FUTURE EARTH
Co-producing research to support transformation to sustainability

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FUTURE EARTH FINLAND

National Committee for Global Change Research

EUROPEAN ALLIANCE

OF GLOBAL CHANGE RESEARCH COMMITTEES

OUTLINE

1. Co-producing research with stakeholders – why?
2. What does a co-designed research project look like?
1. Future Earth – research to answer the grand challenges

CO-PRODUCTION OF RESEARCH

Original role of science: to reveal the way nature and societies function

New social contract between science and society: science as a source of **solutions for wicked problems** and a driver towards **a sustainable future.**

Co-production of research between producers and users of knowledge leads to information that responds to the **needs** of the users, that the users consider more **credible**, and that they feel **confident to utilise**[1,2].

Aims of research co-production:

1) Solving societally significant problems: from description of problems to **genuine change**
2) Learning process for the producers and users of knowledge
3) Benefits both science and society

1. Lemos et al. 2012
2. Kirchhoff et al. 2013

IMPACTS OF CO-PRODUCTION

PRODUCTS: New technology, product, publication, action plan

NETWORKS: New partnerships, contacts, trust, understanding

CAPACITIES: New knowledge; insight into the nature of scientific knowledge or the process of decision-making; methods of collaboration, other partie's viewpoints

STRUCTURAL CHANGES:

- **Socio-economic impacts**: financial gain, decisions based on research, changes in values and norms
- **Organisational changes:** institutionalisation of evidence-based decision-making (climate panels, multi-stakeholder forums), new funding instruments

– Wiek et al. 2014

"A RESEARCH PUBLICATION DOES NOT HAVE IMPACT UNTIL ITS RESULTS ARE USED

IMPACTS OF CO-PRODUCTION

Different disciplines have different channels of impact in society, different ”markets” and audiences.

Engineering sciences – companies and industry – applications, technologies
Social sciences – public sector, decision making – evidence-based decisions
Medicine – professional field – new methodologies, skills, health and well-being
Arts and humanities – general public – critical understanding, public discourse
Natural sciences – academic audience – new insight into the physical world

– Ylijoki, Lyytinen ja Marttila (2011)

”**SINGLE MODEL FOR SOCIETAL IMPACT INSUFFICIENT FOR DIFFERENT DISCIPLINES**

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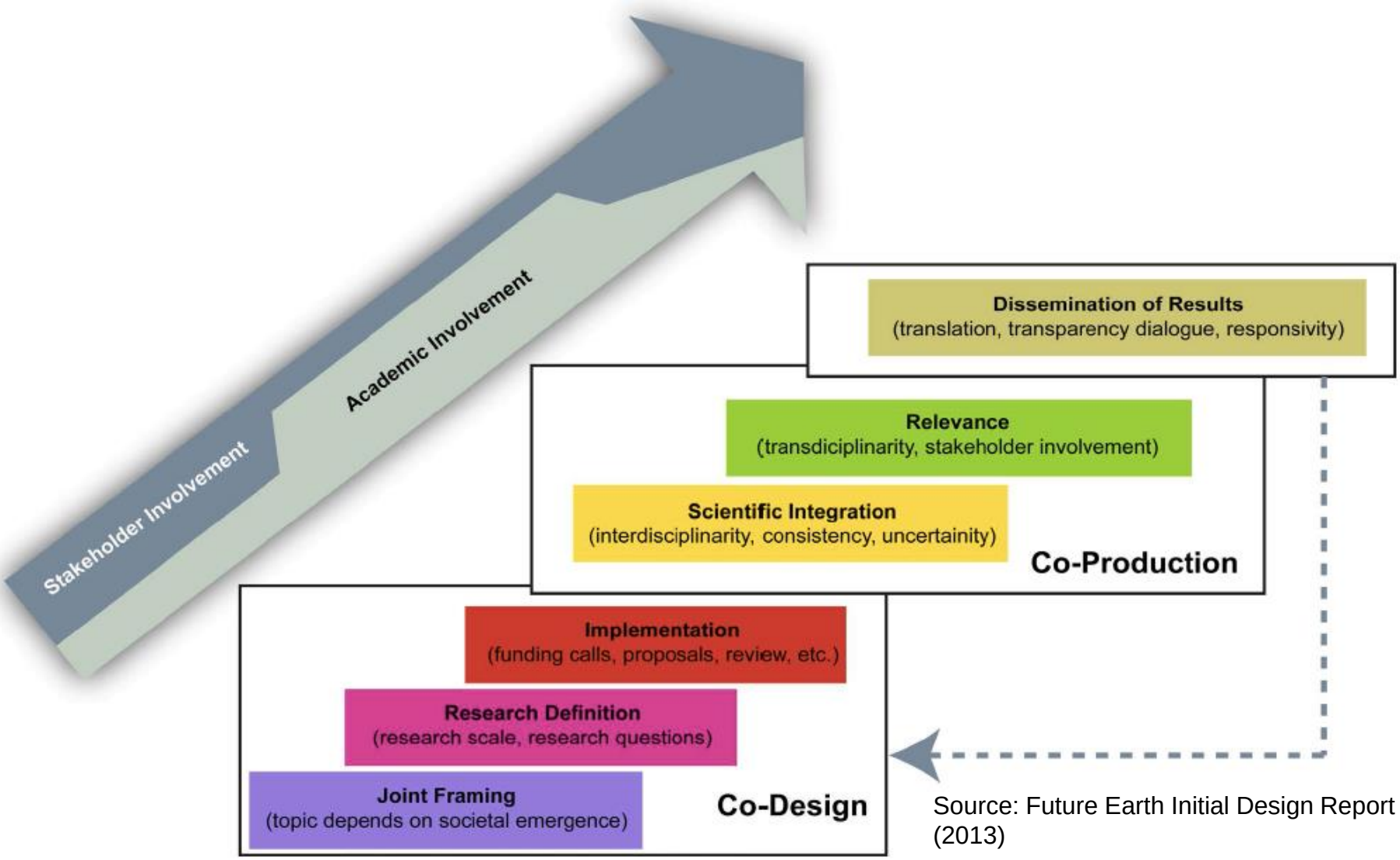
STAKEHOLDERS: Policy and decision makers and planners on government and city level, citizens, NGOs, private sector, media

”CO-DESIGN” OF RESEARCH



Source: Future Earth Initial Design Report (2013)

CO-DESIGN AND CO-PRODUCTION OF RESEARCH

Ideally: **identifying research questions** together

At minimum: **designing end-products** together with the users. At any point of the project but the earlier, the better

ROLES FOR RESEARCHERS AND STAKEHOLDERS

Stakeholders offer complementary knowledge and understanding about

- Real-life practice: strategies, implementation plans
- Constraints and limitations
- Values and norms underlying decision-making

Researchers ensure and offer

- Scientific excellence of the research questions
- Broader and alternative viewpoints, time scales, options
- Understanding of the interconnectedness of phenomena; the context of global change

CO-PRODUCTION IS NOT COMMISSIONNED RESEARCH.

Lemos et al. 2012,
Kirchhoff et al. 2013

STAKEHOLDER ROLES DURING PROJECT LIFETIME

Before project	Beginning of project	During project	End of project and after
Stakeholder interests during the project**:** • Government/city strategies • Legislative processes • Industrial R&D Stakeholder **contribution scope** and research needs.	Precise **roles** for each stakeholder according to their resources and interests. Mapping other important stakeholders. **Co-design** of **key research questions** & **strategy**. Identifying common and conflicting **interests** among stakeholders. **Co-design** of mid- and **end-products** according to timely stakeholder needs.	**Data provision** for scenarios and models, participation in **data analysis**. **Reviewing** project success. **Co-design** of mid- and **end-products** for maximum use and effect for stakeholders. Testing and **evaluating** mid-term products.	Implementation of results – **testing** end-products **Reviewing** project success. Identifying future information, tools, and research needs.

Durham E., Baker H., Smith M., Moore E. & Morgan V. (2014). The BiodivERsA Stakeholder Engagement Handbook. BiodivERsA, Paris (108 pp).

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Future Earth, in a nutshell..

“Future Earth is the response to calls for international, integrated, collaborative and **solutions-oriented research** to respond to the urgent challenges of global environmental change
and **sustainable development**.”

Future Earth – Research for Global Sustainability,
Initial design report, December 2013, Executive Summary, p.17

The objective

To build and connect global knowledge to **intensify the impact** of research and find new ways to **accelerate sustainable development**.

Future Earth partners

- **International Council for Science (ICSU)**
- International Social Science Council (ISSC)
- United Nations Educational, Scientific and Cultural Organization (UNESCO)
- United Nations Environment Programme (UNEP)
- United Nations University (UNU)
- World Meteorological Organization (WMO)
- The Belmont Forum of funding agencies
- Science and Technology in Society (STS) forum
- The Sustainable Development Solutions Network (SDSN)

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Future Earth key focal challenges

Strategic Research Agenda 2014

Deliver **water, energy, and food** for all, and manage the synergies and trade-offs among them.

Decarbonise socio-economic systems to stabilise the climate.

Safeguard the terrestrial, freshwater and marine **natural assets** underpinning human well-being.

Build healthy, resilient and productive **cities**.

Promote sustainable **rural futures** to feed rising and more affluent populations.

Improve human **health** in relation to GEC.

Encourage sustainable **consumption** and production patterns that are equitable.

Increase social resilience to future threats by building adaptive **governance** systems.

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HOW DOES FUTURE EARTH WORK?

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NATIONAL COMMITTEES
European Alliance

Most sustainability solutions are local:

- Local political, economic, cultural systems
- **Access to** and **dialogue with** stakeholders and scientists

CORE PROJECTS
iLEAPS, SOLAS, GEWEX

International scope:

- Integrative basic & applied science
- Different aspects of global change
- Scientific input to co-design

HOW DOES FUTURE EARTH WORK?

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NATIONAL COMMITTEES
European Alliance

STAKEHOLDERS
Industry
Government
Consumers

CORE PROJECTS
iLEAPS, SOLAS, GEWEX

HOW DOES FUTURE EARTH WORK?

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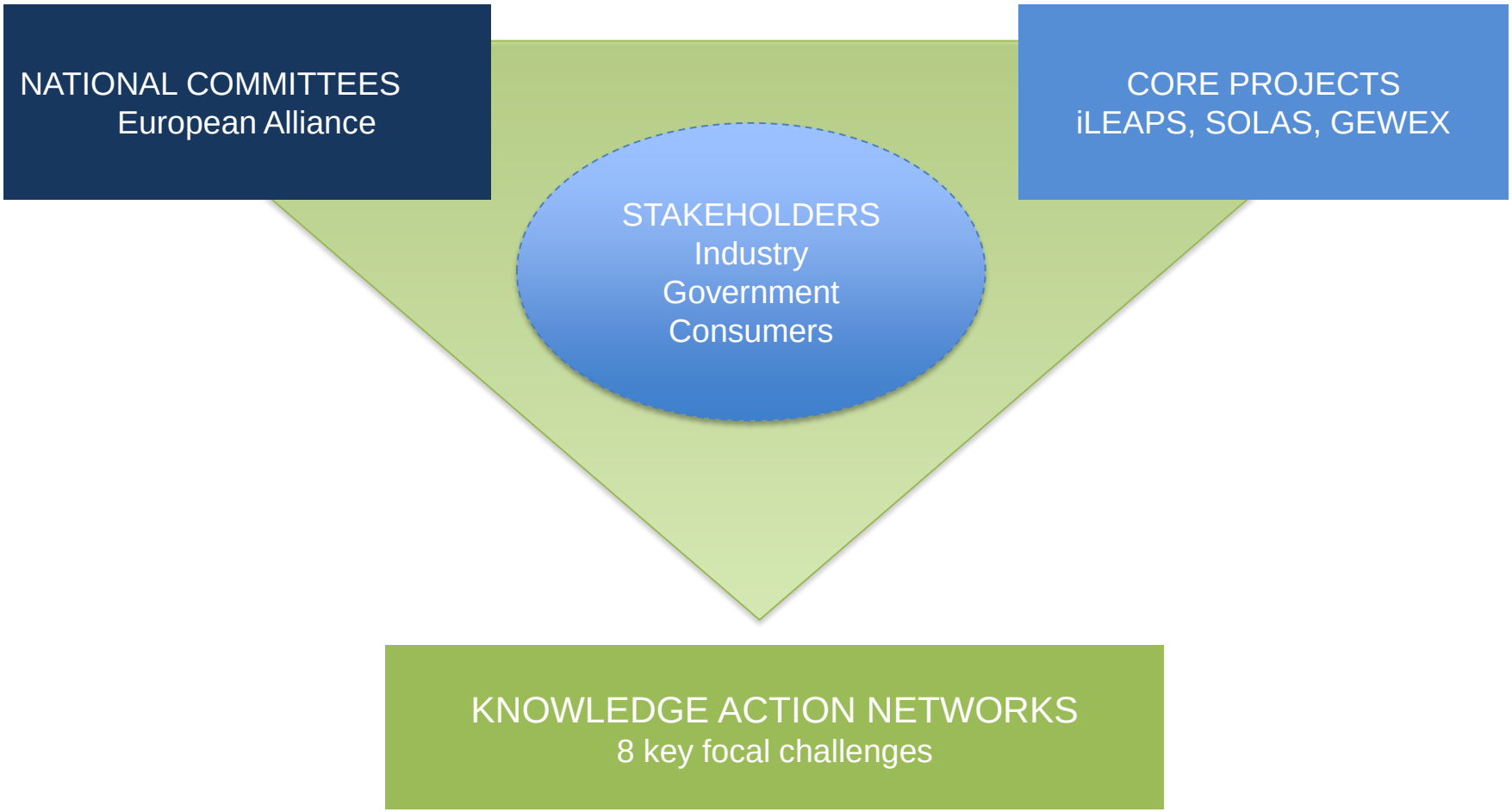

TAKE-HOME MESSAGE

CO-PRODUCTION OF RESEARCH IMPROVES OWNERSHIP AND UNDERSTANDING.

CO-PRODUCED RESEARCH IS MORE LIKELY TO HAVE AN IMPACT.

EUROPEAN ALLIANCE
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