

Research and Development 20

for Clean Energy Technologies



The 8th RD20 Conference

Accelerating Clean Energy Innovation: From Africa to the World

Date: Monday, October 19 - Friday, October 23, 2026

Venue: CSIR International Convention Center (ICC), Pretoria, South Africa

Organizer: Council for Scientific and Industrial Research (CSIR)

Co-organizers: National Institute of Advanced Industrial Science and Technology (AIST), Japan

Launched in 2019, the RD20 is a global research and development initiative designed to strengthen international collaboration and drive innovation among leading research institutes in G20 countries and regions. These institutions are at the forefront of developing advanced technologies that support the transition to carbon neutrality. The RD20 platform enables participants to share research activities, experiences, and best practices in clean energy technologies across countries and regions, while also exploring opportunities for international joint research. In addition, the initiative fosters stronger partnerships and encourages new collaborations among key stakeholders from industry, academia, and government.

The 8th RD20 Conference will be held on October 19- 23 October 2026 in Pretoria, South Africa and online. Leaders and experts of the institutes from G20 members will gather to accelerate collaboration and release the outcomes all over the world.

Session	Date	Time (SAST)	Attendance
Workshop #1 (WS#1)	Mon. afternoon, Oct. 19	13:00–16:00	Invited members only
Technical Session (TS)	Tue. morning & afternoon, Oct. 20	9:00–17:30	Open to the public
	Wed. morning, Oct. 21	9:00–11:40	
Workshop #2 (WS#2)	Wed. afternoon, Oct. 21	13:30–16:40	Invited members only
Leaders Session	Thu. morning, Oct. 22	9:00–12:30	Open to the public
	Thu. afternoon, Oct. 22	14:00–17:30	Invited members only
Site Visit Tour	Fri., Oct. 23	9:00–14:30	Invited members only

Day 1: Workshop (Mon. afternoon, Oct. 19, 2026)

Time	Session (Invited members only)
12:00 - 13:00	Registration (International Convention Center)
13:00 - 16:00	  Workshop #1: AI for Energy: <i>Follow-up to the meeting held at KIER, Korea, in April 2026, with the aim of initiating concrete steps for cooperation among RD20 member institutions.</i> Moderator: Dr. Taha Selim Ustun (AIST, Japan) Dr. Woonho Baek (KIER, Korea)
13:00 - 16:00	(Speakers and presentation titles are subject to change) Dr. Woonho Baek (KIER, Korea) <i>2026 AI for Energy Workshop</i> Dr. Cho Mincheol (AIST, Japan) <i>AI Applications in Japanese Home Energy Big Data and Development of External Control Technology for Home Demand-Side Resources</i> Dr. Aidan Rhodes (Imperial College London/UKERC, UK) <i>Risks and Regulation for AI in Energy Systems</i> --- Coffee break (approximately 14:10-14:30) --- Dr. Amedeo Buonanno (ENEA, Italy) <i>Design and development of advanced optimization models that leverage Voice Recognition and Artificial Intelligence (AI) to enhance user engagement and active participation in energy systems</i> Dr. Taha Selim Ustin (AIST, Japan) <i>AI Assisted Predictive Maintenance in Hydroelectric Power Plants</i> Dr. Sherry Xu (CSIRO, Australia) - online <i>AI Role in Optimization of Power Grid Design</i> Dr. Joungho Park (KIER, Korea) - online <i>Reliable Surrogate-Assisted Multi-Objective Optimization for Complex Chemical Processes</i> Discussion and wrap-up
Estimated end: 16:00	

Day 2: Technical Session (Tue., Oct. 20, 2026)

Time	Session (Open to the public)
8:00 - 9:00	Registration (International Convention Center)
9:00 - 10:50	 TS plenary: High Level Talks on Clean Energy Technologies Moderator: Dr. Thembakazi Mali (CSIR, South Africa)
9:00 - 9:10	Opening remarks (TBD)
9:10 - 9:30	Ms. Mandy Mlilo (Department of Science, Technology, and Innovation (DSTI), South Africa) <i>DSTI Hydrogen & Energy Research, Development and Innovation Initiatives</i>
9:30 - 9:50	Prof. Dr. Christopher Hebling (Fraunhofer-ISE, Germany) <i>Pathways to Climate Neutrality Through Renewables and Decarbonized Fossil Energy</i>
9:50 - 10:10	Dr. Pierre Serre-Combe (CEA, France) <i>Low Carbon Energy mix challenge and balance with RE for countries operating or considering Low-Carbon Energy Technologies</i>
10:10 - 10:30	Prof. Philippe POGGI (University of Corsica/CEA, France) <i>Research, Businesses and Innovation in Overseas Territories: Smart Grids and Energy Transition</i>
10:30 - 10:50	Discussion and wrap-up
10:50 - 11:10	Coffee Break

Time	Session (Open to the public)
11:10 - 14:50	 TS #1: Energy Access – Innovative Solutions for Africa Moderator: Dr. Kittessa Roro (CSIR, South Africa) (provisional) Dr. Christian Thiel (JRC, EU)
11:10 - 11:30	Mr. Jay Bhagwan (Water Research Commission, South Africa) <i>Conduit hydropower – the invisible opportunity</i>
11:30 - 11:50	Dr. Tetra Yanuariadi (ITTO/BRIN, Indonesia) <i>Energy Access through Sustainable Forest Management: ITTO Projects and Lessons from Tropical Forest Landscapes</i>
11:50 - 12:10	Prof. Nico Fischer (University of Cape Town, South Africa) <i>Accelerating energy access through clean cooking - GreenQUEST Project</i>

12:10 - 13:30	Lunch
13:30 - 13:50	Dr. Christian Thiel (JRC, EU) <i>JRC studies and tools related to Africa</i>
13:50 - 14:10	Dr Alekhya Datta (TERI, India) - <i>online</i> <i>Decentralized Solar Applications - Lessons learned from India and replicability potential in Global South</i>
14:10 - 14:30	Prof. Mark Howells (UKERC) <i>Accelerating Clean Energy Access in Africa from Data-to-Deal: Insights and Tools from Climate Compatible Growth (CCG)</i>
14:30 - 14:50	Discussion and wrap-up
14:50 - 15:10	Coffee Break

15:10-17:30	  TS #2: Synthetic Fuels Moderator: Prof. Dr. Christopher Hebling (Fraunhofer-ISE, Germany) Dr. Abdelilah Slaoui (CNRS, France)
15:10 - 15:30	Dr. Lucero Cobos-Becerra (Helmholtz Zentrum Berlin, Germany) <i>Industrial Collaboration Meets Synchrotron Science: Catalysis for Sustainable Fuels</i>
15:30 - 15:50	Dr. Prima Zuldian (BRIN, Indonesia) - <i>online</i> <i>RD20 institution latest research on synthetic fuels</i>
15:50 - 16:10	Dr. Denzil Moodley (Sasol, South Africa) <i>From Science to Scale: How Strategic Partnerships Accelerate Sustainable Fuel Technologies</i>
16:10 - 16:30	Dr. Yuichi Manaka, AIST, Japan <i>International Collaborative Research on Ammonia Storage/Release under Severe Conditions</i>
16:30 - 16:50	Mr. Robert Szolak (Fraunhofer-ISE, Germany) <i>Dimethyl Ether (DME)</i>
16:50 - 17:10	Dr. Sanjukta Subudhi (TERI, India) - <i>online</i> <i>Sustainable Aviation Fuel through Alcohol to Jet pathway</i>
17:10 - 17:30	Discussion and wrap-up

Day 3: Technical Session (Wed., Oct. 21, 2026)

Time	Session (Open to the public)	
8:00 - 9:00	Registration (International Convention Center)	
9:00 - 11:40		TS #3: Critical Minerals for Energy <i>Moderator: Dr. Jamie Speirs (UKERC, UK)</i>
9:00 - 9:20	Dr. Angelique Janse van Rensburg (BMW, Germany) <i>Innovating for Impact: Collaborative R&D for Sustainable, Competitive and Resilient Battery Value Chains</i>	
9:20 - 9:40	Dr. Jamie Speirs (University of Strathclyde/UKERC, UK) <i>Critical Minerals and Energy Transition: A China–UK Collaborative Research Programme</i>	
9:40 - 10:00	Dr. Stéphanie Riché (CEA, France) - <i>online</i> <i>Resilient Value Chains for the Energy Transition: A Circular Economy approach on Critical Battery Materials</i>	
10:00 - 10:20	Coffee Break	
10:20 - 10:40	Mr. Souvik Bhattachary (TERI, India) - <i>online</i> <i>Bridging India's Critical Mineral demand supply Gap: Challenges and Opportunities</i>	
10:40 - 11:00	Dr. Fathan Bahfie (BRIN, Indonesia) - <i>online</i> <i>New Developing Green Extraction of Critical Mineral for Energy Security</i>	
11:00 - 11:20	Dr. Emilie Janots (Université Grenoble Alpes, France) - <i>online</i> <i>Rare Earth Elements: Rethinking Extraction — State of Knowledge and Perspectives</i>	
11:20 - 11:40	Discussion and wrap-up	
11:40 - 13:30	Lunch	

Time	Session (Invited members only)
13:30 - 16:40	  Workshop #2: Clean Hydrogen and its Derivatives Moderator: Dr. Michio Kondo (AIST, Japan) Dr. Thabo Hlalele (CSIR, South Africa)
13:35 - 14:15	(Speakers and presentation titles are subject to change) Dr. Hirokazu Kojima (AIST, Japan) <i>Evaluation Technologies for Large Scale Hydrogen Production by Water Electrolysis</i> Dr. Sibimol Luke (UCL/UK-HyRES/UKERC, UK) <i>Hydrogen reality check: Hard truths and real pathways</i> Dr. Abdelilah Slaoui (CNRS, France) <i>Water use & quality for sustainable Hydrogen</i> Dr. Hunmin Park (KIER, Korea) <i>Recent Progress in Next-Generation SOEC Technology toward Scalable Clean Hydrogen Production</i>
14:15 - 14:30	Discussion
14:30 - 15:20	Mr. Mahandra Rooplall (Industrial Development Corporation, South Africa) <i>TBD</i> Dr. Abdul Hamid Budiman (BRIN, Indonesia) - <i>online</i> <i>Status and implementation of clean hydrogen in Indonesia</i> Dr. Joungho Park (KIER, Korea) - <i>online</i> <i>Impact of model fidelity and data resolution on green hydrogen economics</i> Dr. Liezl Schoeman (CSIRO, Australia) <i>Clean Hydrogen and derivatives: industrial applications</i> Presenter from Mission Innovation (TBD) <i>(provisional title) Status update on Hydrogen valleys and technology readiness</i>
15:20-15:35	Discussion
15:35-15:50	Coffee Break
15:50-16:20	Breakout Session
16:20-16:40	Discussion and wrap-up

Day 4: Leaders Session (Thu., Oct. 22, 2026)

Time	Morning session (Open to the public)
8:00 - 9:00	Registration (International Convention Center)
9:00-12:30	• <i>During the public open part of the Leaders Session at the 8th RD20 International Conference, held under the theme “Accelerating Clean Energy Innovation: From Africa to the World,” leaders from research institutions representing the global clean energy community will discuss the latest trends in research and development, as well as initiatives aimed at the deployment and societal implementation of clean energy technologies.</i> • <i>Through keynote presentations and reports on the outcomes of various RD20 initiatives, including summaries of the Technical Sessions conducted during the preceding days of the conference, participants will share experiences and discuss challenges related to international collaboration in the clean energy sector, while exchanging insights on fostering innovation.</i> • <i>In addition, the host organization, CSIR, will provide a platform for dialogue that brings the perspectives, opportunities, and challenges of Africa and other emerging economies to the global stage.</i>
12:30-14:00	Break including Lunch

Time	Afternoon session (Invited members only)
14:00-17:30	Introductory remarks from chairs Reviewing Leaders Recommendation 2025 Approvals and Announcements of RD20 International Conference and RD20 Summer School 2028 Reviewing the discussion to summarize recommendations Closing remarks Adjournment of afternoon session
18:00- 21:00	<i>Conference Closing Dinner</i>

Day 5: Site Visit Tour (Fri., Oct. 23, 2026)

Site Visit (Invited members only)



The proposed visit of the RD20 delegates to Sasol Research & Technology (R&T) in Sasolburg on 23 October 2026 will showcase Sasol's sustainable aviation fuel (SAF) development journey based on Fischer-Tropsch technology. Delegates will gain insight into the end-to-end technology development pathway, spanning laboratory research, pilot plant testing, and semi-commercial scale demonstration. The visit will

include a comprehensive tour of Sasol's R&T facilities, highlighting innovation, scale-up capabilities, and the role of advanced research in enabling sustainable fuels. Subject to time availability, delegates will also participate in a bus tour of the Sasolburg Operations site.

9:00	Departure from CSIR ICC
	Arrival at Sasol Ltd., Sasolburg
	Departure from Sasol to CSIR ICC
14:30	Arrival at CSIR ICC/Close of Programme

Expected participating countries and regions

