

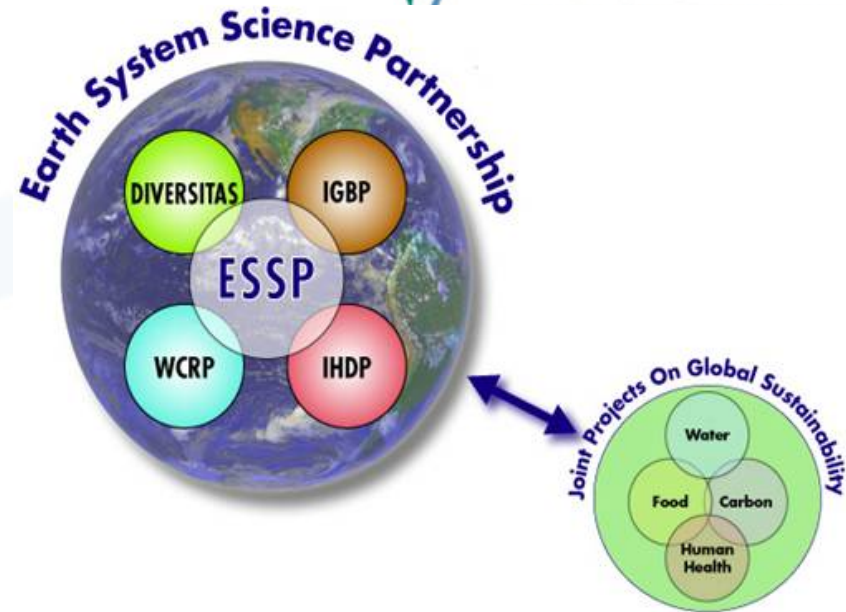
The Visioning Process and Institutional Challenges

Deliang Chen

Acknowledgement: **Johan Rockström, Walter Reid**, Elinor Oström
Kari Raivio, Anne Whyte, Hans Joachim Schellnhuber
Heide Hackmann, Khotso Mokhele, Gernot Klepper

BALTEX BSSG meeting in Göteborg, 24-25 Nov. 2010

Global Environmental Change (GEC) Research

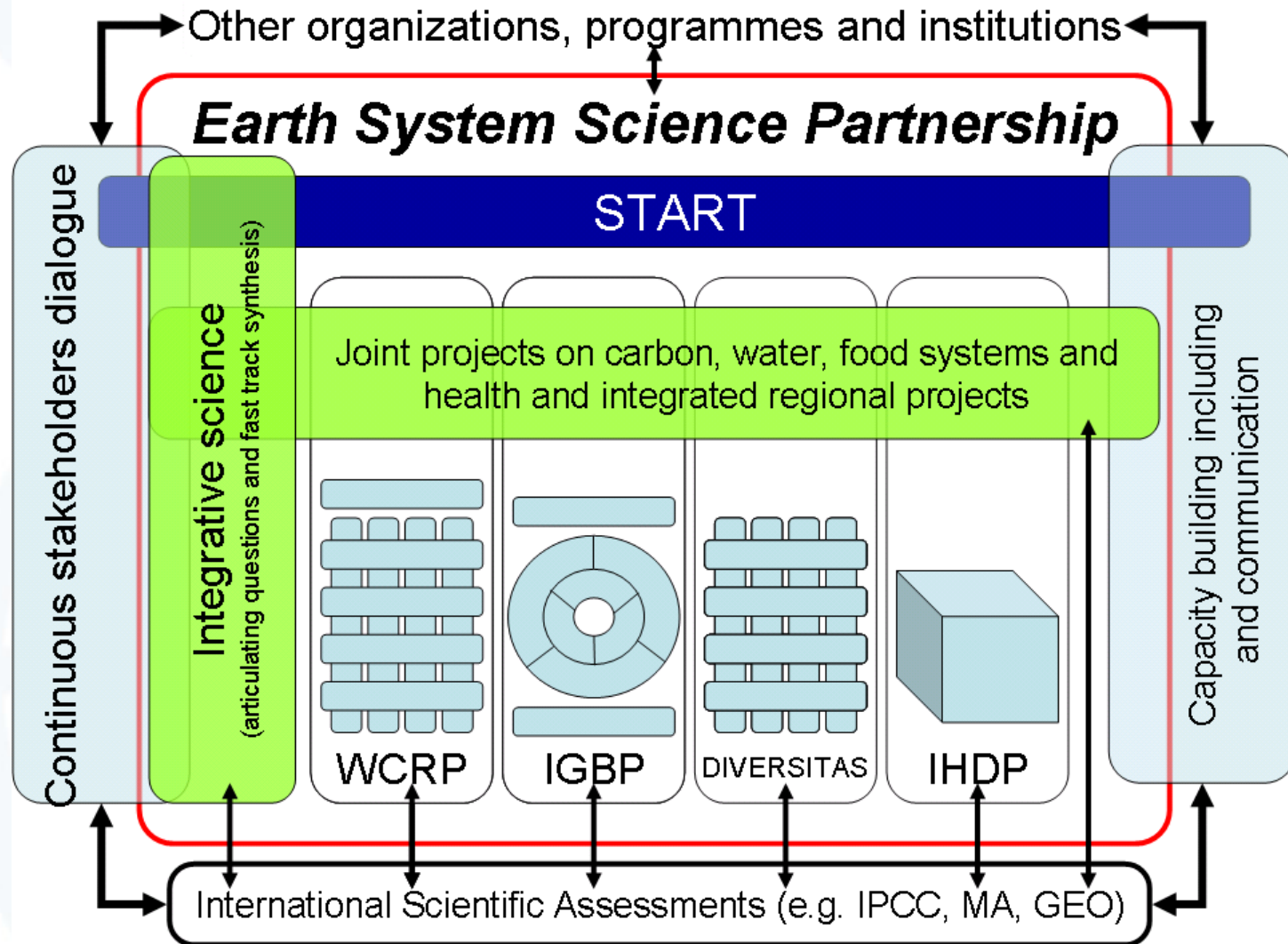


- 1980: World Climate Research Programme (WCRP)
- 1987: International Geosphere-Biosphere Programme (IGBP)
- 1996: International Human Dimensions Programme on Global Environmental Change (IHDP)
- 2002: DIVERSITAS – An International Programme of Biodiversity Science



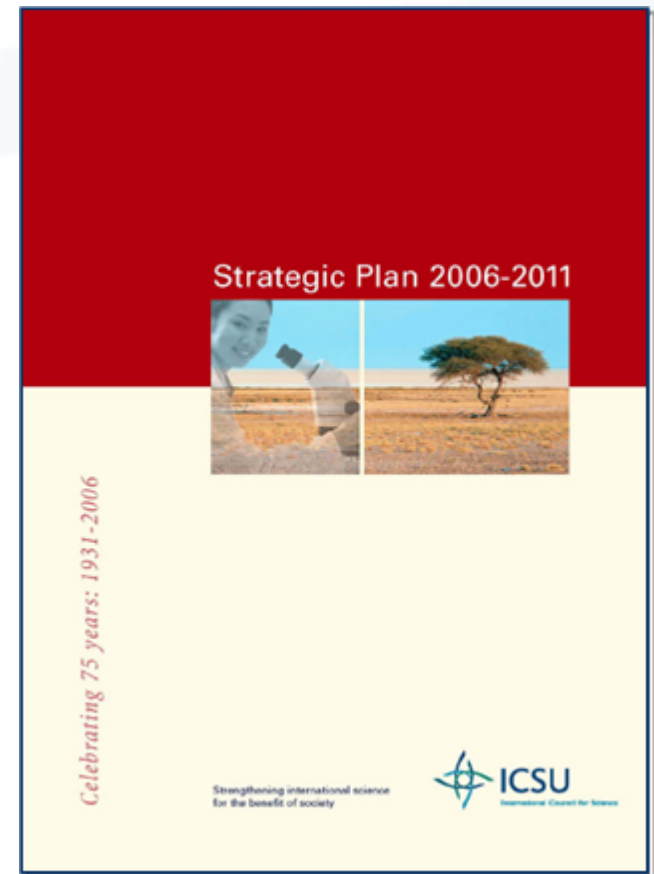
Earth System Science Partnership (2001)

Earth System Science Partnership: Towards transdisciplinary integrative science



ICSU Strategic Plan 2006-2011

“ICSU will conduct individual reviews of its global environmental change research programmes. Special attention will be given to the development of the Earth System Science Partnership, which brings together the four programmes to address issues that are integral to sustainable development.”



GEC Programme Reviews

Reviews

- IHDP: 2006
- ESSP: 2008
- IGBP: 2009
- WCRP: 2009
- DIVERSITAS: tba

Common recommendations

- Priority setting
- Effectiveness
- Integrated research framework

ICSU General Assembly Decision

Decision of the 29th ICSU General Assembly

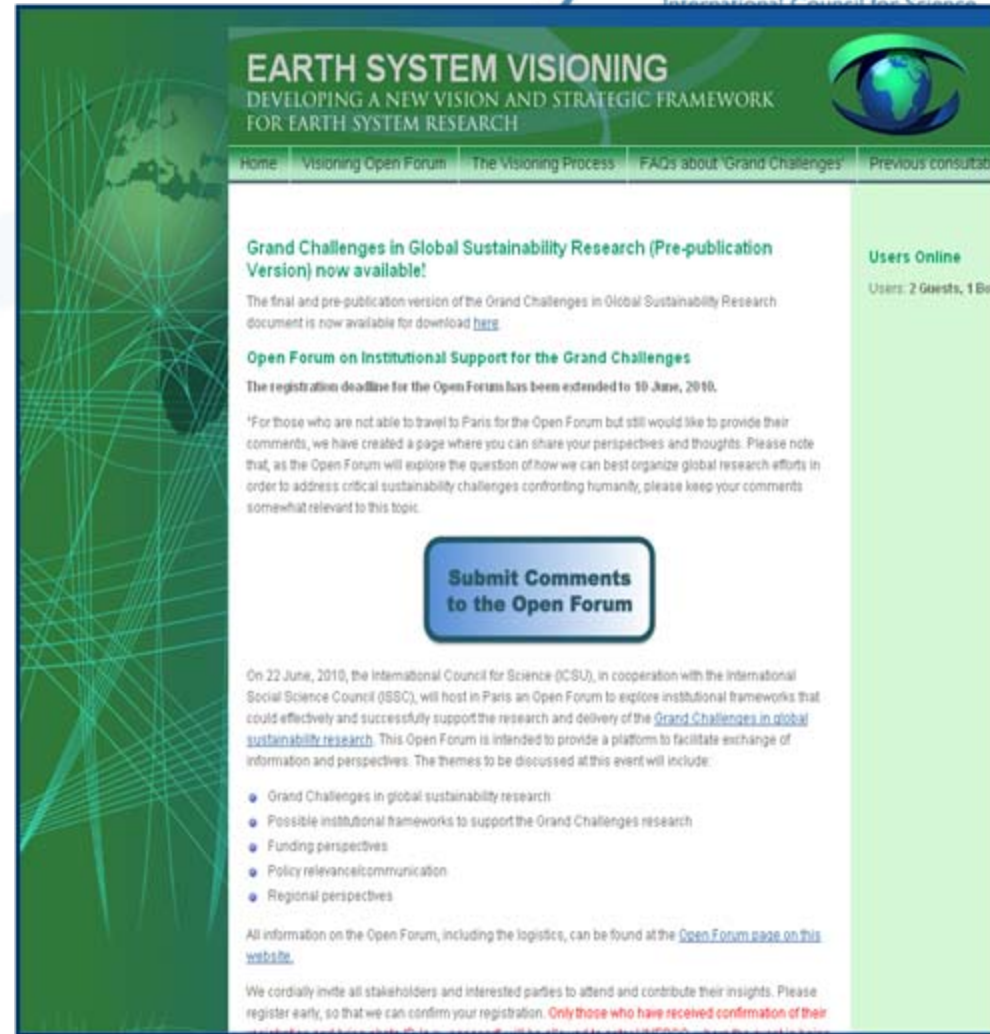
(Maputo, October 2008)

“to note that CSPR is planning to organize a consultation, including a high-level meeting, with relevant partners to outline options for an **overall framework** for global environmental change **research** and its policy relevance, once the reviews of IGBP and WCRP are completed.”

Visioning Process

Goal:

To engage the scientific community to explore options and propose steps to implement a holistic strategy for Earth system research. This strategy will both encourage scientific innovation and address policy needs



EARTH SYSTEM VISIONING
DEVELOPING A NEW VISION AND STRATEGIC FRAMEWORK
FOR EARTH SYSTEM RESEARCH

Home | Visioning Open Forum | The Visioning Process | FAQs about 'Grand Challenges' | Previous consultations

Grand Challenges in Global Sustainability Research (Pre-publication Version) now available!
The final and pre-publication version of the Grand Challenges in Global Sustainability Research document is now available for download [here](#).

Open Forum on Institutional Support for the Grand Challenges
The registration deadline for the Open Forum has been extended to 10 June, 2010.

*For those who are not able to travel to Paris for the Open Forum but still would like to provide their comments, we have created a page where you can share your perspectives and thoughts. Please note that, as the Open Forum will explore the question of how we can best organize global research efforts in order to address critical sustainability challenges confronting humanity, please keep your comments somewhat relevant to this topic.

Submit Comments to the Open Forum

On 22 June, 2010, the International Council for Science (ICSU), in cooperation with the International Social Science Council (ISSC), will host in Paris an Open Forum to explore institutional frameworks that could effectively and successfully support the research and delivery of the [Grand Challenges in global sustainability research](#). This Open Forum is intended to provide a platform to facilitate exchange of information and perspectives. The themes to be discussed at this event will include:

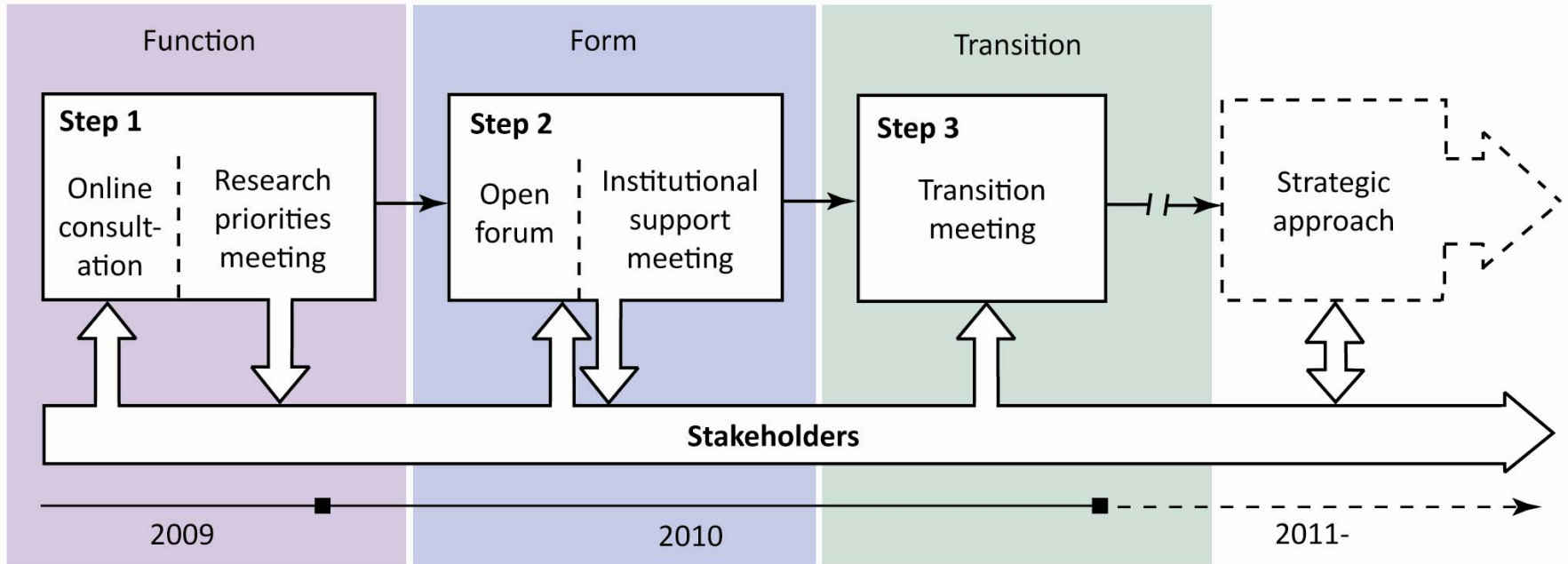
- Grand Challenges in global sustainability research
- Possible institutional frameworks to support the Grand Challenges research
- Funding perspectives
- Policy relevance/communication
- Regional perspectives

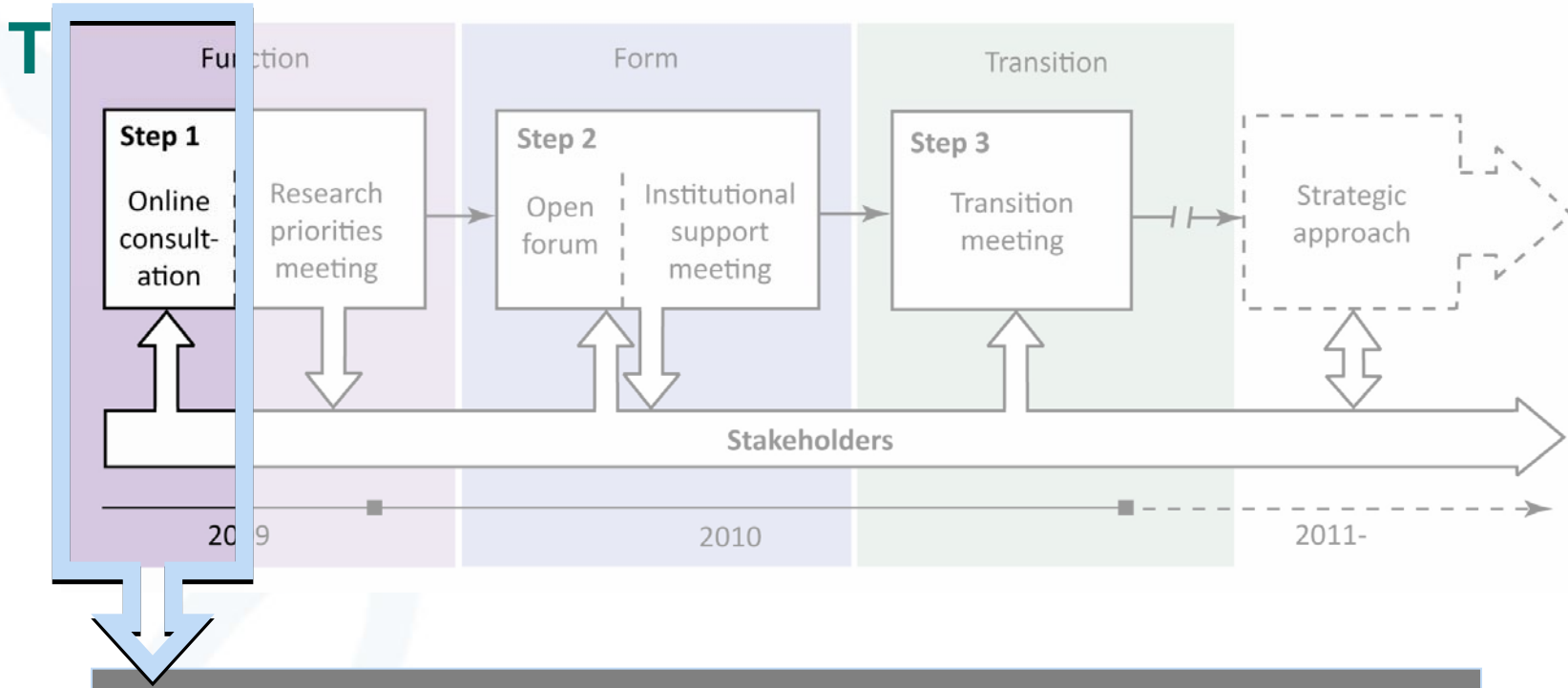
All information on the Open Forum, including the logistics, can be found at the [Open Forum page on this website](#).

We cordially invite all stakeholders and interested parties to attend and contribute their insights. Please register early, so that we can confirm your registration. **Only those who have received confirmation of their registration will be able to attend the event.**

Users Online
Users: 2 Guests, 1 Bot

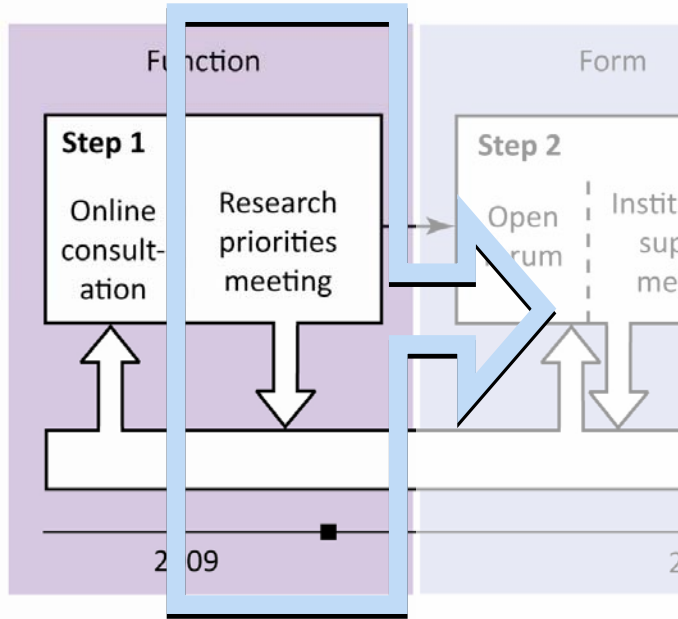
Earth System Visioning Process





Online Consultation (Aug 2009)

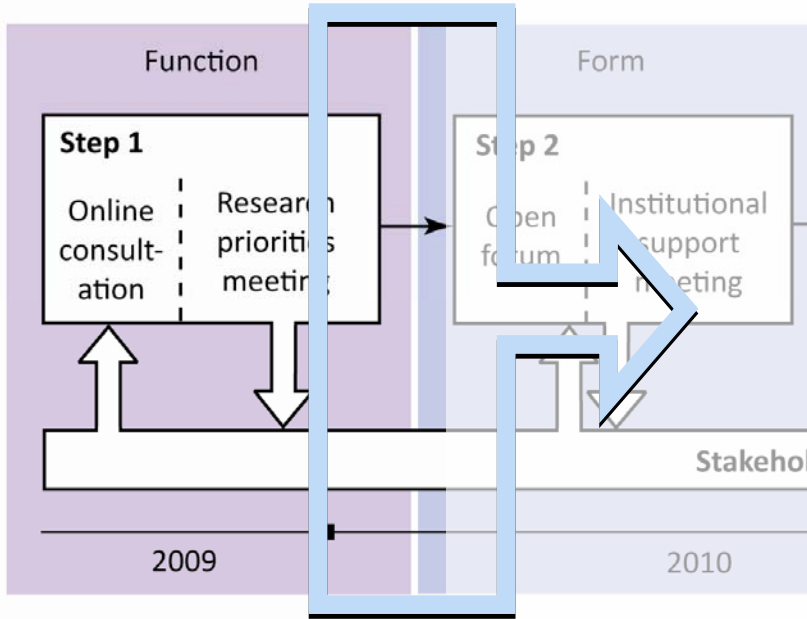
- 1,016 registered users from 85 countries
- 323 research questions posted



Visioning Earth System research meeting (Sept 2009)

- Early career & senior scientists
- Science-policy experts
- Funders
- GEC programs
- ICSU and ISSC

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Grand Challenges in Global Sustainability Research:

A Systems Approach to Research Priorities for the Decade

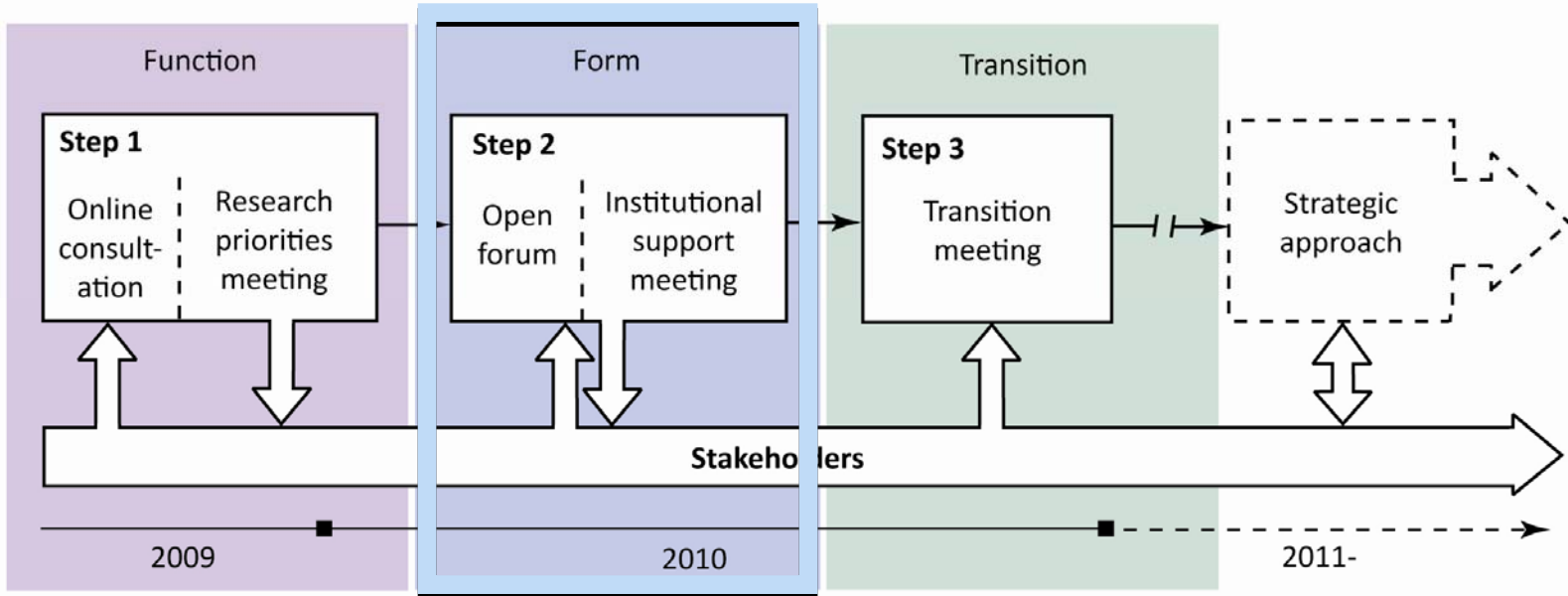
Pre-publication version

Review Draft

Dec 2009 to Mar 2010

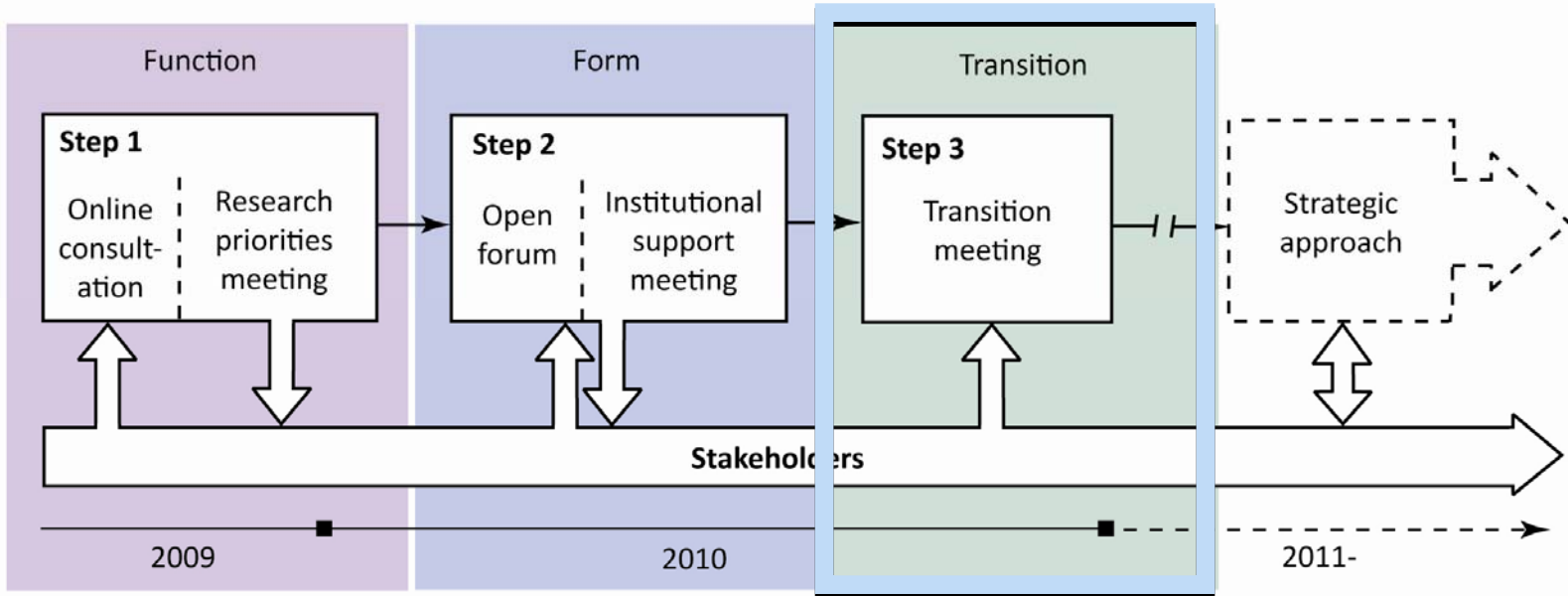
- 46 Institutions
- 202 Individuals

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**Open Forum
Institutional Support Meeting**

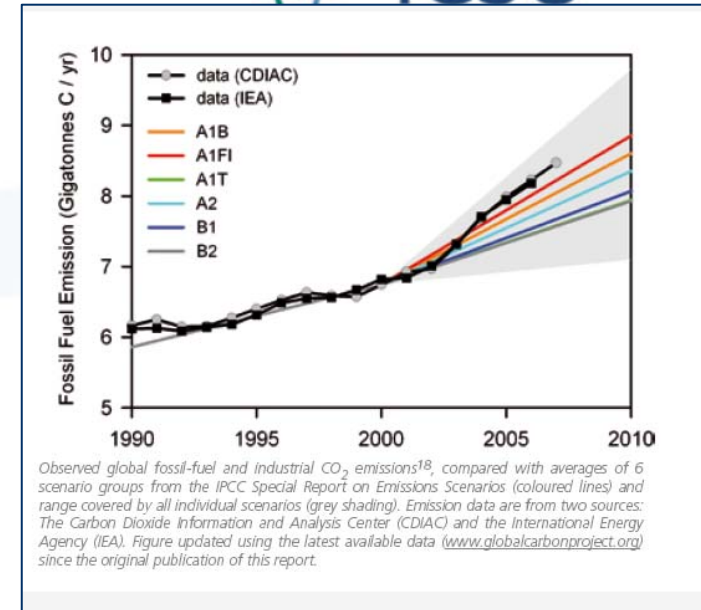
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Transition Meeting

Three Decades of Global Change Research

- Extraordinary progress in understanding the Earth System and consequences of human action
- Global environmental change outpacing response
- Current path is unsustainable
- Sound basis for actions to mitigate and adapt to global change



Need far more information and understanding to solve the problem that global environmental change poses for our societies

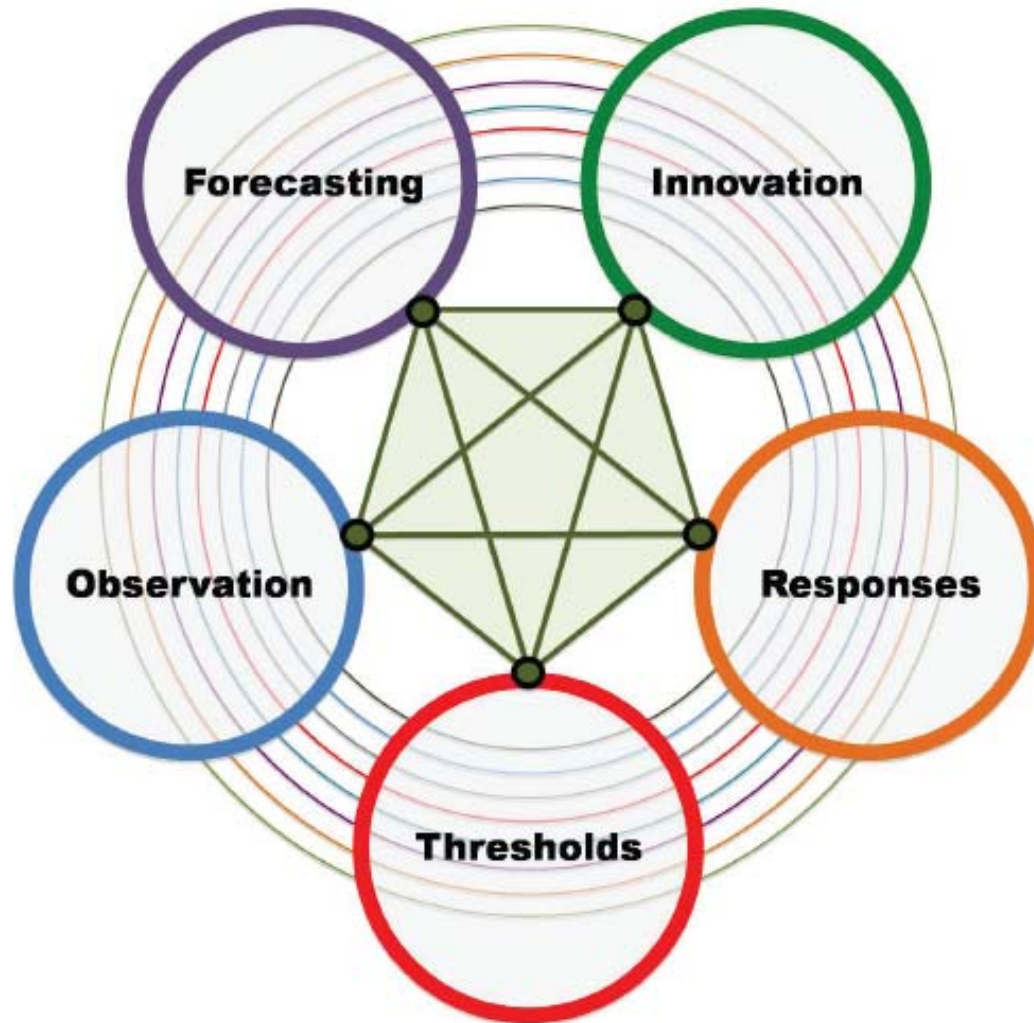
Mobilize international global change scientific community around an unprecedented decade of focused and intensive research



Research

Transition

| From: | To: |
|---|---|
| Disciplinary Research | Disciplinary, Interdisciplinary & Transdisciplinary |
| Strongest Emphasis on Natural Sciences | Full Range of Sciences and Humanities |



Grand Challenges in Global Sustainability Research

The Grand Challenges

1. **Forecasting:** Improve the usefulness of forecasts of future environmental conditions and their consequences for people.
2. **Observing:** Develop, enhance and integrate the observations systems needed to manage global and regional environmental change.
3. **Confining:** Determine how to anticipate, avoid and manage disruptive global environmental change.
4. **Responding:** Determine what institutional, economic and behavioural changes can enable effective steps toward global sustainability.
5. **Innovating:** Encourage innovation in developing technological, policy, and social responses to achieve global sustainability.

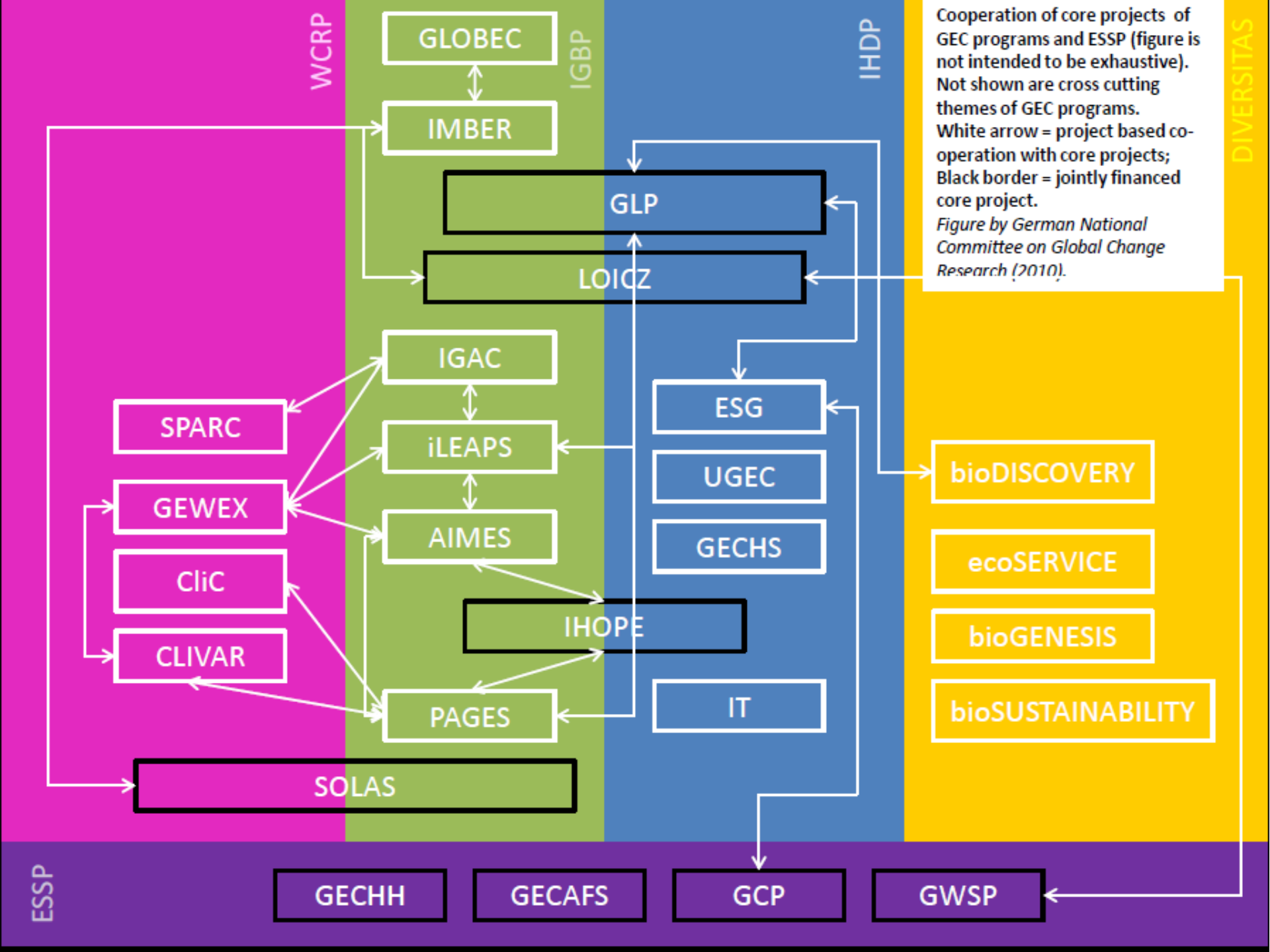
Grand Challenge: A call for scientific innovation or understanding that would remove critical barriers to deciding how to manage global change and its impacts

| Criteria | Grand Challenges |
|------------------------------|------------------|
| Scientific Importance | ✓ |
| Global Coordination | ✓ |
| Relevance to Decision-makers | ✓ |
| Leverage | ✓ |
| Broad Support | ✓ |

Institutional Challenges

Institutional evolution





Cooperation of core projects of GEC programs and ESSP (figure is not intended to be exhaustive). Not shown are cross cutting themes of GEC programs. White arrow = project based co-operation with core projects; Black border = jointly financed core project. Figure by German National Committee on Global Change Research (2010).

DIVERSITAS

ESSP