF UNIVERSITIES OF S&T TO UN SDG

WORKSHOP MEASURING CONTRIBUTION OF UNIVERSITIES OF S&T TO UN SDG
GRAZ, 4TH APRIL 2019

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SERVUS UND DANKESCHÖN TU GRAZ



OVERVIEW

PART 1: BACK TO THE FUTURE

towards enriched (conceptual) framework

PART 2: UN SDG

single most important global narrative and guiding agenda for the coming decades

PART 3: CONTRIBUTION UNIVERSITIES OF S&T

shapes, interventions and Member Survey 2019

PART 1: BACK TO THE FUTURE TOWARDS ENRICHED FRAMEWORK



EUROPE OF KNOWLEDGE

“**ECONOMIC COMPETITIVENESS, EMPLOYMENT** and the **PERSONAL FULFILLMENT** of the citizens of Europe is no longer mainly based on the production of physical goods, nor will it be in the future. **REAL WEALTH CREATION WILL HENCEFORTH BE LINKED TO THE PRODUCTION AND DISSEMINATION OF KNOWLEDGE** and will depend first and foremost on our efforts in the field of **RESEARCH, EDUCATION and TRAINING** and on our capacity to promote **INNOVATION**.”

Communication `Towards a Europe of knowledge` (1997)

LISBON AGENDA

“... to become the most competitive and dynamic
KNOWLEDGE-BASED ECONOMY in the world capable
of sustainable economic growth with more and better
jobs and greater social cohesion ...”

Lisbon European Council 23rd and 24th March 2000:
Presidency Conclusions

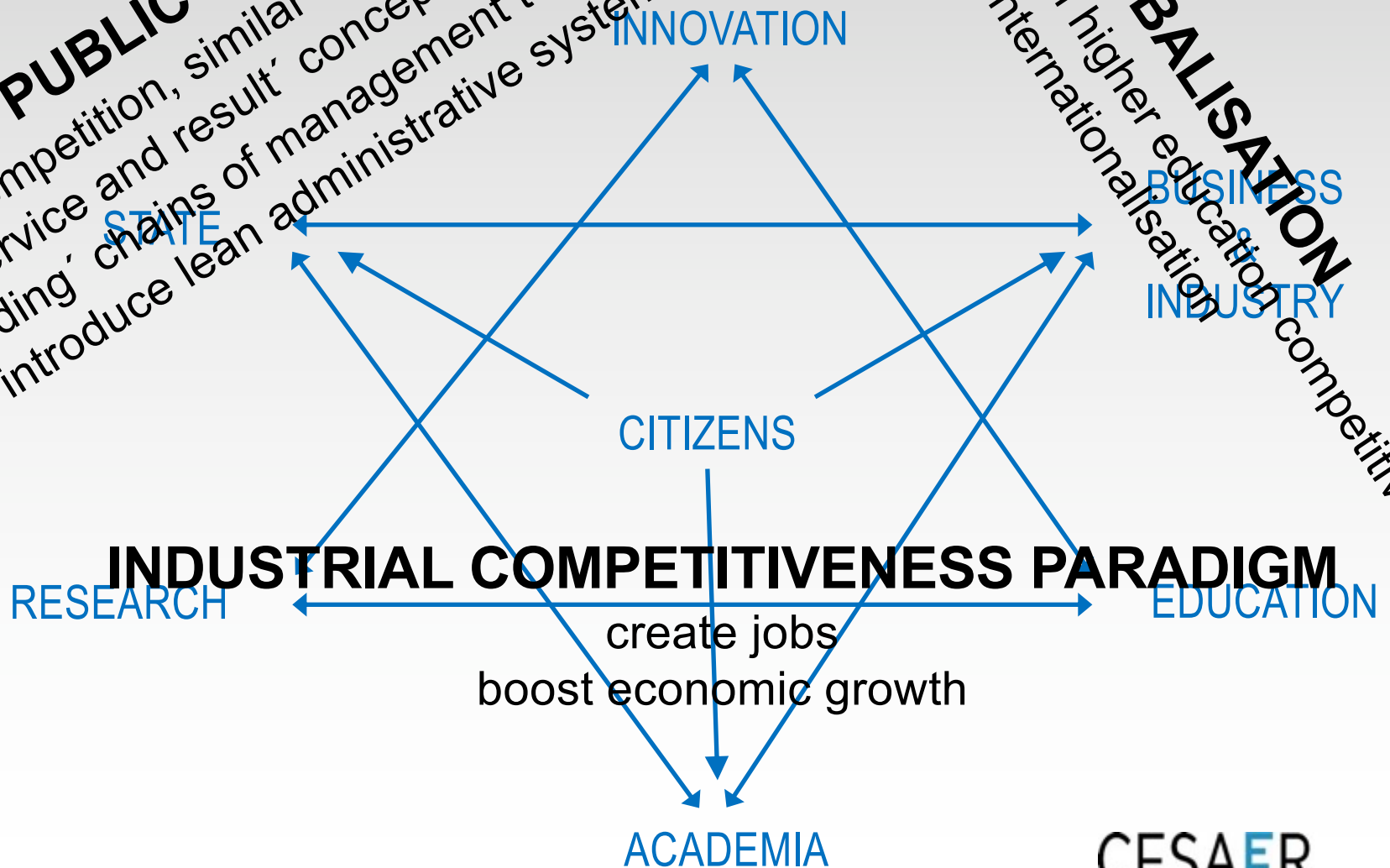
KNOWLEDGE ECONOMY

NEW PUBLIC MANAGEMENT

introduce competition, similar to that in private sector
'service and result' concept is at core
adopt 'cascading' chains of management to aid transparency
introduce lean administrative systems

GLOBALISATION

make European higher education competitive
internationalisation



1) NEOLIBERALISM

State, business & industry state:

1. Europe suffers from innovation deficit
2. mismatch between skills Europe needs & skills it has
3. persistent & growing social divisions

➤ Europe's universities need urgent renewal & modernisation:

- new ways of teaching & stimulate entrepreneurship
- tear down disciplinary borders
- strong non-disciplinary collaborations between universities & industry
- promote open science, open innovation & openness to the world
- training next generation of researchers & innovators, particularly skills needed for data-driven open science

2) POPULISM

- CONSCIOUS IGNORANCE
- lack of sense of urgency
- lack of national and European investments
- POST-FACTUALISM
- populism
- authoritarianism
- protectionism
- nationalism

threaten free circulation of knowledge and its bearers (i.e. students, teachers, researchers and inventors), international orientation and cooperation of institutions and in some cases academic freedom and institutional autonomy

3) ECOLOGISM

- World Commission on Environment and Development - Our Common Future (1983)
- World Report Towards Knowledge Societies (2005)
- Lund Declaration (2009)
- 2030 Agenda for Sustainable Development (2015)

indispensable roles in creation of public awareness and political change about global challenges of our times - such as social exclusion, poverty, climate change, and extinction of biodiversity - and in putting the world onto sustainable development paths

NEW 'SOCIAL CONTRACT'

CLIMATE CHANGE



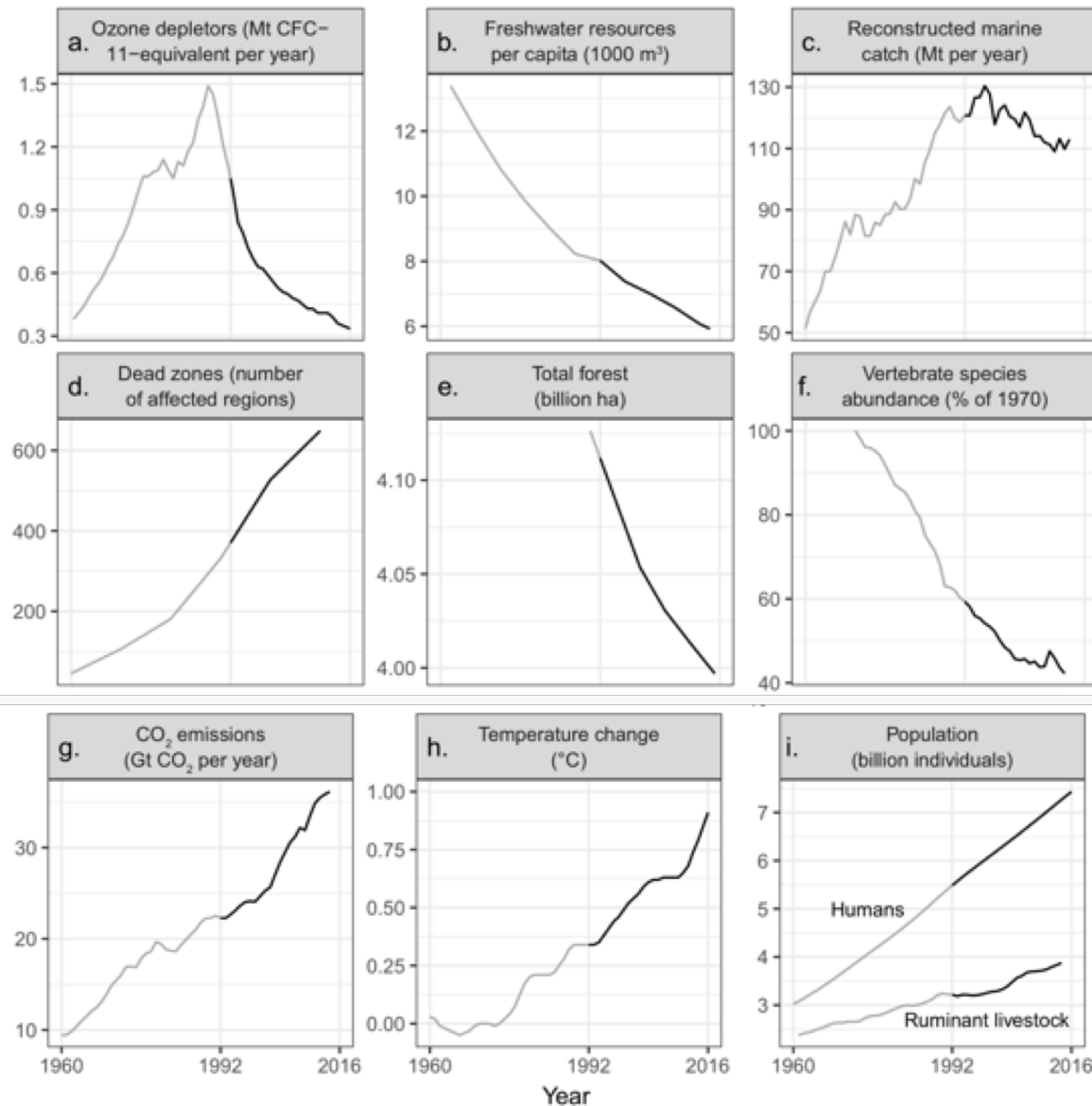
LOSS BIODIVERSITY



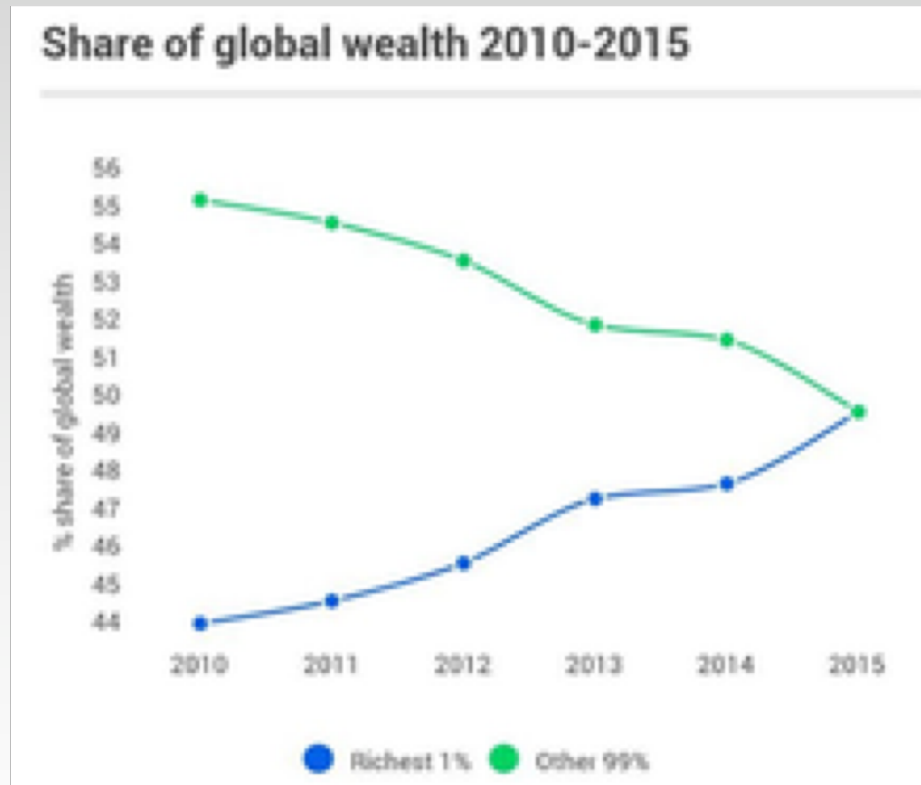
(MICRO-) PLASTIC POLLUTION



'CATASTROPHIC WARNING TO HUMANITY' UNION OF CONCERNED SCIENTISTS (2017)



INEQUALITY OF SHARE OF WEALTH



”... an ever-increasing inequality of share of wealth with the globe’s richest 1% own half the world’s wealth ...”

Global Wealth Report 2018 Credit Suisse

CESAER

'DOMINO EFFECTS', 'TIPPING POINTS' AND 'HOTHOUSE'

Bodin, Ö.,
Levin, S.,
Peterson, G.
& Rocha, J.
(2018)
Cascading
regime shifts
within and
across scales,
Science 21
Dec 2018:
Vol. 362, Issue
6421, pp.
1379-1383



NEW KIDS ON THE BLOCK



E

ENRICHED FRAMEWORK?
KUHNIAN PARADIGM SHIFT?



ANTROPOCENE
WELTANSCHAUUNG
GREAT TRANSFORMATION
VALUES & ETHICS
MULTIPLAYER MODEL

PART 2: UN SDG NARRATIVE AND AGENDA



**SUSTAINABLE
DEVELOPMENT** **GOALS**

17 GOALS TO TRANSFORM OUR WORLD



CESAER

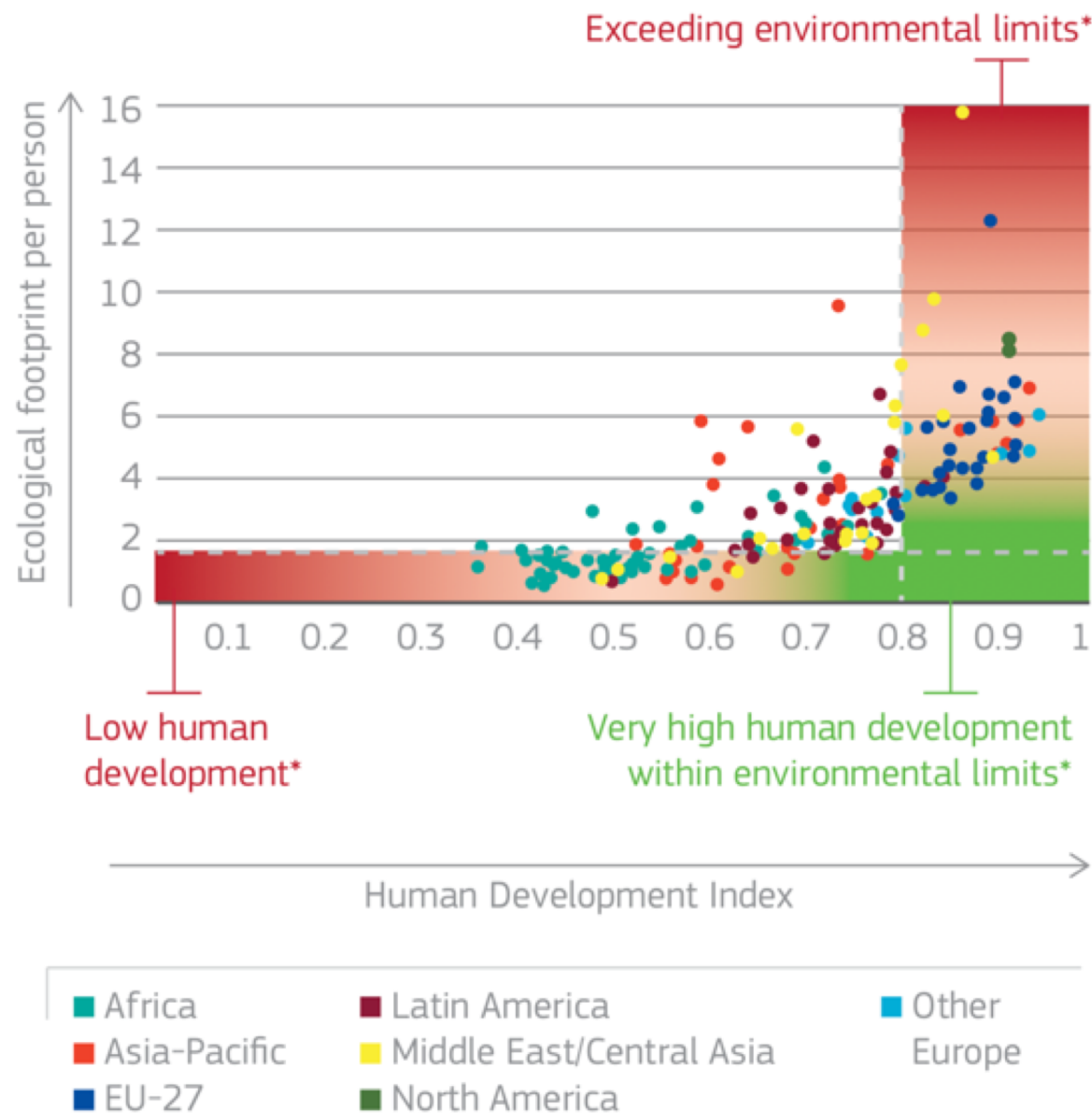
FOLLOW UP AND REVIEW

- High-level Political Forum (HLPF) on Sustainable Development is central UN platform
- Voluntary National Reviews (VNR)
- participation of major groups and other relevant stakeholders
- Global Sustainable Development Reports (GSDR)
- Sustainable Development Goals Report
- United Nations Global Geospatial Information Management (UN-GGIM)
- Intergovernmental Panel on Climate Change (IPCC)
- International Panel on Social Progress (IPSP)

The Sustainable Development Goals Report 2018



NOT SINGLE COUNTRY HAS ACHIEVED HIGH HUMAN DEVELOPMENT WITHIN PLANETARY BOUNDARIES



FINALLY

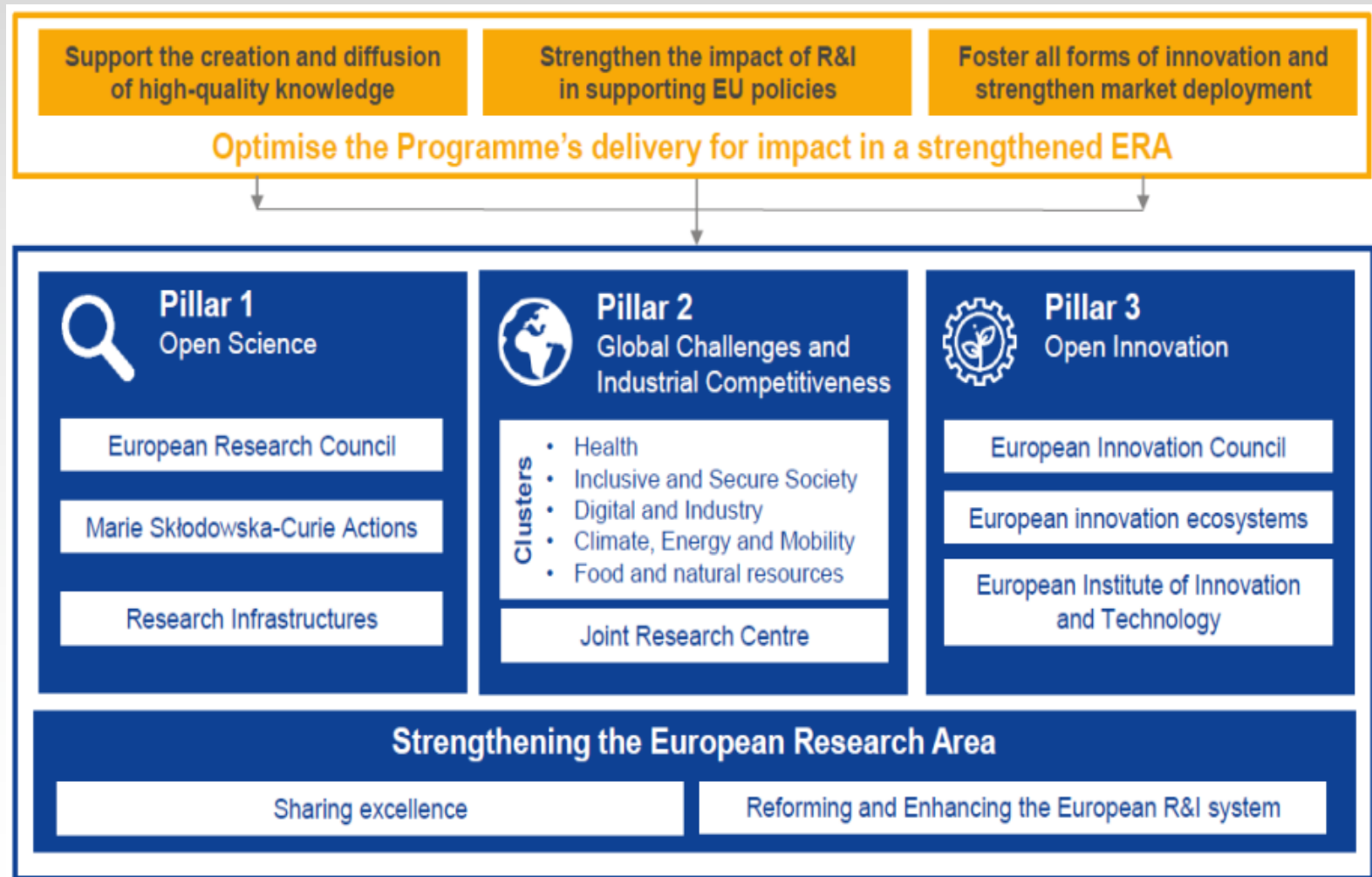


High-Level Conference:
'Sustainable Europe 2030 -
From Goals to Delivery'

8th April 2019

European Commission, 30th January 2019

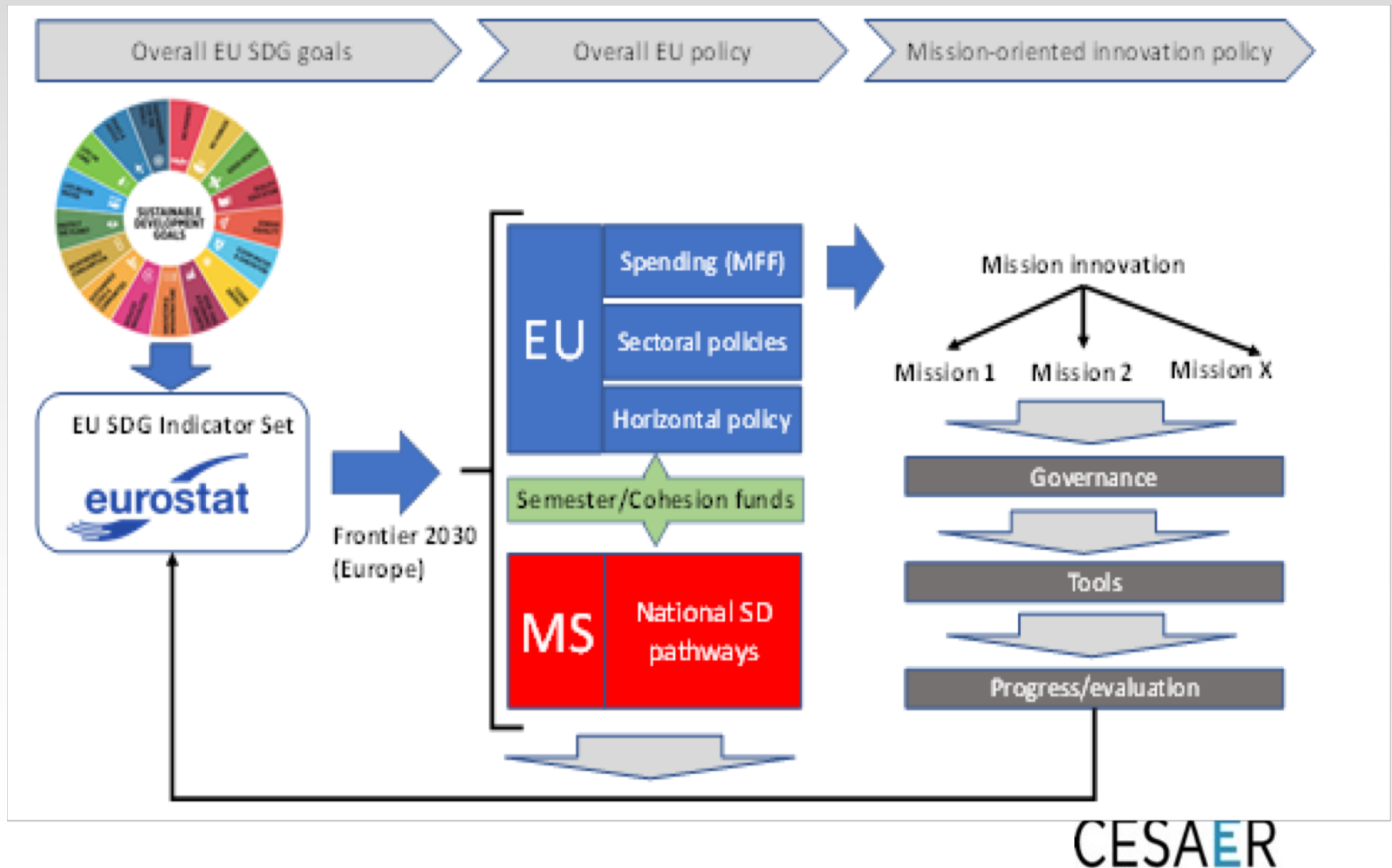
HORIZON EUROPE STRUCTURE



BUDGET ALLOCATION

Pillars and Specific Challenges		Budget (b€)
Pillar 1 – Open Science		25,8
	ERC	16,6
	MSCA	6,8
	RI	2,4
Pillar 2 – Global Challenges and Industrial Competitiveness		52,7
	Health	7,8
	Inclusive and Secure Societies	2,8
	Digital and Industry	15
	Climate, Energy and Mobility	15
	Food and Natural Resources	10
	Joint Research Council (JRC)	2,2
Pillar 3 – Open Innovation		13,5
	European Innovation Council (EIC)	10
	Support to innovation ecosystems	0,5
	European Institute of Innovation and Technology (EIT)	3
Strengthening the European Research Area (ERA)		2,1
	Spreading Excellence	1,7
	Reforming and enhancing the European R&I system	0,4
Total		94,1

PILLAR II – GLOBAL CHALLENGES AND INDUSTRIAL COMPETITIVENESS



PART 3: CONTRIBUTION UNIVERSITIES OF S&T



STRENGTHS UNIVERSITIES OF S&T

- **TRANSFORMATIVE POWER** such as industrialisation, building of modern states, defence and war
- **FOREFRONT OF STEM** and of key technologies for 21st century - i.e. artificial intelligence, biotechnology and quantum technology
- optimally equipped to **INTEGRATE SSH INTO STEM**, encompassing arts (e.g. design and ethics), behavioural sciences (e.g. human machine interaction), law (e.g. legal context of technology application) and economics (e.g. circular economy)

SCIENCE

1. contributes to policy planning, monitoring and evaluation, e.g. geo observation
2. many scientific fields - such as environmental sciences - directly contribute
3. discipline like mathematics is crucial as sophisticated algorithms are needed for simulation and modelling



EDUCATION

1. delivers both experts in addressing UN SDG directly (such as environmental scientists)
2. provides transversal skills needed (such as understanding the challenges of our times, ability to communicate them, applying UN SDG in one's field e.g. circular economy)



INNOVATION

1. disruptive innovation instead of incremental
2. from entrepreneurial skills to creativity.



SUSTAINABLE CAMPUS

1. mobility of students and staff
2. energy consumption and on-campus production
3. waste management



INTERVENTIONS

- include sustainability in overall university strategy and policies
- raise awareness and get commitment of leadership
- set soft, hard targets and KPI
- map research programmes, curricula and staff against UN SDG
- set 'hard' targets and key performance indicators
- develop specific strategies and policies
- develop tools and provide resources
- implement measures top-down/bottom-up
- develop/assess competences and skills students, teachers, researchers, leadership and support staff
- link sustainability to values
- organise events
- provide financial support to initiatives & projects
- award prizes
- offer coaching
- (North-south) interinstitutional cooperation
- International Campuses and trans-national education
- multi-disciplinary teams
- co-creation through multi-stakeholder engagement
- problem- and inquiry-based science approaches
- short-term interventions translating long-term scientific results into applications

MEMBER SURVEY 2019

- discuss and adjust very first draft today
- finalise it with Task Force Benchmark and experts until end of May
- execute it during summer 2019
- analyse it in fall 2019
- present it during workshop during CAM 2019 on 18th October 2019
- white paper under Work Plan 2020-2021?

