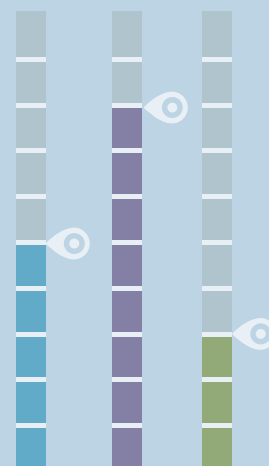


# RESEARCH AND DIALOGUE FOR A SUSTAINABLE WORLD

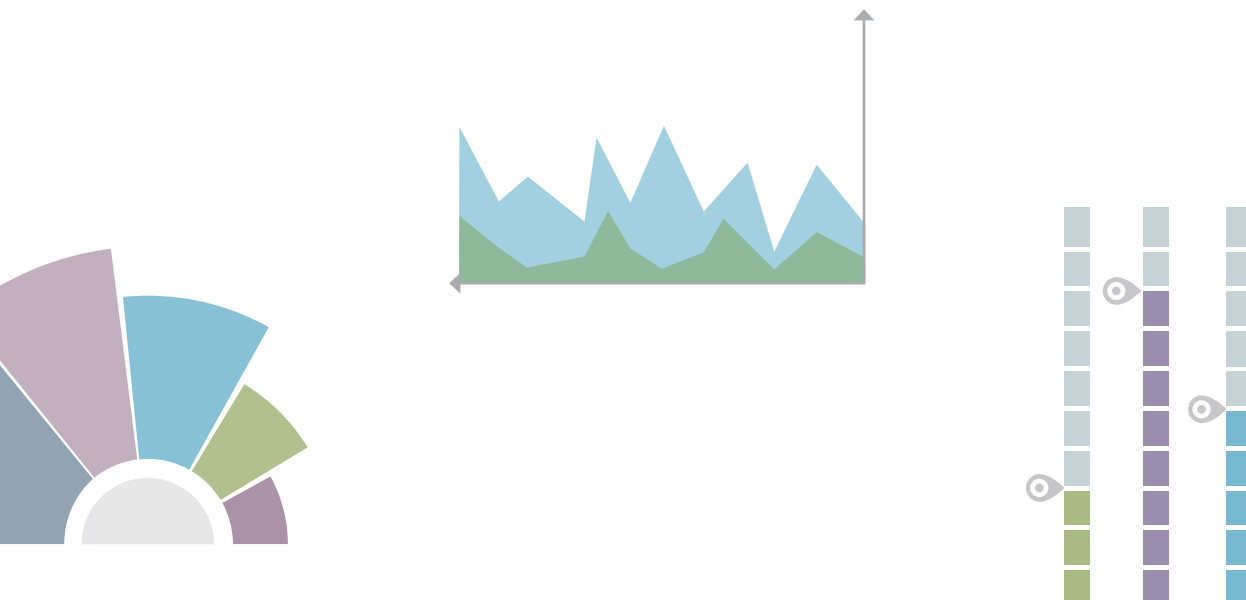
The IASS: Facts & Figures 2014 – 2016



# PURPOSE AND MISSION OF THE IASS

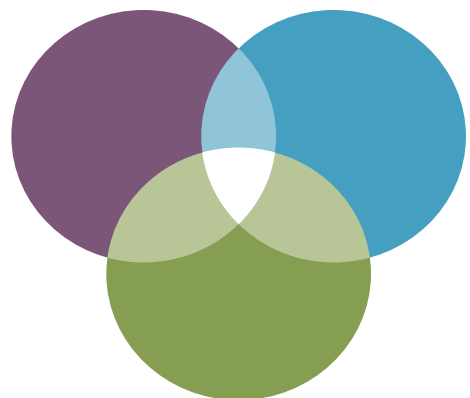
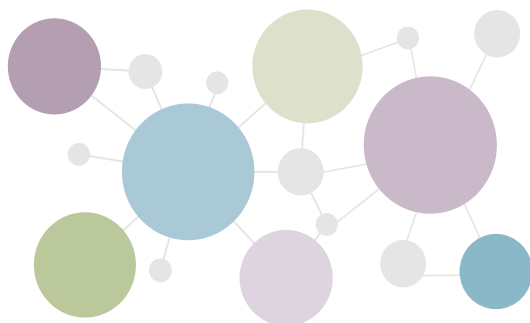
The IASS conducts research with the goal of identifying and advancing transformation processes towards sustainable societies in Germany and abroad. What factors determine the success of such transformation processes? And how can – and should – they be designed? These are the questions that pre-occupy IASS researchers in their work on different aspects of sustainability.

Our mission is to develop robust knowledge that will pave the way towards sustainable societies. Our research is transdisciplinary and is conducted in cooperation with partners from science, policymaking, and society in order to devise solutions for pressing sustainability challenges and to support national and international decision-making processes.



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## OUR MANDATE: RESEARCH AND DIALOGUE

“We are standing at a moment in history when a Great Transformation is needed to respond to the immense threat to our planet. This transformation must begin immediately.” This call for urgent action was articulated by leading international researchers and decision-makers in the highly regarded Potsdam Memorandum, which was adopted at the Nobel Laureates Symposium “Global Sustainability: A Nobel Cause” in 2007.

The IASS was founded in 2009 with the aim of advancing this transformation through excellent research and a strategic dialogue with partners from the political sphere, the private sector, and civil society. As well as actively contributing to transformation processes, the institute generates knowledge about the possible objectives of such processes and the factors that are crucial to their success.

One decade on from the Potsdam Memorandum, the need for scientific support of transformation processes has arguably never been greater. It is true that a rethink is under way in many different areas, and ambitious projects are being pursued at national and international level – for example the energy transition in Germany or the Paris Climate Agreement ratified in 2015 and the sustainable development goals adopted by the United Nations in the same year. But the implementation of these projects requires a reorganisation of our economic system that will take many years, particularly in view of the fact that the gap between knowledge and concrete action is still wide.

And there is a risk that this gap will become even wider. The sheer extent to which scientific knowledge has been called

into question in recent years has prompted some commentators to speak of a ‘post-factual’ age. In certain parts of the world, climate change is deemed a ‘climate lie’, and the energy transition is dismissed as the project of elites in need of a reality check.

That’s why it’s so important to make the motivations for different courses of action and solutions transparent. The participants in transformation processes need to come together with the people affected by change, not least to ensure that the right research questions are being asked and that scientific work is relevant to society.

As evidenced by our work to date, this transdisciplinary approach to research is innovative – and successful. In cooperation with a wide range of partners we have put soils on the international agenda. Our research on interventions in the global climate system has significantly shaped both scientific and political discourse on this issue. And where the energy transition is concerned, our participatory ideas and concrete recommendations for action have contributed to the design of a sustainable future energy supply.

Following the groundwork of the first years and the restructuring of the IASS based on the Science Council’s recommendations, the institute entered its second phase this year. With around 160 people from around the world currently working here – including over 40 fellows – and a wealth of partners in academia, the business world, politics and civil society, we will continue to develop our research methods in order to generate actionable knowledge for a sustainable world.

Potsdam, December 2017



Prof. Dr Mark Lawrence  
Managing Scientific  
Director



Prof. Dr Ortwin Renn  
Scientific Director



Prof. Dr Patrizia Nanz  
Scientific Director



Jakob Meyer  
Administrative Director



## SCIENTIFIC MANAGEMENT



**Professor Dr Mark Lawrence** was appointed Scientific Director at the IASS in October 2011. Prior to that, he worked at the Max Planck Institute for Chemistry in Mainz. An atmospheric and climate scientist, he has taught courses in geoecology at the University of Potsdam since 2013 and was appointed Honorary Professor at the same university in 2014. Mark Lawrence has been Managing Scientific Director of the IASS since October 2015.



**Professor Dr Ortwin Renn** has been Scientific Director at the IASS since February 2016. He remains affiliated to his former institute, the Stuttgart Research Center for Interdisciplinary Risk and Innovation Studies at the University of Stuttgart (ZIRIUS), where he lectures on technology and environmental sociology. He is also a director of the non-profit company DIALOGIK, a research institute for the investigation of communication and participation processes.



**Professor Dr Patrizia Nanz** has been Scientific Director at the IASS and Professor for Transformative Sustainability Studies at the University of Potsdam since April 2016. She has held a professorship at the University of Bremen since 2002. A political scientist and expert on participatory processes, in 2009 Nanz founded the European Institute for Public Participation (EIPP) in Bremen, which advises businesses, public authorities, and governments in various European countries.



**Professor Dr Klaus Töpfer** was Executive Director of the IASS until September 2015. He was German Minister for the Environment, Nature Conservation and Nuclear Safety from 1987 to 1994 and Minister for Transport, Building and Urban Development from 1994 to 1998. Töpfer joined the IASS after his term as Executive Director of the United Nations Environment Programme. He was awarded the German Sustainability Prize for his life's work.

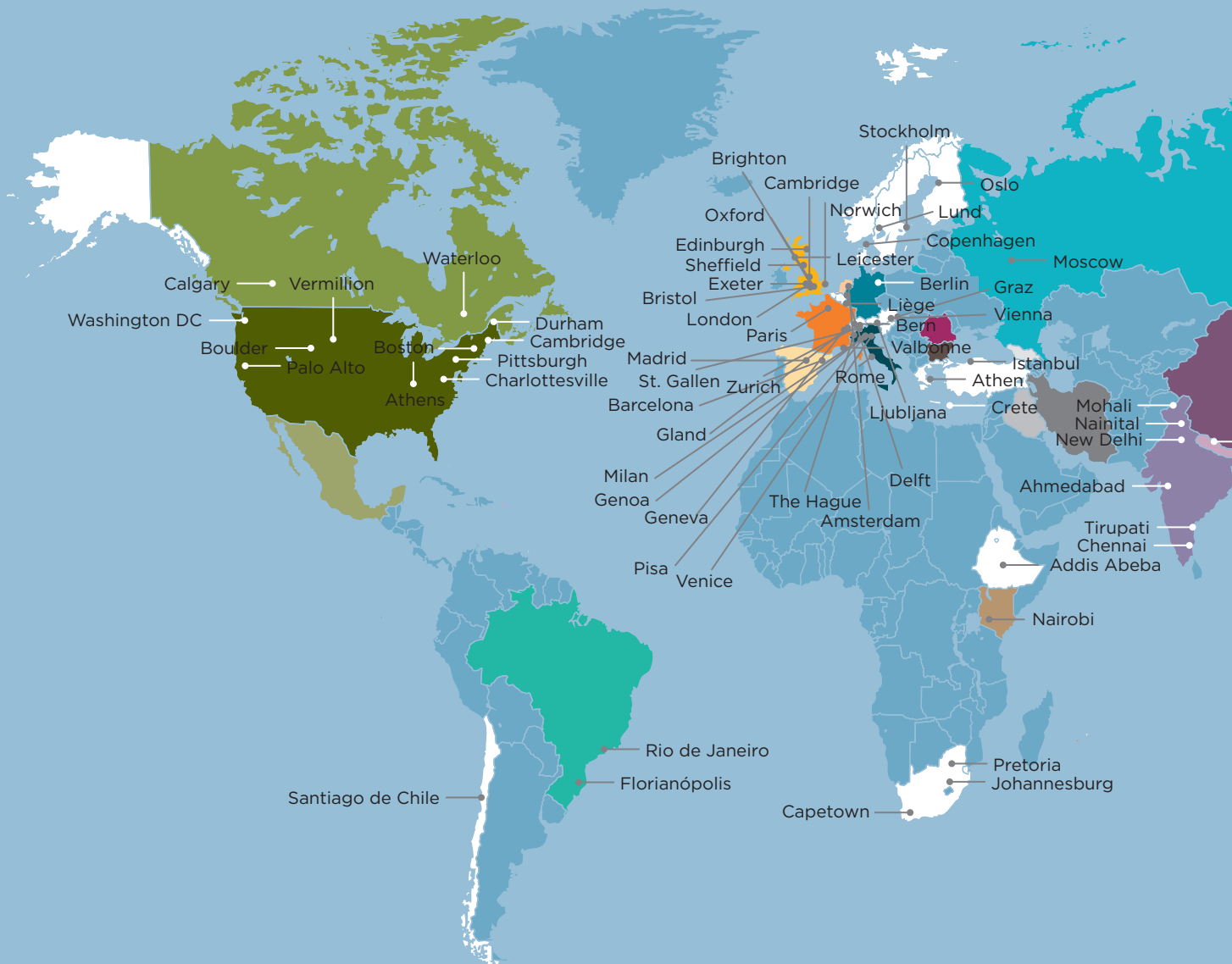


**Professor Dr Carlo Rubbia** was Scientific Director at the IASS from June 2010 to May 2015. He was awarded the Nobel Prize for Physics in 1984 and served as Director General of the European Organization for Nuclear Research (CERN) headquartered in Meyrin, Switzerland from 1989 to 1993. Carlo Rubbia was appointed Senator for Life by Italian President Giorgio Napolitano on 30 August 2013.

## OUR GLOBAL NETWORK FOR SUSTAINABILITY

The IASS offers a platform for scientific researchers and people engaged in the practical application of the insights of sustainability research. They come to us from all over the world. This is how we

gather international expertise in Potsdam. We also cooperate with renowned research institutions, public authorities, non-governmental organisations, and initiatives and foundations.





## Home countries of IASS Fellows

 Brazil	 Iraq
 Bulgaria	 Italy
 Canada	 Kenya
 China	 Luxemburg
 France	 Nepal
 Georgia	 The Netherlands
 Germany	 Romania
 Great Britain	 Russia
 India	 Spain
 Iran	 United States of America



International cooperation partners:  
In the years from 2014 to 2016, the IASS cooperated  
with a total of 85 partners from 27 countries.

## KEY FACTS & FIGURES AT A GLANCE

Potsdam is a centre of scientific endeavour. Nowhere else in Germany is the proportion of scientists so high: Around 10,000 people work at the

city's various research institutes. The IASS and its researchers are now firmly established in Potsdam's scientific landscape.

### Knowledge from A to Z

The IASS uses the joint library of the Albert Einstein Science Park and can access

**14,000**  
specialist journals  
and the full range of  
bibliographic  
services  
provided by the library.



### Staff development

The number of  
people employed at the IASS grew  
by about **14%** from the  
beginning of 2014 to the end of 2016.

### Staff numbers

At the end of 2016,

a total of **137** people  
were working at the IASS, including

**117** research staff

and **20** administrative  
staff.







### Average age

In December 2016,  
**the average age**  
of all IASS employees  
was **40.**

### Support for junior researchers

In the funding period from 2014 to 2016,  
**8** dissertations  
were successfully completed at the IASS.



### Gender ratio

At the end of 2016, **87** women  
and **50** men were working at the IASS.

That corresponds to **63.5%** women  
to **36.5%** men.



### Fellows

The IASS hosted **86** Fellows from  
**20** different countries in the period  
from 2014 to 2016.



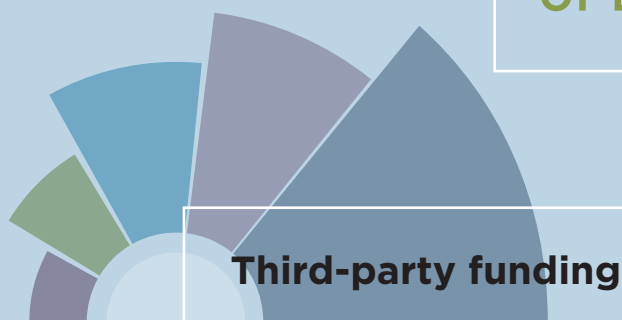
## Funding bodies

The IASS receives 85 per cent of its core funding from the Federal Ministry for Education and Research. The remaining 15 per cent come from the Research Ministry of the State of Brandenburg.

## Funding

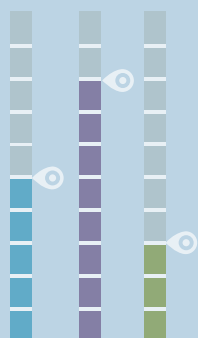
In the funding period from 2014 to 2016, the IASS was allocated

**28** million euro in  
funding: **24** million from  
the **Federal Government**  
and **4** million from the **State of Brandenburg**.



## Third-party funding

The IASS attracted **8** million euro in third-party funding for research projects in the period from 2014 to 2016.



## Third-party donors

The most important third-party donors were the EU Framework Programme for Research and Innovation, the UN Food and Agriculture Organization, the Federal Ministry for Economic Cooperation and Development, the Federal Ministry of Food and Agriculture, the German Agency for International Development (GIZ), and the German Research Foundation.



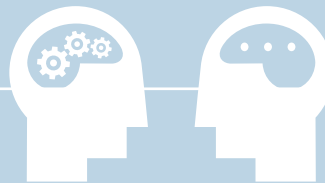
## Publications

A total of **198** peer-reviewed articles by IASS researchers were published in specialist journals in the period from 2014 to 2016.

In addition, **94** academic or broadly academic publications were published in the IASS Series or as one-off publications.

## Events

The IASS held up to 100 events each year – from expert discussions, workshops, and meetings with high-level partners to international scientific conferences.



## Interdisciplinarity

In the period from 2014 to 2016,

**28** different academic disciplines were represented at the institute:

engineering | economics | law | political science | sociology | psychology | physics | chemistry | theology | history | environmental sciences | geoscience | philosophy | communications | soil science | agricultural science | atmospheric science | international relations | geology | urban planning | forestry | mechanical engineering | biotechnology | hydrology | geography | mathematics | meteorology | business studies

## ARTICLES IN SPECIALIST JOURNALS

Articles in international journals are science's most valuable currency. This is how important new findings by IASS researchers reach other scientists across the globe. These findings are

usually appraised by independent reviewers prior to publication in a so-called peer-review process.

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### Outstanding articles (2014 – 2016)

**Ardron, J. A., Rayfuse, R., Gjerde, K., Warner, R. (2014):** The sustainable use and conservation of biodiversity in ABNJ: What can be achieved using existing international agreements? – *Marine Policy*, 49, pp. 98–108.

↗ **Internet:** <http://doi.org/10.1016/j.marpol.2014.02.011>

**Benduhn, F., Schalloock, J., Lawrence, M. G. (2016):** Early growth dynamical implications for the steerability of stratospheric solar radiation management via sulfur aerosol particles. – *Geophysical Research Letters*, 43, 18, pp. 9956–9963.

↗ **Im Internet:** <http://doi.org/10.1002/2016GL070701>

**Bonn, B., von Schneidmesser, E., Andrich, D., Quedenau, J., Gerwig, H., Lüdecke, A., Kura, J., Pietsch, A., Ehlers, C., Klemp, D., Kofahl, C., Nothard, R., Kerschbaumer, A., Junkermann, W., Grote, R., Pohl, T., Weber, K., Lode, B., Schönberger, P., Churkina, G., Butler, T. M., Lawrence, M. G. (2016):** BAERLIN2014 – the influence of land surface types on and the horizontal heterogeneity of air pollutant levels in Berlin. – *Atmospheric Chemistry and Physics*, 16, pp. 7785–7811.

↗ **Internet:** <http://doi.org/10.5194/acp-16-7785-2016>

**Churkina, G., Grote, R., Butler, T. M., Lawrence, M. G. (2015):** Natural selection? Picking the right trees for urban greening. – *Environmental Science and Policy*, 47, pp. 12–17.

↗ **Internet:** <http://doi.org/10.1016/j.envsci.2014.10.014>

**Houghton, K. J., Rochette, J. (2014):** Introduction: Advancing governance of areas beyond national jurisdiction. – *Marine Policy*, 49, pp. 81–84.

↗ **Internet:** <http://doi.org/10.1016/j.marpol.2014.04.008>

**Irvine, P. J., Schäfer, S., Lawrence, M. G. (2014):** Solar radiation management could be a game changer. – *Nature Climate Change*, 4, pp. 842.

↗ **Internet:** <http://doi.org/10.1038/nclimate2360>

**Irvine, P. J., Kravitz, B., Lawrence, M. G., Muri, H. (2016):** An overview of the Earth system science of solar geoengineering. – *Wiley Interdisciplinary Reviews – Climate Change*, 7, 6, pp. 815–833.

↗ **Internet:** <http://doi.org/10.1002/wcc.423>

**Krause, J., Small, M. J., Haas, A., Jaeger, C. C. (2016):** An expert-based bayesian assessment of 2030 German new vehicle CO<sub>2</sub> emissions and related costs. – *Transport Policy*, 52, pp. 197–208.

↗ **Internet:** <http://doi.org/10.1016/j.tranpol.2016.08.005>

**Kuik, F., Lauer, A., Churkina, G., Denier van der Gon, H. A. C., Fenner, D., Mar, K. A., Butler, T. M. (2016):** Air quality modelling in the Berlin–Brandenburg region using WRF-Chem v3.7.1: sensitivity to resolution of model grid and input data. – *Geoscientific Model Development*, 9, 12, pp. 4339–4363.

↗ **Internet:** <http://doi.org/10.5194/gmd-9-4339-2016>

**Leggewie, C., Nanz, P. (2016):** Stärkung der Demokratie durch Institutionalisierung von Bürgerbeteiligung? – *Zeitschrift für Politikwissenschaft*, 26, 3, pp. 335–341.

↗ **Internet:** <http://doi.org/10.1007/s41358-016-0060-1>



**Lode, B., Schönberger, P., Toussaint, P. (2016):** Clean Air for All by 2030? Air Quality in the 2030 Agenda and in International Law. – Review of European, Comparative & International Environmental Law, 25, 1, pp. 27–38.

↗ **Internet:** <http://doi.org/10.1111/reel.12151>

**Mengerink, K. J., Van Dover, C. L., Ardron, J. A., Baker, M., Escobar-Briones, E., Gjerde, K., Koslow, J. A., Ramirez-Llodra, E., Lara-Lopez, A., Squires, D., Sutton, T., Sweetman, A. K., Levin, L. A. (2014):** A Call for Deep-Ocean Stewardship. – Science, 344, pp. 696–698.

↗ **Internet:** <http://doi.org/10.1126/science.1251458>

**Melamed, M. L., Schmale, J., von Schneidmesser, E. (2016):** Sustainable policy—key considerations for air quality and climate change. – Current Opinion in Environmental Sustainability, 23, Open Issue, part I, pp. 85–91.

↗ **Internet:** <http://doi.org/10.1016/j.cosust.2016.12.003>

**McCloskey, D. N. (2014):** Measured, unmeasured, mis-measured, and unjustified pessimism: a review essay of Thomas Piketty's „Capital in the twenty-first century“. – Erasmus Journal for Philosophy and Economics, 7, 2, pp. 73–115.

↗ **Internet:** <https://doi.org/10.23941/ejpe.v7i2.170>

**Reichwein, D., Hubert, A.-M., Irvine, P.J., Benduhn, F., Lawrence, M.G. (2015):** State responsibility for environmental harm from climate engineering. Climate Law, Volume 5, Issue 2–4, pp. 142–181.

↗ **Internet:** <http://doi.org/10.1163/18786561-00504003>  
<http://booksandjournals.brillonline.com/content/journals/10.1163/18786561-00504003>

**Renn, O. (2016):** Systemic Risks: The New Kid on the Block. – Environment: Science and Policy for Sustainable Development, 58:2, pp. 26–36.

↗ **Internet:** <http://doi.org/10.1080/00139157.2016.1134019>

**Schäfer, S., Maas, A., Stelzer, H., Lawrence, M.G. (2014):** Earth's Future in the Anthropocene: Technological Interventions between Piecemeal and Utopian Engineering. Earth's Future, Volume 2, Issue 4, pp. 239–243.

↗ **Internet:** <http://doi.org/10.1002/2013EF000190>

**Schmale, J., Shindell, D., von Schneidmesser, E., Chabay, I., Lawrence, M. G. (2014):** Air pollution: Clean up our skies. – Nature, 515, 7527, pp. 335–337.

↗ **Internet:** <http://doi.org/10.1038/515335a>

**Titirici, M.-M., White, R. J., Brun, N., Budarin, V. L., Su, D. S., del Monte, F., Clark, J. H., MacLachlan, M. J. (2015):** Sustainable carbon materials. – Chemical Society Reviews, 44, pp. 250–290.

↗ **Internet:** <http://doi.org/10.1039/C4CS00232F>

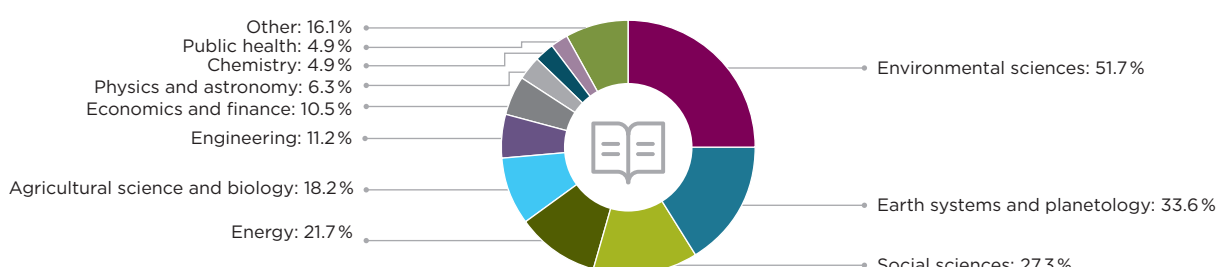
**von Schneidmesser, E., Monks, P. S., Allan, J. D., Bruhwiler, L., Forster, P., Fowler, D., Lauer, A., Morgan, W. T., Paasonen, P., Righi, M., Sindelarova, K., Sutton, M. A. (2015):** Chemistry and the Linkages between Air Quality and Climate Change. – Chemical Reviews, 115, 10, pp. 3856–3897.

↗ **Internet:** <http://doi.org/10.1021/acs.chemrev.5b00089>

**White, R. J., Brun, N., Budarin, V. L., Clark, J. H., Titirici, M.-M. (2014):** Always Look on the “Light” Side of Life: Sustainable Carbon Aerogels. – ChemSusChem, 7, 3, pp. 670–689.

↗ **Internet:** <http://doi.org/10.1002/cssc.201300961>

#### Publications 2014 – 2016 by field



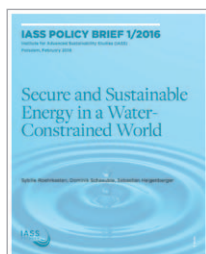
## PUBLICATIONS IN THE IASS SERIES

In addition to one-off publications and thematic brochures, the IASS also has its own series with different publication formats geared to specific target groups. The purpose of these publications

is to stimulate debate on aspects of sustainable development, disseminate IASS research findings, and propose solutions to pressing problems.

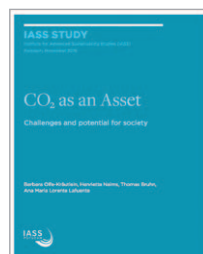
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### IASS Series



**Policy Briefs** address challenges in sustainable development and make a case for policy intervention. They make concrete recommendations to policymakers at national and international level.

**Target groups:** decision-makers, multipliers in the media and civil society



**Studies** present the institute's latest research findings. They include publications of dissertations and Master's theses by IASS researchers. All Studies are subject to a rigorous review process.

**Target groups:** researchers, policymakers, the business community and civil society, multipliers



**Fact Sheets** provide a brief overview of the main facts and the latest research on an aspect of sustainable development that is relevant to both policymakers and the wider public.

**Target groups:** decision-makers, business people and civil society actors, the wider public



**Working Papers** present the initial results of ongoing research at the IASS. They serve as a basis for discussions among members of the research community and help to integrate partners into the transdisciplinary dialogue.

**Target groups:** researchers, stakeholders, representatives of the policy and business communities, civil society actors

## Selected publications 2014

A total of 19 publications were published as one-off publications or as part of the IASS Series in 2014.

**E<sup>3</sup> Earth, Energy and Environment (2014): Sustainable Fuels from Renewable Energies. Workshop Report. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.003>

**Bayer, B. (2014): Demand Response – Is the USA a Role Model for Germany? Analysis of the Integration of Demand Response into the American Capacity and Balancing Markets – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.010>

**Beyerl, K., Maas, A. (Eds) (2014): Perspectives on Climate Engineering from Pacific Small Island States. Workshop Report. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.008>

**Cremonese, L., Ferrari, M., Flynn, M. P., Gusev, A., Lorenz, N., Stückrad, S. (2014): Unconventional Natural Gas. – IASS Fact Sheet.**

↗ **Internet:** <http://doi.org/10.2312/iass.2015.005>

**Ferrari, M., Varone, A., Stückrad, S., White, R. J. (2014): Sustainable Synthetic Fuels. – IASS Fact Sheet.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.006>

**Jacobs, D., Schäuble, D., Bayer, B., Peinl, H., Goldammer, K., Volkert, D., Sperk, C., Töpfer, K. (2014): Bürgerbeteiligung und Kosteneffizienz. Eckpunkte für die Finanzierung erneuerbarer Energien und die Aktivierung von Lastmanagement. – IASS Study.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.004>

**Lepenies, P. H. (2014): The End of Poverty. Critical Reflections on a Modern Political Vision. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.016>

**Lode, B. (2014): Increasing Integration in Global Climate Governance – The Climate and Clean Air Coalition. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.009>

**Olfe-Kräutlein, B., Naims, H., Bruhn, T., Lorente Lafuente, A. M., Tobias, M. (2014): CO<sub>2</sub> as an Asset – IASS Fact Sheet.**

**Summary:** Carbon dioxide is a harmful greenhouse gas. But it is also the basic ingredient of countless chemical products. In recent years, research on the sequestration and practical use of carbon dioxide has yielded a number of important initial breakthroughs.



↗ **Internet:** <http://doi.org/10.2312/iass.2014.012>

**Schäuble, D., Volkert, D., Jacobs, D., Töpfer, K. (2014): CO<sub>2</sub>-Emissionsgrenzwerte für Kraftwerke – Ausgestaltungsansätze und Bewertung einer möglichen Einführung auf nationaler Ebene. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2014.005>

## Selected publications 2015

A total of 35 publications were published as one-off publications or as part of the IASS Series in 2015.

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Butler, T., Lode, B., Parker, A., Mar, K., Schmidt, F., Lawrence, M. G. (2015): Long-term climate goals: Decarbonisation, carbon neutrality and climate neutrality. – IASS Brochure

↗ **Internet:** <http://doi.org/10.2312/iass.2015.029>

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Chervyakov, A., Ferrari, M., Marian, A., Stückrad, S., Thomas, H. (2015): Superconducting Electric Lines. – IASS Fact Sheet.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.032>

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Cremonese, L., Ferrari, M., Flynn, M. P., Gusev, A. (2015): Shale Gas and Fracking in Europe. – IASS Fact Sheet.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.016>

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Low, S., Parker, A., Moore, N., Maas, A., Lawrence, M. G., Schäfer, S. (2015): Climate Engineering Conference 2014: Critical Global Discussions. Conference Report, – IASS Report, Potsdam: Institute for Advanced Sustainability Studies (IASS).

↗ **Internet:** <http://doi.org/10.2312/iass.2015.008>

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Matschoss, P., Töpfer, K. (2015): The Innovation Fund: A Complementary Financing Mechanism for Renewables and a Model for Future Infrastructure Financing? – IASS Study.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.025>

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Müller, A., Weigelt, J., Götz, A., Schmidt, O., Lobos Alva, I., Matuschke, I., Ehling, U., Beringer, T. (2015): The Role of Biomass in the Sustainable Development Goals: A Reality Check and Governance Implications. – IASS Working Paper.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.010>

Rivera, M. (2015): Die Schöpfung im Anthropozän: Zwischen Natur und Kultur. Zehn Thesen. – IASS Working Paper.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.002>

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Rivera, M. (2015): Wie viel Entpolitisierung vertragen die SDGs? Ein kritischer Blick auf die Entstehung der Agenda 2030. – IASS Working Paper.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.033>

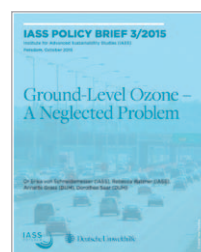
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Schäfer, S., Lawrence, M., Stelzer, H., Born, W., Low, S. (eds.) (2015): The European Transdisciplinary Assessment of Climate Engineering (EuTRACE): Removing Greenhouse Gases from the Atmosphere and Reflecting Sunlight away from Earth – Final Report.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.024>

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von Schneidemesser, E., Kutzner, R., Grass, A., Saar, D. (2015): Ground-Level Ozone – A Neglected Problem. – IASS Policy Brief.



**Summary:** The risks posed by ozone are largely absent in public debate. Ozone concentrations frequently exceed official limits in nearly every region in Europe and reach hazardous levels. This has negative consequences for human health and the environment.

↗ **Internet:** <http://doi.org/10.2312/iass.2015.026>





## Selected publications 2016

A total of 40 publications were published as one-off publications or as part of the IASS Series in 2016.

**Boettcher, M., Gabriel, J., Low, S. (2016): Solar Radiation Management: Foresight for Governance. Project Report. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2016.007>

**Christiansen, S., Ardron, J., Jaeckel, A., Singh, P., Unger, S. (2016): Towards Transparent Governance of Deep Seabed Mining. – IASS Policy Brief.**

↗ **Internet:** <http://doi.org/10.2312/iass.2016.013>

**Cremonese, L., Gusev, A. (2016): The Uncertain Climate Cost of Natural Gas: Assessment of methane leakage discrepancies in Europe, Russia and the US, and implications for sustainability. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2016.039>

**Gotchev, B. (2016): Bundesländer als Motor einer bürgernahen Energiewende? Stand und Perspektiven wirtschaftlicher Bürgerbeteiligung bei Windenergie an Land. – IASS Working Paper.**

↗ **Internet:** <http://doi.org/10.2312/iass.2016.036>

**Lode, B., Toussaint, P. (2016): Clean Air for All by 2030? – IASS Policy Brief.**

↗ **Internet:** <http://doi.org/10.2312/iass.2017.003>

**Qader, M., Stückrad, S. (2016): Concentrated Solar Power – IASS Fact Sheet.**

↗ **Internet:** <http://doi.org/10.2312/iass.2016.037>

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↗ **Internet:** <http://doi.org/10.2312/iass.2016.009>

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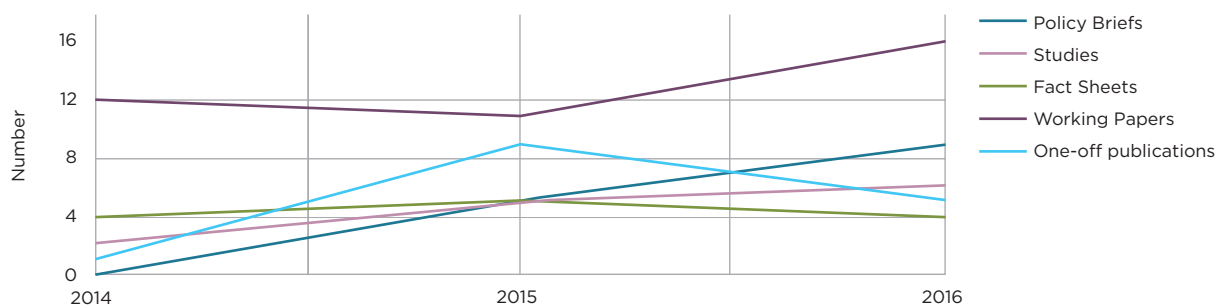
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↗ **Internet:** <http://doi.org/10.2312/iass.2016.015>

## IASS Series formats by publication year



## SELECTED EVENTS

In the period from 2014 to 2016, IASS researchers and the event management team organised a total of 236 events, including transdisciplinary workshops, expert discussions and academic

conferences, with about 8,900 participants from Germany and around the world. The institute also took the opportunity to present itself at local festivals and other high-profile events.



### **18 – 21 August 2014, Berlin** **Climate Engineering Conference 2014**

The Berlin Climate Engineering Conference (CEC14) cast light on the scientific, political, legal, ethical, and cultural implications of human interventions in the global climate system. IASS Scientific Director Professor Mark Lawrence gave the opening address to an audience of around 360 participants. | Photo: Piero Chiussi



### **7 September 2014, Potsdam** **Potsdamer Umweltfest 2014**

For the Potsdamer Umweltfest the Volkspark was transformed into a colourful fairground with all sorts of attractions on the themes of nature and the environment, sustainability, and consumption. The IASS was on hand to tell visitors about the latest insights of sustainability research. | Photo: IASS





**24 October 2014, Postdam**  
**Soils Functions and Ecosystem**  
**Services Workshop**

This workshop with 25 participants at the IASS in Potsdam addressed the sustainable use of terrestrial ecosystems and the fight against poverty and hunger. The Swiss entomologist and pioneer of biological pest control Hans Rudolf Herren was one of the more prominent guests. | Photo: IASS



**29 – 30 October 2014, Potsdam**  
**Potsdam Ocean Governance Workshop**

How can transparent processes help to ensure better ocean governance? Researchers like IASS Senior Fellow Jeff Ardron discussed these and other questions in relation to marine protection with policymakers and representatives of international organisations. Over 50 people participated in this workshop at the IASS. | Photo: Piero Chiussi



**15 December 2014, Berlin**  
**Expert panel discussion: Sustainable Energy**  
**for All – The Global Dimension of the**  
**German Energiewende**

Germany's energy transition has set an example for many industrial and developing countries. How can Germany now foster the uptake of renewable energies in these countries? A dialogue forum at the Berlin office of the KfW Bank centred on this question. IASS Founding Director Professor Klaus Töpfer gave the opening address to an audience of 22 high-ranking guests. | Photo: Jan Zappner





**6–8 February 2015, Berlin**  
**Communications project: Paradise Reloaded? –  
Creation in the Anthropocene**

Haydn's "The Creation", a representation and celebration of nature, was first performed in 1798 to huge public acclaim. Since then humans have radically transformed the Earth system – we live in a new age: the Anthropocene. What does 'creation' mean in today's world? The Paradise Reloaded communications project explored this question, among other things with a concert in Berlin's Gethsemanekirche. | Photo: René Arnold



**19–23 April 2015, Berlin**  
**Global Soil Week 2015:  
The Substance of Transformation**

In 2015 the Global Soil Week drew attention once again to the finite, neglected, and overused resource that is soil. The Berlin conference attracted in the region of 600 participants, who discussed issues in relation to sustainable land management and responsible land use at global, regional and local levels. | Photo: Piero Chiussi



**15 July 2015, Berlin**  
**Presentation of the EuTRACE Project Report**

Targeted interventions in the global climate system are no substitute for reducing carbon dioxide emissions or developing adaptation strategies to cope with the consequences of climate change. This is the central conclusion of the EuTRACE Project Report, which was launched at a press conference at the Berlin-Brandenburg Academy of Sciences and Humanities. | Photo: David Ausserhofer







**22 April 2015, Berlin**

### **Opening of the ONE HECTARE installation**

In Germany, one hectare of land is swallowed up by housing and transport infrastructure projects every twenty minutes. This fact was highlighted by a five-week installation in Berlin's Gleisdreieck Park, which was opened by IASS Founding Director Professor Klaus Töpfer. | Photos: Piero Chiussi





**14 – 23 September 2015, Potsdam**  
**Potsdam Summer School 2015:**  
**Facing Natural Hazards**

At the Potsdam Summer School 2015 eminent Potsdam scientists and many international experts gave their insights into the question of how to deal with natural hazards. Together with the almost 40 participants of the summer school, they developed concrete strategies for coping with natural hazards in future. | Photo: David Ausserhofer



**19 – 20 October 2015, Berlin**  
**Bioenergy and Development Conference 2015**

Fostering investment in sustainable manufacturing, increasing the share of bioenergy in the future energy mix, and the governance of growing global demand for energy were the focus of the Bioenergy and Development Conference 2015 at the Mövenpick Hotel in Berlin. About 150 people took part. | Photo: Bettina Ausserhofer



**9 November 2015, Potsdam**  
**Round table: CO<sub>2</sub> Recycling –**  
**an Option for Policymaking and Society?**

Around 40 participants from policymaking, civil society and business discussed carbon dioxide recycling technologies and their implications for society: What role can CO<sub>2</sub> recycling play? What opportunities and obstacles are there? And is CO<sub>2</sub> recycling a positive example of a circular economy? | Photo: René Arnold



**11 November 2015, Berlin**  
**Honorary Symposium für Klaus Töpfer**

After nearly six years at the helm of the IASS, Klaus Töpfer finished his term of office as Executive Director on 30 September 2015. Around 250 guests attended the honorary symposium at the Berlin-Brandenburg Academy of Sciences and Humanities. Welcoming speeches were given by the German Minister for Education and Research Johanna Wanka and Brandenburg's Minister for Education Sabine Kunst. | Photo: David Ausserhofer







**2 – 4 May 2016, Berlin**

**Conference: Jump-Starting the SDGs in Germany**

The adoption of the 2030 Agenda for Sustainable Development by UN member states introduced ambitious and universal goals for sustainable development. The Berlin conference focused on Germany's responsibilities as a major consumer of natural resources in an increasingly globalised world. More than 300 people took part. | Photo: Piero Chiussi



**21 May 2016, Potsdam**  
**Potsdam Science Day**

The motto of the 2016 Potsdam Science Day was "Explore. Discover. Join in." Over 30 third-level institutions, schools and research institutes in Brandenburg took part in the event at the Film University Babelsberg Konrad Wolf. The IASS was represented with its own stand. | Photo: IASS



**5 December 2016, Potsdam**  
**Potsdam Ocean Governance Workshop**

The Potsdam Ocean Governance Workshop brought together around 40 researchers, experts, and representatives of governments, associations and businesses at the IASS to develop joint strategies for the concrete implementation of the UN sustainable development goal for oceans. | Photo: Thomas Ecke



**19 – 21 December 2016, Berlin**  
**A Navigation System for the Energy Transition:  
Launch of the Kopernikus Project on System  
Integration and Networks for the Energy Supply**

Over 200 researchers from 76 institutions attended an event in Berlin to mark the launch of one of the four Kopernikus Projects. The research consortium comprises 64 scientific research institutes, flanked by several partner organisations from the private sector and civil society. The IASS coordinates the consortium's research activities. | Photo: Sabine Haack



# IASS CONCEPT AND APPROACH

## What does the IASS stand for?

The IASS conducts research with the aim of identifying, advancing, and supporting transformation processes towards sustainability in Germany, Europe and abroad. The institute's research focuses on four interlinked activities:

1. It identifies central questions regarding these transformations in order to gain more insights into opportunities and conditions for collective action.
2. It generates and integrates knowledge pertaining to the scientific, economic, technical, cultural and institutional foundations of sustainable societies.
3. It designs solution-focused and practical policy options in cooperation with all relevant societal stakeholders.
4. It structures and facilitates decision-making processes for reaching a more sustainable future.

The IASS plays an active role within these transformations towards sustainable societies. It integrates different bodies of knowledge, experiences, and perspectives on specific issues and problems. Based on this integration, the institute develops socially and ethically responsible policy options for actions that are based on robust scientific evidence.

## Why the IASS?

The new approach to research, knowledge transfer and facilitation developed at the IASS is based on three major assumptions:

- **Transformations towards sustainable societies rely on a comprehensive synthesis of diverse bodies of knowledge:** The development of a comprehensive knowledge base requires disciplinary precision, interdisciplinary cooperation, and the transdisciplinary integration of various bodies of knowledge.
- **Transformations towards sustainable societies require new and cooperative models of decision-making:** The design of such transformations requires successful cooperation among all involved actors. Conventional decision-making processes are frequently characterised by silo mentalities. This can result in the optimisation of a particular variable (e.g. gross national product) at the expense of others (e.g. environmental quality). The complexity and interconnectivity of events relating to the interconnected spheres of politics, business, society, and nature necessitate the adoption of integrative and holistic decision-making processes.
- **Transformations towards sustainable societies require mutual understanding and trust:** Sustainable solutions that promote the common good cannot emerge when groups are concerned solely with their own interests and preferences. These solutions must be both fair and ethically responsible, acceptable to society, and sustainable in their ecological and economic dimensions. Meeting these demands requires communicative competence. It is essential to treat cooperation partners as subjects, not objects, respecting their specific goals, needs, and values, and acknowledging the diversity of social contexts and cultures.





## How does the IASS conduct its research?

The research projects conducted at the IASS build on key national and international sustainability agreements such as the 2030 Agenda for Sustainable Development, the Paris Climate Agreement, and the policies to engage in an ambitious energy transition in Germany. This research critically reflects on the normative targets of these agreements, identifies conflicting goals and inconsistencies, and generates possible solutions in cooperation with actors from politics, public administration, business, and civil society. With this discursive approach, the IASS conceives and accompanies concrete transformations towards sustainable societies. In the course of this, individual projects at the IASS critically examine the approaches themselves, with the goal of improving their effectiveness and appropriateness.

## What questions and issues are addressed by the IASS?

Research conducted at the IASS focuses on two major challenges in particular:

- **Knowledge and democratic governance in the Anthropocene:** What are the conditions for successful transformations towards sustainable societies?
- **Facilitating transformations towards sustainable societies:** How can and should transformation processes be designed and supported?

The IASS synthesises two forms of knowledge across a wide range of sustainability issues: subject-specific expertise, and process-oriented knowledge of how to design successful transformations towards sustainability. The institute's current areas of focus include energy transitions, climate protection, improving air quality, regulatory frameworks for oceans and the Arctic, global risk governance, the potential of new democratic decision-making processes, and the roles of narratives and mindsets in the discourse around sustainability.

## What methods are applied in IASS research?

This complex and interconnected transformation process calls for the integration of three different forms of knowledge:

- *Orientation knowledge:* What objectives should be prioritised? What living conditions are desirable from an ethical standpoint? Which of the various possible futures are preferable? These normative questions are central for designing transformation processes, yet they are frequently neglected in the scientific domain.
- *Systems knowledge:* What influences what? How do complex systems behave under stress? What are the consequences of human interventions in nature and society? These analytical questions require disciplinary competence and, as a rule, interdisciplinary cooperation as well.
- *Transformation knowledge:* How must design processes be structured to assist relevant groups in exploring, developing and implementing knowledge-based options for action? Which design options are available under which conditions? How can we best achieve and implement the goals that we aspire to achieve? The development of adequate responses to these issues requires in-depth knowledge of political processes and expertise in order to accomplish mutual understanding and constructive consultations among and between relevant actors.

At the IASS, researchers apply specific methodologies when generating these three forms of knowledge. For orientation knowledge, the methodologies include critical-normative reconstructions, decision analytic procedures such as value-tree analysis, and participatory formats designed to foster a shared understanding among the participants. For systems knowledge, well-established, classical research methods such as modelling, measurements, quantitative surveys, and qualitative research methods are applied. Finally, for transformation knowledge, transdisciplinary approaches such as Delphi surveys, stakeholder fora, living laboratories and action research methods are applied and developed further. This multi-method approach enables researchers to account for a full range of influential factors ranging from environmental aspects to technological changes, socio-economic conditions and cultural contexts.

## STRUCTURE AND BODIES

### Board of Directors

The Board of Directors is the main governing body of the IASS. At present, it comprises the Scientific Directors – Mark Lawrence, Patrizia Nanz, Ortwin Renn – and Administrative Director Jakob Meyer. The Board of Directors defines the research programme and decides on administrative matters.

### General Assembly

Since the IASS is a registered voluntary association under German law, the General Assembly is its most important body. The General Assembly appoints the Board of Directors and the Advisory Board. It also reviews the research programme and the annual budget.

### Advisory Board

The General Assembly and Board of Directors are counselled by an Advisory Board composed of people drawn from the spheres of public administration, business, and civil society. The Advisory Board supports the Scientific Directors in developing the thematic orientation of the institute as well as the long-term design of the research programme. A list of the current members of the Advisory Board can be found here:

<http://www.iass-potsdam.de/en/structure-bodies/advisory-board>



# LEGAL NOTICE

## **December 2017**

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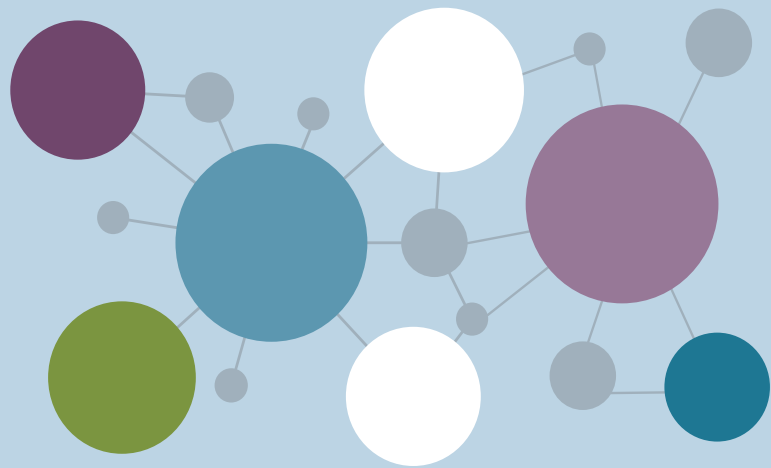
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