

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	09:00 – 17:30	Open to the public
	Wed. morning, Oct. 21	09:00 – 11:40	
Workshop #2 (WS#2)	Wed. afternoon, Oct. 21	13:30 – 16:40	Invited members only
Women in Green Hydrogen Networking Cocktail Event	Wed. evening, Oct. 21	17:30 – 21:00	Invited members only
Leaders Session	Thu. morning, Oct. 22	09:00 – 12:30	Open to the public
	Thu. afternoon, Oct. 22	14:00 – 17:30	Invited members only
The CSIR Facility Tour	Thu. afternoon, Oct. 22	13:30 – 17:30	Invited members only
Site Visit Tour	Fri. Oct. 23	09:00 – 14:30	Invited members only
Exhibition	Tue. Oct. 20 – Thu. Oct. 22 (noon)	09:00 – 17:00	Open to the public

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

Time	Session (Invited members only)
12:00 - 12:55	Arrival and Registration (International Convention Center)
12:55 - 13:00	Safety briefing
13:00 - 16:00	<div>   </div> <p>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) Venue: Crystal / Garnet / Onyx meeting room, First Floor</p>
13:00 - 16:00	<p>(The order of presenters and presentation titles are subject to change)</p> <p>Dr. Woonho Baek (KIER, Korea) <i>2026 AI for Energy Workshop</i></p> <p>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></p> <p>Dr. Aidan Rhodes (Imperial College London/UKERC, UK) <i>Risks and Regulation for AI in Energy Systems</i></p> <p>Coffee break (approximately 14:10-14:30)</p> <p>Dr. Amedeo Buonanno (ENEA, Italy) -online <i>Human-AI Interaction in Operational Optimization</i></p> <p>Dr. Taha Selim Ustun (AIST, Japan) <i>AI Assisted Predictive Maintenance in Hydroelectric Power Plants</i></p> <p>Dr. Xiwei (Sherry) Xu (CSIRO, Australia) - online <i>AI Infrastructure × Energy Infrastructure: An Architecture Perspective</i></p> <p>Dr. Joungho Park (KIER, Korea) - online <i>Reliable Surrogate-Assisted Multi-Objective Optimization for Complex Chemical Processes</i></p> <p>Discussion and wrap-up</p>

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

Time	Session (Open to the public)
08:00 - 08:55	Arrival and Registration (International Convention Center)
08:55 - 09:00	Safety briefing
9:00 - 10:50	 <p>TS plenary: High Level Talks on Clean Energy Technologies Moderator: Dr. Thembakazi Mali (CSIR, South Africa) Venue: Diamond auditorium, Ground Floor</p>
09:00 - 09:20	Welcome address: Dr. Thulani Dlamini (CSIR)
09:20 - 09:40	Ms. Mandy Mlilo (DSTI, South Africa) <i>DSTI Hydrogen & Energy Research, Development and Innovation Initiatives</i>
09:40 - 10:00	Prof. Dr. Christopher Hebling (Fraunhofer-ISE, Germany) <i>Pathways to Climate Neutrality Through Renewables and Decarbonized Fossil Energy</i>
10:00 - 10:20	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>
10:20 - 10:40	Prof. Philippe POGGI (University of Corsica/CNRS, France) <i>Research, Businesses and Innovation in Overseas Territories: Smart Grids and Energy Transition</i>
10:40 - 11:00	Discussion and wrap-up
11:00 - 11:10	Coffee Break

Time	Session (Open to the public)
11:10 - 14:50	 <p>TS #1: Energy Access – Innovative Solutions for Africa Moderator: Dr. Kittessa Roro (CSIR, South Africa) Venue: Diamond auditorium, Ground Floor</p>
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. Sandor Szabo (JRC, EU) - <i>online</i> <i>JRC studies and tools related to Africa</i>
13:50 - 14:10	Mr. 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, UK) <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) Venue: Diamond auditorium, Ground Floor
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>Sustainable Production of Syngas and Liquid Fuels from Domestic Waste and Agro-Industrial Biomass Residues</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	Dr. Sanjukta Subudhi (TERI, India) - <i>online</i> <i>Sustainable Aviation Fuel through Alcohol to Jet pathway</i>
16:50 - 17:10	Discussion and wrap-up

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

Time	Session (Open to the public)
08:00 - 09:00	Arrival and Registration (International Convention Center)
08:55 - 09:00	Safety briefing
09:00 - 11:40	 TS #3: Critical Minerals for Energy Moderator: Dr. Aidan Rhodes (Imperial College London/UKERC, UK) Venue: Diamond auditorium, Ground Floor
09:00 - 09:20	Dr. Angelique Janse van Rensburg (BMW, Germany) <i>Innovating for Impact: Collaborative R&D for Sustainable, Competitive and Resilient Battery Value Chains</i>
09:20 - 09:40	Mr. Shaun Pershad (Eskom) <i>Critical minerals: Eskom Green hydrogen research: Perspectives from an electricity utility</i>
09:40 - 10:00	Ms. 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 Bhattacharjya (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/CNRS, 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	  <p>Workshop #2: Clean Hydrogen and its Derivatives Moderator: Dr. Michio Kondo (AIST, Japan) Dr. Thabo Hlalele (CSIR, South Africa) Venue: Diamond auditorium, Ground Floor</p>
13:35 - 14:15	<p>Dr. Hirokazu Kojima (AIST, Japan) <i>Evaluation Technologies for Large Scale Hydrogen Production by Water Electrolysis</i></p> <p>Dr. Sibimol Luke (UCL/UK-HyRES/UKERC, UK) <i>Hydrogen reality check: Hard truths and real pathways</i></p> <p>Dr. Abdelilah Slaoui (CNRS, France) <i>Water use & quality for sustainable Hydrogen</i></p> <p>Dr. Hunmin Park (KIER, Korea) <i>Recent Progress in Next-Generation SOEC Technology toward Scalable Clean Hydrogen Production</i></p>
14:15 - 14:30	Discussion
14:30 - 15:20	<p>Prof. Dmitri Bessarabov (NWU/DSTI HySA Infrastructure Center of Competence) <i>HySA Green Hydrogen Innovation and Value Chain Development Hub at NWU</i></p> <p>Dr. Abdul Hamid Budiman (BRIN, Indonesia) - <i>online</i> <i>Status and implementation of clean hydrogen in Indonesia</i></p> <p>Dr. Jounggho Park (KIER, Korea) - <i>online</i> <i>Impact of model fidelity and data resolution on green hydrogen economics</i></p> <p>Dr. Liezl Schoeman (CSIRO, Australia) <i>Clean Hydrogen and derivatives: industrial applications</i></p>
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

Time	Women in Green Hydrogen (WiGH) Networking Cocktail Event (Invited members only) Venue: Amber banquet room
17:30 - 21:00	Women in research and development, industry professionals, developers, entrepreneurs, policymakers, funding partners and allies will exchange perspectives through a moderated panel and audience discussion, followed by a networking cocktail reception.

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

Time	Morning session (Open to the public) Venue: Diamond auditorium, Ground Floor
08:00 - 08:55	Arrival and Registration (International Convention Center)
09:00 - 09:15	Safety briefing
09:15 - 10:20	<p>Opening Ceremony</p> <p>Welcome address: Dr. Kaven Naidoo (CSIR)</p> <p>Opening remarks:</p> <p>Ms. ISHII Mitsuko (METI, Japan) - <i>Video Message</i></p> <p>Mr. NISHIJO Masaaki (MEXT, Japan) - <i>Video Message</i></p> <p>Mr. SEKIYA Takeshi (MOE, Japan) - <i>Video Message</i></p> <p>Mr. YOSHIDA Takeshi (NEDO, Japan)</p> <p>Voices of Leadership: Strengthening Global Cooperation through RD20:</p> <p>Mr. Kazuhiko Ishimura (AIST)</p> <p>Dr. Christopher Hebling (Fh-ISE)</p>
10:20 - 10:50	Coffee Break
10:50 - 11:20	<p>RD20 status and activities (moderated by Action Committee members)</p> <p>Report of Summer School 2026: Dr. Abdelilah Slaoui (CNRS)</p> <p>Report of TF activities: Dr. Masahiro Yoshita (AIST), Dr. Thomas Roos (CSIR)</p>
11:20 - 12:10	<p>Open Discussion</p> <p>Leading presentations:</p> <p>Dr. Rebecca Maserumle (Industrial Development Corporation of South Africa)</p> <p><i>The role of Green Hydrogen in Africa and Developments in South Africa</i></p> <p>Ms. Jetane Charsley (National Intellectual Property Management Office, DSTI)</p> <p>Discussion:</p> <p>Leaders of RD20 institutions exchange views on opportunities for collaboration and future partnerships.</p>
12:10 - 12:20	<p>Announcement</p> <p>Announcement of the RD20 Summer School 2027: Dr. Jamie Speirs (UKERC)</p> <p>Announcement of the 9th RD20 2027: Dr. Koichi Matsuoka (AIST)</p>

12:20 - 12:25	Adjournment of morning session Closing Remarks: Dr. Thembakazi Mali (CSIR)
12:30 - 12:40	Group Photo (Entrance of the International Convention Center)
12:40 - 13:00	Visit to the Exhibition Booths
13:00 - 14:00	Lunch

13:30 - 17:30	The CSIR Facility Tour For participants who <i>cannot attend</i> the afternoon part of the Leaders Session, which is exclusively for members of RD20 institutions, a CSIR facility tour will be available until the Conference Closing Dinner.
---------------	--

Time	Afternoon session (Members of RD20 Institution only) Venue: Crystal/Garnet/Onyx meeting room, First Floor)
14:00 - 14:05	Introductory remarks from chairs: Dr. Thulani Dlamini (CSIR, provisional), Mr. Kazuhiko Ishimura (AIST), Dr. Christopher Hebling (Fh-ISE), as a presiding chair
14:05 - 14:20	Overview of the LS afternoon session in the 8th RD20 Reviewing Leaders Recommendation 2025
14:20 - 15:00	Moderated Discussion Theme 1 Engagement - Exploring ways to support active participation in RD20 activities
15:00 - 15:30	Moderated Discussion Theme 2 Resources for Collaboration Opportunity
15:30 - 15:50	Coffee Break
15:50 - 16:30	Moderated Discussion Theme 3 Membership - Considering future principles related to RD20 membership
16:30 - 17:00	Moderated Discussion Theme 4 Visibility - Improving RD20's visibility and outreach
17:00 - 17:15	Reviewing discussion for Leaders Recommendation 2026
17:15 - 17:25	Future conference approval of hosting institutes • The 10th RD20 Conference in 2028 • RD20 Summer School 2028
17:25 - 17:30	Closing remarks: Dr. Rachel Chikwamba (CSIR)
17:30	Adjournment of afternoon session

18:00- 21:00	Conference Closing Dinner Venue: Amber banquet room
---------------------	--

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

Stakeholder Site Visit to Sasol Research & Technology (Invited members only)

As part of the conference program, delegates will have the opportunity to participate in exclusive technical site tours hosted by Eskom and Sasol on Friday, 23 October 2026. These visits will provide firsthand exposure to world-class research, innovation and technology development facilities, offering valuable insights into cutting-edge solutions shaping the future of clean energy, sustainability and industrial decarbonization. Participants will engage with experts, explore advanced technologies in action, and gain a deeper understanding of the innovations driving the global energy transition.

The visit to Sasol Research & Technology (R&T) in Sasolburg 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.



Stakeholder Site Visit to Eskom RT&D (Invited members only)

Eskom's Research, Testing & Development (RT&D) business unit plays a critical role in supporting the organization with scientific and technical expertise. It is based at the Eskom Research & Innovation Centre (ERIC) in Rosheville, Johannesburg. The business unit provides research, testing, consulting and strategic technical planning services that help guide Eskom's technological direction. The unit's key function is to open new technological opportunities by offering RT&D support for emerging and cutting-edge technologies, creating partnerships with universities, Universities of Technology (UoTs), Further Education and Training colleges (FETs), and research institutions to address technological and skills challenges faced by Eskom plants.

RT&D's research agenda is primarily driven by the needs of Eskom's line divisions, which represent the company's core business and are the primary beneficiaries of its work. As such, the business unit focuses on applied research that delivers practical, operational solutions aligned with Eskom's strategic objectives. However, the unit also dedicates resources to exploring technology innovation and emerging technologies to ensure Eskom remains competitive and sustainable.

RT&D's work contributes to Eskom's sustainability, balancing financial, social and environmental factors while strengthening Eskom's internal competencies and ensuring the company remains at the forefront of energy technology advancements.



Expected participating countries and regions

