



TECHNISCHE UNIVERSITÄT
BERGAKADEMIE FREIBERG
Die Ressourcenuniversität. Seit 1765.



Preliminary Programme

International Autumn School:

“Climate Policy and Energy System Transformation: New Opportunities and Challenges of the Consideration of Co-Benefits”

13 – 17 September 2021

Freudenstein Castle, Freiberg

Contact information:

Prof. Dr. Dirk Rübberke

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This event is supported by:





DAY 1: 13.09.2021

09.00-09.15 Welcome and Opening of School

Prof. Dr. Dirk Rübhelke and Dr. Stefan Vögele

09.15-09.30 Welcome at Technische Universität Bergakademie Freiberg

Prof. Dr. Klaus-Dieter Barbknecht, Rector of TU Bergakademie Freiberg

09.30-09.45 Address of Welcome at the Faculty of Business Administration

Prof. Dr. Andreas Horsch, Dean of the Faculty of Business Administration

Lecture PART A: Climate Policy and Energy System Transformations and Their Co-Effects

09.45-10.45 Climate Policy and Co-Effects in China: An Experimental Analysis

Prof. Dr. Andreas Löschel, University of Münster

10.45-11.15 Coffee Break

11.15-12.15 Co-benefits of Climate Policy in Asian Regions

Prof. Dr. Joyashree Roy, Asian Institute of Technology

12.15-13.30 Lunch Break

13.30-14.30 Climate Policy and Co-Effects in Europe

Prof. Dr. Marc Ringel, Nuertingen-Geislingen University

Lecture PART B: Concepts to Capture Effects of Climate and Energy Policy

14.30-15.30 Cross-Impact Balance Analysis: Analysing the Effects of Climate and Energy Policy

Dr. Hannah Kosow, University of Stuttgart

15.30-16.00 Coffee Break

16.00-17.00 Climate Policy and Energy Policy: Opportunities and Challenges of the Consideration of Co-Benefits

Philip Mayer, TU Bergakademie Freiberg

Presentation of the PhD/Postdoc Workshop Outline



17.00-17.30 Synthesis Session

Philip Mayer, TU Bergakademie Freiberg

17.30 Natural Resources as an Input for Energy System Transformation: What are the Ancillary Benefits and Costs? Contemplations in the terra mineralia, one of the largest mineral exhibitions in the world

19.15 Icebreaker Dinner in the terra mineralia

DAY 2: 14.09.2021

08.45-09.00 Opening Session

Anja Brumme, TU Bergakademie Freiberg

09.00-10.00 CGE Modelling of the Impacts of Low-carbon Policies

Dr. Frank Pothen, Fraunhofer Institute for Microstructure of Materials and Systems

10.00-11.00 [Opening of Poster Exhibition and Poster Session I](#)

11.00-11.30 Coffee Break

11.30-12.30 A Psychologist's Approach: Assessment of Climate Policy Effects Cross-Culturally and Cross-Temporarily

Prof. Dr. Florian G. Kaiser, Otto von Guericke University Magdeburg

12.30-13.45 Lunch Break

[Lecture PART C: Concepts to Include Co-Effects in Policy and Research](#)

13.45-14.45 Real Option Analysis: An Approach to Select Climate and Energy Policies When Effects of a Particular Policy are Unknown

Prof. Dr. Alexander Golub, American University, Washington



14.45-15.45 The Potential of Co-Benefits in Climate Change Mitigation: An Opportunity for Environmental and Social Justice

Dr. Rita V. D'Oliveira Bouman, Norwegian University of Science and Technology

15.45-16.15 Coffee Break

Workshop: [Climate Policy and Energy Policy: Opportunities and Challenges of the Consideration of Co-Benefits \(1st Part\)](#)

16.15-17.15 PhD/Postdoc workshop:

Continued work with guidance by members of the faculty in four groups:

- 1) Challenges for Capturing and Assessing Relevant Co-effects of Low-carbon Policies.

In the analysis of climate policy, all relevant aspects should be taken into account (see e.g. Lancaster 1971). In this part of the School, the students learn about different challenges in determining relevance and assessing effects. Even if effects are considered to be relevant, difficulties in assessing them (e.g. the benefits of closing the gender gap) may hinder that sufficiently attention is dedicated to them, for example. The group will – after having determined the most pressing problems in this context – work on approaches to address these challenges. “Appropriate” discounting is one of the challenges that might play a role here.

- 2) Paris Agreement and Sustainable Development Goals.

An important co-effect of climate policy and transfers is frequently seen in sustainable development. This is obvious in the case of the clean development mechanism. The Paris Agreement establishes new mechanisms and some researchers argue, that these should also serve to attain the sustainable development goals. The work group will put special

attention at Article 6 of the Paris Agreement and seek for ways to best attain international climate policy and sustainable development objectives.

- 3) Primary and Ancillary Benefits: Implications of the Divergent Features of policies and Benefits.

The students should discuss ways to handle potential synergies and trade-offs between primary and ancillary benefits. One policy may bring about more of the former, but less of the latter. For other policies this might be the reverse. In the context of e.g. air pollution reduction, alternative abatement technologies may be available, i.e. the co-effect of climate policy may be generated also independently of climate protection. Besides differences in policies' effects, differences also occur with regard to the characteristics of primary and ancillary benefits. These are inter alia differences concerning temporal occurrence/discounting, difficulties in assessment, degree of publicness and importance in world regions. The group should learn how to address in particular the question: How should policy and research handle such heterogeneity of policies' effects and benefits?

- 4) Can Co-benefits Motivate Climate Protection? Is This a Promising Path?

Due to its global-public-good nature, low-carbon policies are provided at an inefficiently low level. This working group is asked to examine whether co-effects lead a way out of this dilemma. The role of ancillary costs should be taken into account in doing so. The group should consider the relevance of co-benefits for policymakers from different interdisciplinary angles.

Start of the work in groups with guidance by members of the Faculty.

17.15-17.30 Synthesis Session

Kristina Govorukha, TU Bergakademie Freiberg

18.30 Dinner



DAY 3: 15.09.2021

08.45-09.00 Opening Session

Theresa Stahlke, TU Bergakademie Freiberg

09.00-10.00 Dynamic Modelling of Primary and Ancillary Benefits

Prof. Dr. Karen Pittel, ifo Munich and Ludwig-Maximilians-Universität München

10.00-11.15 [Panel Discussion on Opportunities and Challenges of the Consideration of Co-Benefits in Policy and Research](#)

Panel Chair: Prof. Dr. Karina Sopp, TU Bergakademie Freiberg

Discussants:

Dr. Rita V. D'Oliveira Bouman, Prof. Dr. Wolfgang Buchholz, Prof. Dr. Karen Pittel

11.15-11.45 Coffee Break

11.45-12.45 Including Co-Benefits of Low-carbon Policies in Models of the Voluntary Provision of Public Goods

Prof. Dr. Wolfgang Buchholz, University of Regensburg

12.45-14.00 Lunch Break

14.00-15.00 [Poster Session II](#)

[Lecture PART D: Specific Categories of Co-Effects](#)

15.00-16.00 Multi-criteria Decision Analysis: Capturing Air Quality and Other Effects Simultaneously

Dr. Stefan Vögele, Forschungszentrum Jülich

16.00-16.30 Coffee Break

[Workshop: Climate Policy and Energy Policy: Opportunities and Challenges of the Consideration of Co-Benefits \(2nd Part\)](#)



16.30-17.30 PhD/Postdoc workshop

Continued work in groups with guidance by members of the faculty

17.30-17.45 Synthesis Session

Kristina Govorukha, TU Bergakademie Freiberg

18.30 Dinner

DAY 4: 16.09.2021

08.45-09.00 Opening Session

Anja Brumme, TU Bergakademie Freiberg

09.00-10.00 Climate Protection and Biodiversity Conservation

Prof. Dr. Martin Quaas, University of Leipzig

10.00-11.00 Meeting Carbon Emission Targets and the Effects on Energy Security

Frieder Borggrefe, German Aerospace Center (DLR), Stuttgart

11.00-11.30 Coffee Break

11.30-12.30 Climate Compatible Development and the Gender Gap

Dr. Lisa Schipper, University of Oxford

12.30-13.45 Lunch Break

Lecture PART E: [International Dimensions of Co-Effects](#)

13.45-14.45 International Climate Transfers and Ancillary Benefits

Prof. Dr. Dirk Rübelke, TU Bergakademie Freiberg

14.45-15.45 Tropical Forest Conservation: Co-benefits between Climate Change Mitigation and Biodiversity Conservation

Prof. Dr. Frank Wätzold, Brandenburg University of Technology, Cottbus – Senftenberg

15.45-16.15 Coffee Break



Workshop: Climate Policy and Energy Policy: Opportunities and Challenges of the Consideration of Co-Benefits (3rd Part)

16.15-17.30 PhD/Postdoc workshop

Continued work in groups with guidance by members of the faculty

17.30-17.45 Synthesis Session

Theresa Stahlke, TU Bergakademie Freiberg

18.30 Dinner

DAY 5: 17.09.2021

08.45-09.00 Opening Session

Philip Mayer, TU Bergakademie Freiberg

09.00-09.45 Presentation and Discussion of the Findings of Working Group 1

09.45-10.30 Presentation and Discussion of the Findings of Working Group 2

10.30-11.00 Coffee Break

11.00-11.45 Presentation and Discussion of the Findings of Working Group 3

11.45-13.00 Lunch

13.00-13.45 Presentation and Discussion of the Findings of Working Group 4

13.45-14.30 Discussion about Ways to Maintain and to Develop the Winter-School Network

14.30-15.15 Conclusions and Future Developments

Prof. Dr. Dirk Rübberke and Dr. Stefan Vögele