



International Research Conference
Industrial Decarbonization and Hydrogen:
The Politics and Economics of Sustainable
Structural Transformation

28-29 October 2025

Venue:
Research Institute for Sustainability (RIFS)
Berliner Str. 130, 14467 Potsdam

The industrial sector accounts for roughly a quarter of global CO₂ emissions, with steel, cement, and chemicals among the most challenging to decarbonize. Transitioning these sectors requires coordinated investments across value chains and difficult choices among competing technological pathways. Low-emission hydrogen is widely expected to play a pivotal role as both energy carrier and feedstock, but its deployment demands extensive technological and infrastructural change. The resulting transformations are likely to reshape industrial structures, trade relations and global value chains, with important implications for developing and emerging economies that could become major suppliers of green or blue hydrogen.

This conference will take stock of new research on the opportunities and challenges arising from industrial decarbonization and the ramp-up of low-emission hydrogen, with a particular emphasis on implications for inclusive and sustainable development in low- and middle-income countries. It will explore five interrelated themes: (1) opportunities for value creation and industrial policy; (2) the political economy of decarbonization and hydrogen investments; (3) the reconfiguration of global value chains and emerging geoeconomics; (4) governance, sustainability and benefit-sharing; and (5) technology choice and uncertainty.

By combining perspectives from economics, social & political science, and sustainability research, the conference seeks to identify the conditions under which industrial decarbonization and hydrogen development can generate transformative societal outcomes.



Federal Ministry
for Economic Cooperation
and Development



Federal Foreign Office

The conference is supported financially by the Federal Ministry for Economic Cooperation and Development and the German Federal Foreign Office.

Programme

Tuesday, 28 October 2025

09:00 – 09:30: Check-in and welcome coffee

09:30 – 09:40: Welcoming remarks by organisers

09:40 – 10:40: **Navigating a New Era in the clean hydrogen economy: Geopolitical forces and their ripples**

Susana Moreira (H2Global Foundation, Germany)

10:45 – 11:45: **Parallel sessions A**

A.1. Value Creation and Industrial Policies I	A.2 Political Economy of Decarbonization I	A.3 Reconfiguration of Global Value Chains I
---	--	--

11:45 – 12:00: Coffee break

12:00 – 13:00: **Parallel sessions B**

B.1 Value Creation and Industrial Policies II	B.2 Political Economy of Decarbonization II	B.3 Reconfiguration of Global Value Chains II
---	---	---

13:00 – 14:00: Lunch break

14:00 – 15:00: **Parallel sessions C**

C.1 Value Creation and Industrial Policies III	C.2 Technology and Uncertainty
--	--------------------------------

15:05 – 16:05: **Parallel sessions D – MENA Edition**

D.1 Value Creation and Industrial Policies IV	D.2 Political Economy of Decarbonization III	D.3 Governance and Benefit-Sharing I
---	--	--------------------------------------

16:05 – 16:25: Coffee break

16:25 – 17:25: **Hydrogen strategies in the Gulf region: What explains the differences?**

Steven Griffiths (Sharjah University, UAE)

17:25 – 18:25: **Panel discussion: Hydrogen perspectives in the MENA region, considering the political economy**

- Dawud Al-Ansari (President, Majan Council, Oman)
- Steffen Hertog (Professor in Comparative Politics, London School of Economics, UK)
- Badr Ikken (CEO, Green Innov Industry Investment; former Director General, IRESEN, Morocco)
- Moderator: Amirah El Haddad (IDOS, Germany)

19:00 Conference dinner at RIFS

Wednesday, 29 October, 2025

09:00 – 10:00: **Policy instruments for ramping up hydrogen**
Joseph Cordonnier (OECD, France)

10:00 – 10:10: **International partnerships and sustainability governance in the hydrogen sector**
Federal Foreign Office (tbc)

10:10 – 11:10: **Panel discussion: From hype to hard facts: navigating the hydrogen ramp-up amid a changing geopolitical and economic landscape**

- Kirsten Westphal (Executive Board Member, BDEW-German Association of Energy and Water Industries, Germany)
- Gonzalo Escribano (Director, Energy and Climate Change Programme, Elcano Royal Institute, Spain)
- Susana Moreira (Executive Director, H2 Global, Germany)
- James Mnyupe (Presidential Economic Advisor and Hydrogen Commissioner, Namibia, tbc)
- Moderator: Rainer Quitzow (RIFS, Germany)

11:10 – 11:30: Coffee Break

11:30 – 12:30: **Parallel sessions E**

E.1 Value Creation and Industrial Policies V	E.2 Political Economy of Decarbonization IV	E.3 Governance, Sustainability and Benefit-Sharing II
--	---	---

12:30 – 13:30: Lunch break

13:30 – 13:50: **Investing in green hydrogen: Perspectives from a global industry leader**
Mark Freymueller (Hyundai Commercial Vehicles and Hydrogen Business Europe)

13:50 – 15:30: **Panel discussion: Frontiers of Industrial Decarbonisation: Industrial Policies, Business Strategies and Finance for Green Hydrogen**

- Pamela Mondliwa (Head of Research and Planning, Industrial Development Corporation (IDC), South Africa)
- Gabriel Aidar (Deputy Director of Planning and Research, Brazilian Development Bank (BNDES), Brazil)
- Ha-Joon Chang (Co-Director CSST, SOAS University of London)
- Mark Freymueller (CEO, Hyundai Commercial Vehicles and Hydrogen Business Europe)
- Moderator: Antonio Andreoni (Co-Director CSST, SOAS University of London)

15:30 – 15:50: Coffee break

15:50 – 16:50: **Exploring community impacts, just transitions, and conceptual frontiers for industrial decarbonization and net-zero societies**
Benjamin K. Sovacool (University of Boston & University of Sussex)

16:55 – 17:55: **Parallel sessions F**

F.1 Value Creation and Industrial Policies VI	F.2 Political Economy of Decarbonization V	F.3 Reconfiguration of Global Value Chains III
---	--	--

18:00 Closing remarks

Paper Sessions

Tuesday, 28 October 2025

Parallel Sessions A: 10:45 – 11:45 CET

Track A.1: Value Creation and Industrial Policies I

Tilman Altenburg & **Rita Strohmaier**

- Low-emission hydrogen: Global value chain opportunities for latecomers and industrial policy challenges

Mohamed Ismail Sabry

- The pathways of green hydrogen production in North Africa

Track A.2: Political Economy of Decarbonization I

Laima Eicke

- Designing the hydrogen future: Policy effectiveness and political economy in comparative perspective

Li Zhenxi, Max Åhman, Lixue Lin, Jingjing Zhang, Lars J. Nilsson, Hongyou Lu & Jonas Algers

- Assessing China's green industrial policy: the decarbonization of steel and petrochemical industries

Track A.3: Reconfiguration of Global Value Chains and the Emerging Geoeconomics of Decarbonization I

Sascha Samadi, Andreas Fischer, Finn Müller-Hansen, Falko Ueckerdt & Philipp Verpoort

- Synthesizing the current knowledge base on the renewables pull theory: A systematic review of peer-reviewed literature

Niklas Kramer, Laima Eicke, Andreas Goldthau & Rainer Quitzow

- The geoeconomics of decarbonizing energy-intensive industries: International hydrogen trade or green relocation?

Parallel Sessions B: 12:00 – 13:00 CET

Track B.1: Value Creation and Industrial Policies II

Leander Müller & Florian Egli

- Green hydrogen for development? Identifying opportunities through economic complexity along the value chain in Africa

Fabianna Bacil & Rita Strohmaier

- The linkages and leakages of green hydrogen in emerging economies - an input-output analysis

Track B.2: Political Economy of Decarbonization and Hydrogen Investments II

Simon Otto, Annika Tönjes, Lauri Peterson, Zhenxi Li, Hilton Trollip & Saritha Vishwanathan

- Comparing policy frameworks for the decarbonisation of energy-intensive industries: Are they fit for purpose?

Darius Sultani, Jonathan Hanto, Bryce McCall & Pao-Yu Oei

- South Africa at crossroads in the dash for green steel

Track B.3: Reconfiguration of global value chains and the emerging geoeconomics of decarbonization III

Jordan Carlson & Andrea Furnaro

- The role of Japan's international partnerships in supply chain formation in hydrogen and ammonia

Ellen Österlein & Viktor Paul Müller

- Reconfiguration of global ammonia and methanol value chains in the context of industrial decarbonization

Parallel Sessions C: 14:00 – 15.00 CET

Track C.1: Value Creation and Industrial Policies III

Bohyun Kim

- Distinctive pathways of hydrogen policy integration: The EU and South Korea with their green deal strategies

Renato Santo de Souza & Bernhardt Maciel

- Industrial decarbonization in Brazil: Strategies, frameworks, and instruments for the hydrogen economy

Track C.2: Technology and Uncertainty I

Kehsab Das & Aparna Raj

- Decarbonising Indian Industry: Issues beyond green hydrogen as a technology option

Leon Seydel

- From disruption to design: A risk-based framework for managing green hydrogen value chains in industrial decarbonization

Parallel Sessions D – MENA Edition: 15:05 – 16:05 CET

Track D.1: Value Creation and Industrial Policies IV

Imane Boukhatem, Marina Blohma & Andrea Furnaro

- Green hydrogen ambitions in Algeria and Morocco: Contrasting conditions, relational paths

Silvia Weko, Johan Liliestam & Rainer Quitzow

- Failed transition attempts: From Desertec to the green hydrogen vision

Track D.2: Political Economy of Decarbonization and Hydrogen Investments III

Dawud Ansari

- Hydrogen-based industrial development: Economics and political economy in Oman and beyond

Faris Al-Sulayman

- State investment and the political economy of renewable energy in the Gulf

Track D.3: Governance, Sustainability and Benefit-Sharing II

Tobias Zumbraegel

- Hydrogen production in the MENA region: Environmental effects and safeguards - Insights of Morocco, Oman and Saudi Arabia

Felix Schmermer, Niyanta Shetye, Sophie Kamrad, Sarah Bernhardt, Anita Demuth & Harry Lehmann

- Visualising benefit-sharing in PtL global value chains to defossilise aviation

Parallel Sessions E: 11:30 – 12:30 CET

Track E.1: Value Creation and Industrial Policies V

Leah Mpinga, Julian Reul & Susana Moreira

- Clean hydrogen as a catalyst for development: Re-defining Africa's role in a changing geopolitical context

Rahul Tongia, Utkarsh Patel & Rohit Vijay

- Benchmarking green hydrogen in India's energy transition: Expensive but important for some uses

Track E.2: Political Economy of Decarbonization and Hydrogen Investments IV

Jonas Algers

- The innovative state-owned enterprise: Corporate governance and state ownership in the Swedish green steel joint venture HYBRIT

Rafael Fernández, Clara Garcia

- Decarbonization and competitiveness under catalytic industrial policy: How Germany's steel firms are navigating the hydrogen transition

Track E.3: Governance, Sustainability and Benefit-Sharing II

Max Rischer & Rainer Quitzow

- Toward coherent sustainability governance for hydrogen: A review of existing international mechanisms

Lira Luz Benites Lázaro

- Benefit-Sharing and governance in the hydrogen transition: Evidence from South America

Parallel Sessions F: 16:55 – 17:55 CET

Track F.1: Value Creation and Industrial Policies VI

Simon Roberts, Abraham Larrey & Antonio Andreoni

- Feeding a low-carbon future: Policy and industrial drivers of the green fertilizer transition in Brazil and South Africa

Amin Kassab, Maryam Sadighi & Maria-Eugenia Sanin

- Green Hydrogen and green growth: Evaluating the macroeconomic impacts of energy transitions - the case of Uruguay

Track F.2: Political Economy of Decarbonization and Hydrogen Investments V

Carina Guzowski

- Low-Emission Hydrogen and Industrial Decarbonization in Latin America Economies: Energy Space Reconfiguration, Governance Frameworks, and Social Acceptance in Argentina, Chile, and Uruguay

Finn Haberkost, Sibusisiwe Khuzwayo & Rainer Quitzow

- Lead Markets for Green Fertilizers: Linking Industrial Decarbonization with Agricultural Value Chains

Track F.3: Reconfiguration of Global Value Chains and the Emerging Geoeconomics of Decarbonization III

Clara Rabelo Caiafa

- Industry location drivers in a global green hydrogen economy

Rita Strohmaier, Tilman Altenburg, Fabianna Basil, Bao-We-Wal Bambe & Anouk Seuren

- Hydrogen strategies in latecomer economies - policy pathways and firm-level dynamics

List of Authors

First Name	Last Name	Institution	Country
Max	Ahman	Lund University	Sweden
Dawud	Al Ansari	Majan Council Oman	Oman
Jonas	Algers	LTH, Faculty of Engineering Lund University, Technology and Society	Sweden
Faris	Al-Sulayman	London School of Economics	UK
Tilman	Altenburg	German Institute of Development and Sustainability (IDOS)	Germany
Antonio	Andreoni	SOAS University of London	UK
Fabianna	Bacil	UNU MERIT/Maastricht University	Netherlands
Bao-We-Wal	Bambe	IDOS	Germany
Lira Luz	Benites Lázaro	São Paulo Center for Energy Transition Studies	Brasil
Sarah	Bernhardt	PtX Lab Lausitz	Germany
Marina	Blohm	European University of Flensburg	Germany
Imane	Boukhatem	European University of Flensburg	Germany
Jordan	Carlson	Kyushu University, Fukuoka	Japan
Keshab	Das	Institute for Human Development, New Delhi	India
Anita	Demuth	PtX Lab Lausitz	Germany
Florian	Egli	Technical University Munich	Germany
Laima	Eicke	Research Institute for Sustainability – Helmholtz Centre Potsdam (RIFS)	Deutschland
Rafael	Fernández	Complutense University of Madrid	Spain
Andreas	Fischer	German Economic Institute (IW) Köln	Germany
Andrea	Furnaro	Kyoto University	Japan
Clara	Garcia	Complutense University of Madrid	Spain
Andreas	Goldthau	University of Erfurt	Germany
Carina	Guzowski	Universidad Nacional del Sur	Argentina
Finn	Haberkost	RIFS Potsdam	Germany
Jonathan	Hanto	Technische Universität Berlin	Germany
Sophie	Kamrad	PtX Lab Lausitz	Germany
Amin	Kassab	Universität Paderborn	Germany
Sibusisiwe	Khuzwayo	RIFS Potsdam	Germany
Bohyun	Kim	Ghent University	Belgium
Niklas	Kramer	RIFS Potsdam	Germany
Abraham	Lartey	SOAS University of London	UK
Harry	Lehmann	PtXLab Lausitz	Germany
Zhenxi	Li	Lund University	Sweden
Johan	Liliestam	Friedrich Alexander University Erlangen-Nürnberg	Germany
Lixue	Lin	Kassel University	Germany
Hongyu	Lu	Lawrence Berkeley National Laboratory	USA
Bernhardt	Maciel	Brazilian Development Bank (BNDES)	Brazil
Bryce	McCall	University of Cape Town (UCT)	South Africa
Susana	Moreira	H2Global Foundation	Germany
Leah	Mpinga	H2Global Foundation	Germany
Leander	Müller	Technical University Munich	Germany

Finn	Muller-Hansen	Potsdam Institute for Climate Impact Research (PIK)	Germany
Lars J.	Nilsson	Lund University	Sweden
Pao-Yu	Oei	European University of Flensburg	Germany
Ellen	Österlein	Fraunhofer Institute for Systems and Innovation Research (Fraunhofer-ISI)	Germany
Simon	Otto	Vrije University Brussel	Belgium
Utkarsh	Patel	CSEP Research Foundation, New Delhi	India
Viktor	Paul Muller	Fraunhofer-ISI	Germany
Lauri	Peterson	University of Eastern Finland	Finland
Rainer	Quitow	RIFS Potsdam	Germany
Clara	Rabelo Caiafa	Eindhoven University of Technology	The Netherlands
Aparna	Raj	Indian Institute of Management Ahmedabad	India
Julian	Reul	H2Global Foundation	Germany
Maximilian	Rischer	RIFS Potsdam	Germany
Simon	Roberts	SOAS University of London	UK
Maryam	Sadighi	University of Paris-Saclay	France
Mohamed Ismail	Sabry	Merian Centre for Advanced Studies in the Maghreb / Philipps-Universität Marburg	Deutschland
Sascha	Samadi	Wuppertal Institute for Climate, Environment and Energy	Germany
Maria-Eugenia	Sanin	University of Paris-Saclay	France
Renato	Santos de Souza	BNDES	Brazil
Felix	Schmermer	PtX Lab Lausitz	
Leon	Seydel	RIFS Potsdam	Deutschland
Niyanta	Shetye	PtX Lab Lausitz	Germany
Rita	Strohmaier	IDOS	Germany
Darius	Sultani	PIK	Germany
Jordan	Thomas Carlson	Kyushu University	Japan
Annika	Tonjes	Wuppertal Institute for Climate, Environment and Energy	Germany
Hilton	Trollip	Institute for Sustainable Development and International Relations (IDDR)/ UCT	France/ South Africa
Falko	Ueckerdt	PIK	Germany
Philipp	Verpoort	PIK	Germany
Rohit	Vijay	CSEP Research Foundation, New Delhi	India
Saritha	Vishwanathan	Kyoto University / Indian Institute of Management, Ahmedabad	Japan / India
Silvia	Weko	Universität Erlangen-Nürnberg	Deutschland
Li	Zhenxi	Lund University	Sweden
Tobias	Zumbraegel	University of Heidelberg	Germany