The Institute for Advanced Sustainability Studies IASS Potsdam

Introduction of IASS

Dr. Carolina Cavazos Guerra

Research Cluster "Sustainable Interactions with the Atmosphere"

IASS - History and Funding

- The development of IASS was inspired by the 2007 Nobel Laureate Symposium "Global Sustainability – A Nobel Cause" held in Potsdam
  ➔ An inter- and trans-disciplinary approach to sustainability

- Founded in 2009, formally started in 2010
- Funded for 7 years by the German Federal and State governments

Three Research Clusters

GCS – Global Contract for Sustainability (Klaus Töpfer)

E3 – Earth, Energy and the Environment (Carlo Rubbia)

SIWA – Sustainable Interactions With the Atmosphere (Mark Lawrence)

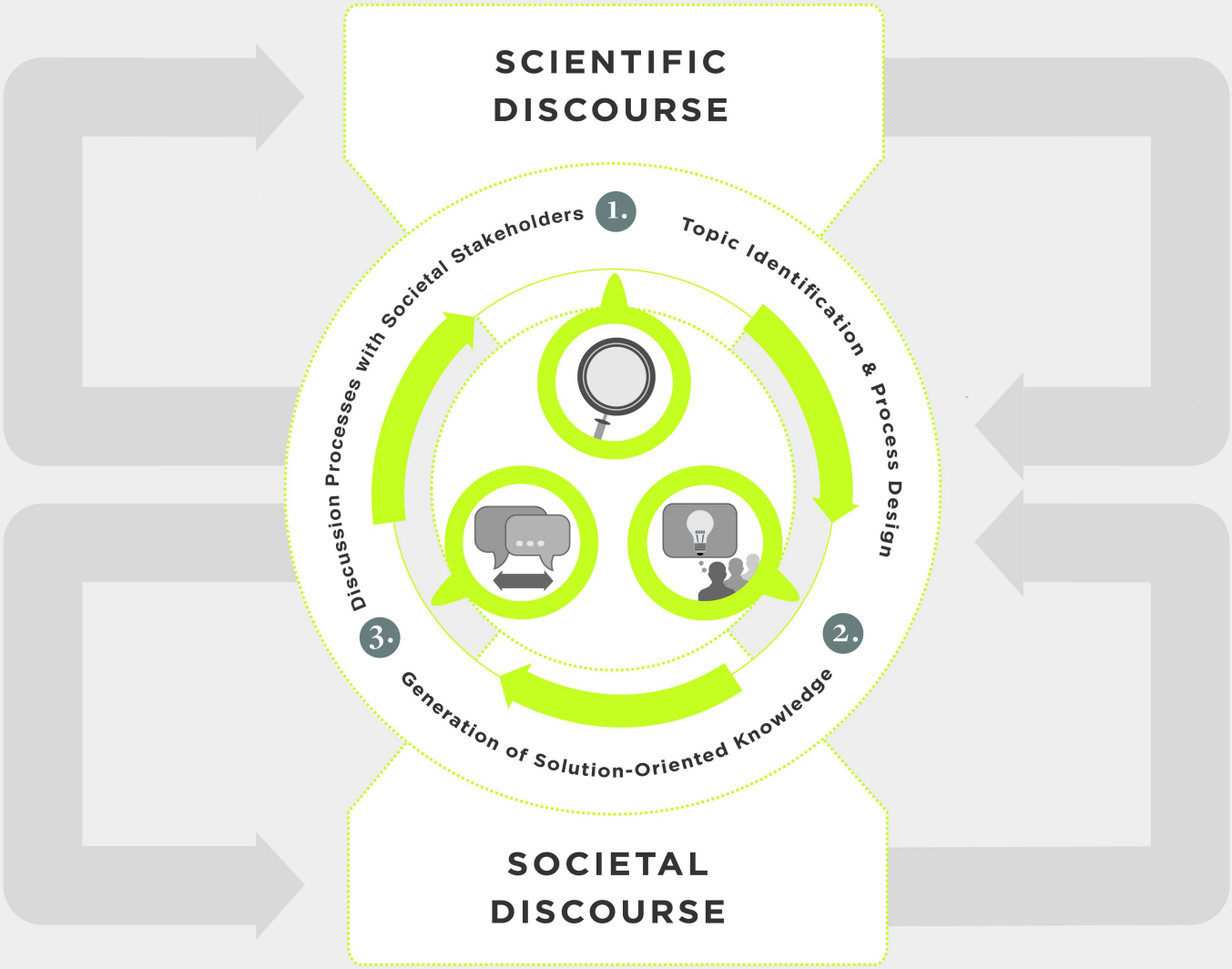
Science for Sustainability

- What are the governance options for a sustainable interaction with the environment and use of resources?

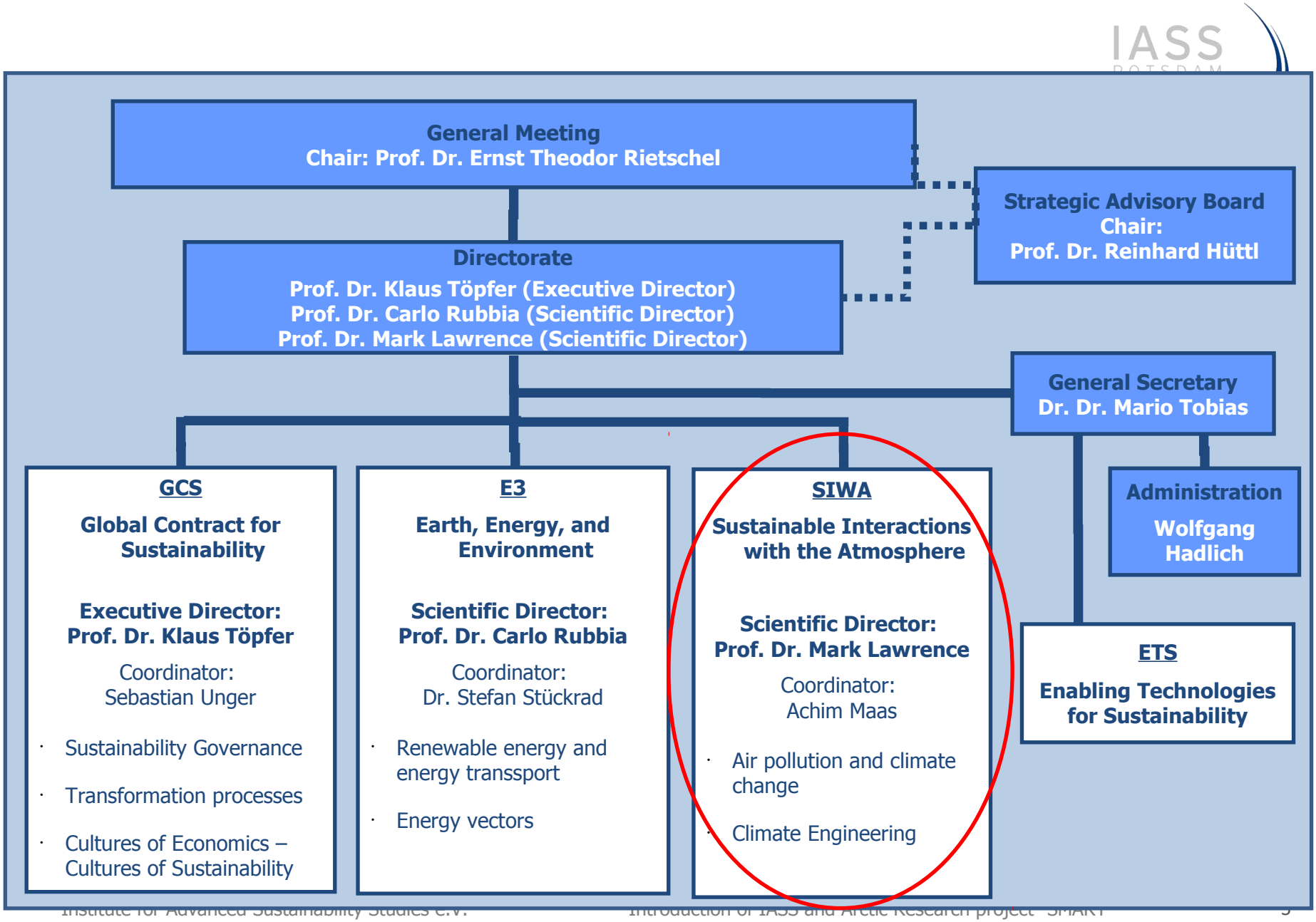
- Which pathways and technologies can transform our polluting and wasteful energy systems and lifestyles into more sustainable ones?

- How can we take responsibility for human-made changes in ecosystems and act according to future needs?

- How can we co-generate and communicate knowledge between science and society?


SCIENTIFIC DISCOURSE
1.
Topic Identification & Process Design
2.
Generation of Solution-Oriented Knowledge
3.
Discussion Processes with Societal Stakeholders
SOCIETAL DISCOURSE

IASS Overview



Cluster „Sustainable Interactions with the Atmosphere“

The SIWA-Cluster focuses on developing a sustainability-driven approach for managing human influence on the earth’s atmospheric composition.

SIWA examines the nexus between air pollution and climate change in the context of urbanization, as well as the opportunities and risks associated with climate engineering, targeted intervention in the atmosphere’s chemical and physical processes as a means of mitigating climate change.

At SIWA, more than 40 staff members, including visiting fellows, from eleven countries are currently working in these areas.

Link: www.iass-potsdam.de/research-clusters/sustainable-interactions-atmosphere-siwa

Current Overarching Questions

- What options are there – **in addition to reducing CO_2 emissions** – for taking **rapid action** from local to global level against global warming, and for the **long-term removal** of CO_2?
- What **opportunities, uncertainties and risks** of these options?
- How can humanity **interact sustainably** with the atmosphere?
- How can we investigate these questions in a **trans-disciplinary manner**, interfacing between natural sciences, social sciences and humanities, and between research, society and policy?
- **Two core topics:**
  - ***Short-lived climate-forcing pollutants (SLCPs)***
  - ***Climate Engineering***

Research Group „A Sustainable Atmosphere for the Kathmandu Valley“

SusKat

Key focus:

-- Kathmandu Valley / Himalaya region

-- Understanding emissions, atmospheric levels and impacts of air pollutants, including SLCPs, in the region

-- Developing scenarios for future emisssions and estimating corresonding impacts

-- Evaluating mitigation potential of mitigation measures and demonstration of some mitigation measures

-- Raising public awareness, and enhancing capacity

Milestones Phase 1:

-- Science - Policy seminar: Opportunity to Integrate Atmospheric Pollution Control and Climate Change Adaptation and Mitigation in Nepal with MoSTE, CCAC, and

-- Completion of Intensive SusKat-ABC Field Campaign

Research Group

Team Leader: Dr. Maheswar Rupakheti

Dr. Ram Regmi
Khadak Mahata
Prof. N.T. Kim Oanh (Alumnai)

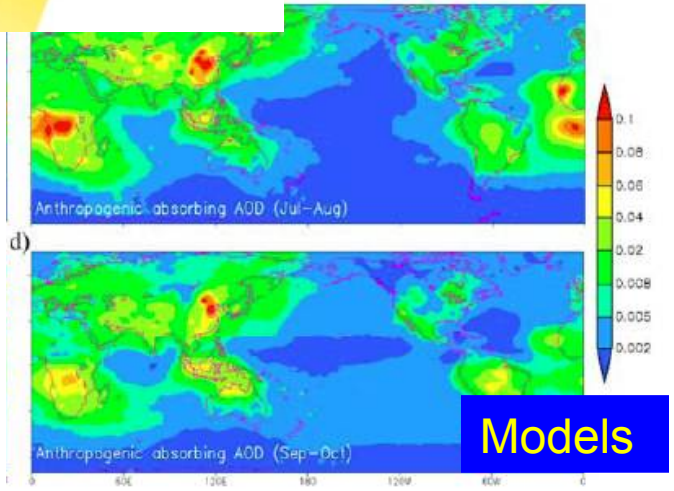
Partner organizations

-- ICIMOD
-- SNU, NIER, South Korea
-- IOE, CDP TU, Nepal
-- IISER, AIRES, PRL, NARL, India
-- ITP CAS, China
-- Ev-K2-CNR, Italy
-- SU, Sweden
-- U Mainz, KIT, Germany
-- NASA, UVA, USA

SusKat-ABC measurement campaign (Dec 2012-June 2013)

2nd largest international campaign in South Asia

- 40+ Scientists
- 18 Research Groups
- 9 Countries
- 160+ instruments/sensors (Aerosol/Gas/Meteorology)
- 23 sites (1 Supersite, 5 Satellite site, 2 regional sites, and other collaborating sites)



High Level Update on Atmospheric Research In Nepal, 26 August 2013

Project "Short-Lived Climate-forcing Pollutants – Research Needs and Pathways to Policy Implementation"

ClimPol

Key focus:

-- Supporting policy development on various levels
-- supporting the development of integrated metrics for air quality and climate change
-- Engaging and informing the non-scientific stakeholders about impacts of SLCPs

Milestones:

-- Founding of the IG-WG in December 2012
-- Joint awareness raising conferences with DUH in Berlin, Sep. 2012, and with DUH and EEB in Brussels, May 2013
-- Workshop on prioritizing measures for climate and mobility with the city of Potsdam, June 2013
-- Joint workshop with EEA on metrics in Copenhagen, Sep. 2013

Project

Project Leader: Dr. Erika von Schneidemesser

Partner organizations

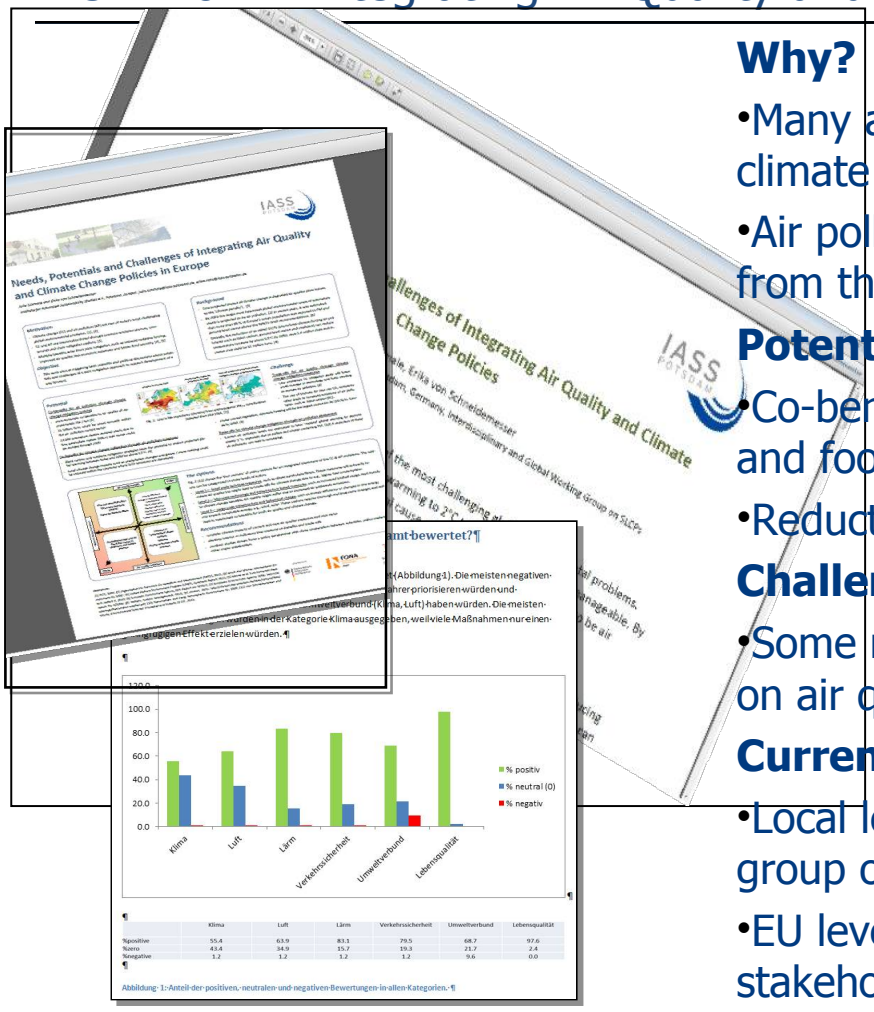
-- City of Potsdam
-- State of Brandenburg

-- European Environment Agency
-- University College of London
-- Okapi Research, India

-- Deutsche Umwelthilfe
-- European Environmental Bureau

Link: www.climpol.iass-potsdam.de

"ClimPol" – Integrating Air Quality and Climate Change Policies



Why?

- Many air pollutants effect climate change and climate change effects air quality.
- Air pollutants and climate forcers are often emitted from the same sources.

Potential:

- Co-benefits for climate change mitigation, air quality and food security
- Reduction of policy costs

Challenge:

- Some measures for climate change can "backfire" on air quality and vice versa.

Current Work:

- Local level - city of Potsdam: counselling working group on "Climate and Mobility"
- EU level: organization of conferences, policy briefs, stakeholder workshops
- Science: work on integrated metrics, organization of conference sessions

"ClimPol" – Informing and Engaging Different Audiences

Informational Material

- SLCP short film
- SLCP broshures
- Website
- Presentations

Engaging Stakeholders

- Practical, scientific, political and other forms of knowledge are brought together in a variety of forums
  - workshops,
  - webinars,
  - formal and informal dialogues,
    - Multi-way communication to shape the scientific agenda as well as policy development