

Combating Climate Change and Improving Livelihoods



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Marking a Milestone in West Africa's Climate and Energy Transition: WASCAL Inaugurates Academic and Research Complex in Togo

WASCAL, committed to improving West African livelihoods through capacity building in climate change, renewable energy, and green hydrogen, officially commissioned its new Academic and Research Complex in Lomé, Togo. Continue on page 2

WASCAL- ECREEE Strengthen Capacity of Energy Directors on Green Hydrogen



WASCAL and the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) collaborated to increase green hydrogen initiatives in West Africa. Under the Ministry of Industry, Commerce, and Energy of Cabo Verde, they organised a capacity-building workshop for Energy Directors from the sub-region, focusing on Green Hydrogen Technologies and Applications.

During the two-day workshop, experts provided participants with a comprehensive understanding of green hydrogen, covering its applications, market dynamics, and regulatory standards. The workshop also addressed the implications of integrating green hydrogen into national energy strategies, with discussions on regulatory frameworks and investment opportunities.

networking, which fostered partnerships and knowledge exchange crucial for future regional initiatives.

The workshop aligned with the ECOWAS Green Hydrogen Regional Strategy and Action Plans for 2023-2030 and 2031-2050, which aim to enhance understanding of green hydrogen technologies, production, economics, and associated risks in the region.

The impact of this collaboration was significant, as it empowered Energy Directors with the knowledge and skills needed to advocate for green hydrogen adoption in their respective countries. This workshop marked a critical step in advancing regional cooperation, positioning West Africa on the path towards a sustainable energy future. Armed with new insights, the participants were well-prepared to lead the drive for green hydrogen technologies in the region

Participants engaged in active discussions

Collaborative Initiative to Enhance Energy Production in West Africa Under Climate Change

and



WASCAL, in partnership with global experts, has embarked on a mission to scale up innovative energy technologies for West Africa, aiming to optimise energy production amidst severe climate challenges. A pivotal moment in this initiative was a recent working visit to Sunpure Technology in Hefei, China. This visit involved key partners from the Ministry of Energy of Burkina Faso, SONABEL, and University Joseph Ky-Zerbo.

The visit marked the beginning of a collaborative effort to identify and deploy efficient, competitive technologies tailored to the region's energy needs. This initiative focuses on building the capacity of energy experts in West Africa, equipping them with the skills and knowledge needed to implement cuttingedge solutions. By leveraging global expertise and technology, this project is set to significantly enhance energy production capabilities, supporting sustainable development and resilience in the face of climate change.

WASCAL Inaugurates Academic and Research Complex in Togo: Marking a Milestone in West Africa's Climate and Energy Transition



WASCAL, committed to improving West African livelihoods through capacity building in climate change, renewable energy, and green hydrogen, officially commissioned its new Academic and Research Complex in Lomé, Togo. Funded by the German Federal Ministry of Education and Research (BMBF), the complex represents a significant step towards climate resilience and sustainable energy solutions for the region.

The facility, which is currently housing WASCAL scholars pursuing a master's programme in Energy and Green Hydrogen as well as a PhD in Climate Change and Disaster Risk Management, was designed to accelerate capacity building in bioenergy and climate change. The commissioning marked a major milestone in WASCAL's efforts to support West Africa's energy transition and combat climate change. During the event, WASCAL's Executive Director, Prof. Emmanuel Wendsongré Ramdé, highlighted the complex as a hub for innovation and collaboration, particularly with the establishment of a regional laboratory on Biomass for West Africa. The facility is expected to play a pivotal role in advancing sustainable energy solutions across the region. The German Commissioner for Green Hydrogen, Mr. Till Mansmann, underscored the importance of the complex in supporting local economies and enabling new opportunities in biomass utilisation. He emphasised the role of international cooperation in addressing global climate challenges.

The building was inaugurated by Mr. Mansmann and the Togo Minister of Research and Higher Education, Prof. Majesté N. Ihou Wateba, marking a new chapter in WASCAL's successful partnership with the Republic of Togo and the University of Lomé.



WASCAL–UN Map out Comprehensive Action Plan for Disaster Risk Management in African Countries

WASCAL, in collaboration with the United Nations Office for Disaster Risk Reduction (UNDRR), the National Disaster Management Office (NADMO) of Ghana, the Regional Centre for Mapping of Resources for Development (RCMRD) in Nairobi, Kenya, the WASCAL Competence Centre in Ouagadougou, Burkina Faso, CIMA Research Foundation in Savona, Italy, Disaster Risk Management, Sustainability and Urban Resilience (DiMSUR), and PeriPeri U in Stellenbosch, South Africa, successfully strengthened an African Network of Excellence (NOE) in Disaster Risk Management.

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This collaborative framework brought together global expert centres to develop and deliver tailored tools, services, products, and training aimed at reducing climate-related disaster risks. The NOE served as a vital exchange platform for research centres, specialised agencies, universities, and disaster risk management authorities across Africa. Its primary objectives included providing training, generating new knowledge, and offering innovative solutions for risk reduction. This initiative significantly enhanced the continent's capacity to manage and mitigate disaster risks.

A notable outcome of this collaboration was a 5-day

workshop held in Accra, which focused on critical areas such as policy development, resource mobilisation, and sustainability in early warning systems. The workshop aimed to improve the speed, accuracy, and effectiveness of hazard detection and anticipatory actions, thus enhancing overall disaster preparedness and response capabilities.

The impact of this initiative was extensive, as it facilitated knowledge sharing and capacity building among African disaster risk management stakeholders, leading to more robust and effective risk reduction strategies and practices across the continent. The network's efforts underscored a collective commitment to advancing disaster resilience and sustainable development in Africa.



WASCAL to Accelerate the Implementation of the PV2H Project Under the Renewable and Green Hydrogen Project in Burknia- Faso

WASCAL continues to foster a regional collaboration framework, identify critical challenges, and facilitate experience and knowledge sharing in operating largescale solar power plants connected to national grids in West Africa.

In partnership with the Ministry of Higher Education, Research and Innovation of Burkina Faso, A- 2-day workshop has been held in Ouagadougou to accelerate the implementation of the PV2H Project under the renewable and green hydrogen project at WASCAL with funding from the German Federal Ministry of Education and Research (BMBF).

Stakeholders of solar plants of Energy Ministries,

national electricity companies, private operators across West Africa, and companies manufacturing innovative cleaning systems attended the workshop, with a call to action for them to bring up innovative solutions to ensure efficient, sustainable operation of the region solar power plants, while also exploring ways of producing other energy carriers, such as green hydrogen.

The PV2H project seeks to provide a concrete technical response to the negative impact of dust on solar PV power plants and to propose ways to optimize the production of green hydrogen from solar PV systems under the specific climatic conditions of the Sahelian region in West Africa.

World Environment Day: Executive Director of WASCAL Calls for Tangible Steps to Preserve Environment in West Africa West Africa



On World Environment Day, the theme "Land Restoration, Desertification, and Drought Resilience" spotlighted the pressing climate and environmental challenges facing West Africa. The region is grappling with severe impacts that threaten societies, economies, and future generations, underscoring the need for immediate and unified action beyond political promises.

West Africa is experiencing the brunt of climate change. Desertification in Nigeria is advancing at a rate

of 0.6 kilometres per year, affecting 40 million people. Severe droughts in Burkina Faso have reduced crop yields by up to 50%, worsening hunger and malnutrition. The United Nations reports that over 80% of land in the Sahel is degraded, impacting nearly 50 million people. The Intergovernmental Panel on Climate Change (IPCC) warns that, without intervention, much of West Africa could become uninhabitable by the end of the century. The World Bank estimates that up to 86 million Africans may be forced to migrate internally by 2050 due to climate impacts.

In response, WASCAL has made notable advancements. Overthepast13 years, the organisation has trained more than 500 West Africans in various fields, introduced four Master's programmes in Green Hydrogen, and established a Competence Centre in Ouagadougou. These efforts have provided critical data and policies to support climate resilience and sustainable land management across the region. The situation demands a collective effort from governments, donor agencies, the private sector, and local communities. Immediate actions needed include investing in sustainable land management, enhancing community resilience, and enforcing robust environmental policies to secure a sustainable future for West Africa.

WASCAL's HumiTemp Smart Sensor: Towards Affordable Climate Monitoring in West Africa



WASCAL Competence Centre in Ouagadougou, in partnership with Orange Digital Centre Burkina Faso, has unveiled the HumiTemp Smart Sensor, a cuttingedge Internet of Things (IoT) device designed to measure air temperature and relative humidity. This sensor stores data and sends it regularly to a cloud database, revolutionising climate data monitoring in West Africa. As climate change and digital transformation reshape the landscape, WASCAL has embraced IoT technology to overcome the high costs and inaccessibility of climate-related equipment in the region. The initiative aligns with WASCAL's mission to enhance climate services and support adaptation and mitigation strategies across West Africa. The HumiTemp Smart Sensor is a key component of WASCAL's strategy to provide affordable and effective climate monitoring tools. By offering a cost-efficient model, this technology addresses the critical gap in accurate climate data, boosting research and innovation while contributing to the UN Sustainable Development Goal 13 on climate action.

The introduction of the HumiTemp sensor is set to improve climate forecasting, support complex data analysis, and foster sustainable development. It marks a significant progress in WASCAL's efforts to deliver competitive climate services and enhance environmental resilience in the region, transforming local expertise into powerful tools for climate adaptation and mitigation.

PARTNERSHIPS



AICCRA Implementation on Mainstreaming CSA and CIS into Universities Curricula

Through interventions such as the Agro-photovoltaic project, the international master's programme in Green Hydrogen and the Accelerating Impacts of CGIAR Climate Research for Africa - AICCRA project implementation on mainstreaming CSA and CIS into Universities curricula, WASCAL, and partners are responding to how to harness renewable energy sources to promote sustainable development in the face of climate change challenges.

Director of the Capacity Building Programme at WASCAL, Prof. Daouda Kone was speaking at a panel discussion at the 6th Partnership for Skills in Applied Sciences, Engineering & Technology (PASET) Annual Conference, in Kenya, under the topic, "Green Economy future of work under the thematic area of Climate Change".

The conference was under the distinguished patronage of the Kenyan President, His Excellency Dr. William Ruto.

WASCAL Champions Co-Production and Co-Delivery of Climate Services at High-Level Dialogue



At the Multi-Stakeholder High-Level Dialogue on Partnerships for Climate Change and Biodiversity in France, Dr. Safie Sanfo, Senior Scientist at WASCAL, drew attention to the vital role of co-production and co-delivery in advancing climate and environmental services. Her presentation highlighted WASCAL's commitment to forging robust partnerships to drive climate action across West Africa.

Dr. Sanfo illustrated how collaborative efforts between various stakeholders have led to high-impact innovations, such as the development of region-specific climate solutions and data-driven environmental strategies. She emphasised that these partnerships are essential for overcoming implementation challenges and ensuring effective climate action. One remarkable example discussed was WASCAL's collaboration with international and local organisations to enhance climate monitoring and data collection. These partnerships have facilitated the creation of advanced tools and technologies, improving the accuracy of climate forecasts and supporting targeted interventions.

Dr. Sanfo's remarks at the dialogue highlighted WASCAL's advocacy for a collective approach to addressing climate challenges. By sharing insights into successful collaborative projects, she demonstrated how joint efforts can overcome obstacles and deliver tangible benefits. Her presentation not only showcased the progress achieved but also called for continued cooperation to address the complex and evolving climate issues facing the region.

Boosting Climate Research and Capacity Building Efforts Through Internatinal Partnership



WASCAL has significantly advanced its collaboration with German and US partners, enhancing climate change research, capacity building, and environmental services. This strengthened alliance has already made substantial impacts by driving innovative solutions, facilitating knowledge exchange, and bolstering sustainability efforts, all contributing to global climate resilience and sustainable development goals. During a recent working visit to the United States, WASCAL focused on deepening partnerships with key institutions such as the German Federal Ministry of Education and Research (BMBF), USAID, the National Oceanic and Atmospheric Administration (NOAA), the World Bank, and the International Monetary Fund (IMF). These engagements aim to accelerate progress towards achieving UN Sustainable Development Goal 13 on Climate Action.

The collaboration hope to leade to significant advancements in climate research and environmental services, reinforcing the commitment to tackle climate change through enhanced international cooperation. The initiative has already demonstrated measurable outcomes in advancing sustainability and climate resilience across regions, setting a benchmark for future global partnerships.

WASCAL and UNU-INRA Work Towards an Exchange Forum Soon



WASCAL is strengthening its collaboration with United Nations University- INRA as the two institutions work towards an exchange forum soon. This partnership hopes to bring innovation and knowledge sharing in climate research and sustainable development. This was deliberated on when the Executive Director of WASCAL, Prof Emmanuel Ramde paid a courtesy call on Dr. Fatima Denton, Director of UNU-INRA.



WASCAL and Senegal Renew MoU

WASCAL has renewed its commitment to Senegal through the signing of an MoU to continue its partnership to improve livelihoods by combating climate change and promoting green hydrogen in the country.

To ensure an interdisciplinary and comprehensive approach to climate-related analysis and policy with a focus on applying economic rationality to analyze adaptation and mitigation strategies related to climate change, WASCAL, in partnership with Université Cheikh Anta Diop de Dakar, runs the scholarship PhD in Climate Change and Economics, for West African students as well as Master's programme in Green Hydrogen. The programme develops strong synergies with other universities involved in the WASCAL Graduate Studies Programme (GSP).

The MoU was signed by Prof. Ahmadou Aly Mbaye, Rector of Université Cheikh Anta Diop de Dakar, and Prof. Emmanuel Wendsongré Ramdé, Executive Director of WASCAL.



Boosting Collaboration with Ghana's Ministry of Environment to Drive Climate Action

WASCAL has notably boosted its partnership with Ghana's Ministry of Environment, Science, Technology, and Innovation (MESTI) to bolster the country's efforts in achieving its Nationally Determined Contributions (NDCs). This strategic collaboration underscores WASCAL's commitment to advancing climate services, including capacity building, service provision, and green hydrogen initiatives.

During a recent meeting, WASCAL's Executive Director, Prof. Emmanuel Ramde, met with Ghana's Environment Minister, Hon. Ophelia Mensah Hayford. Both leaders reaffirmed their commitment to joint climate change adaptation and mitigation strategies. The Ghanaian headquarters of WASCAL plays a crucial role, with MESTI holding the permanent vicechairmanship of the Ministerial Council overseeing climate-related issues across West Africa.

In Ghana, WASCAL has made notable contributions, including a fully funded PhD programme in Climate Change and Land Use in partnership with Kwame Nkrumah University of Science and Technology (KNUST), which has trained over 40 West Africans. Additionally, WASCAL has developed a flagship Waste to Energy plant in Gyankobaa, Ashanti Region, valued at approximately 5 million euros, supported by the Federal Ministry of Education and Research, Germany (BMBF).

WASCAL-Germany Strengthen Ties in Burkina-Faso



During a recent working visit to the German Embassy in Burkina Faso, Professor Emmanuel Wendsongré Ramdé, Executive Director of WASCAL, engaged with the acting ambassador to discuss intensified collaborations.

As the UNSDG Climate Action initiative approaches its conclusion in six years, WASCAL is focused on forging robust partnerships to advance its mission of combating climate change and improving the well-being of West African communities.

The discussions emphasised the need for strengthened international cooperation to meet climate goals and ensure sustainable development in the region. WASCAL's proactive approach aims to leverage these partnerships to drive impactful solutions and support the urgent climate action agenda

Executive Director Pays Courtesy Call on Burkina Faso Minister of Higher Education



During a recent regional tour, Professor Emmanuel Wendsongré Ramdé, Executive Director of WASCAL, paid a courtesy visit to Prof. Adjima Thiombiano, Burkina Faso's Minister of Higher Education, Research, and Innovation. This meeting was a key moment to review and strategise the future of WASCAL's initiatives.

Key achievements highlighted during the visit included the establishment of WASCAL's Competence Centre in Ouagadougou and the launch of a Master's programme in Informatics for Climate Change. These initiatives are instrumental in equipping West African researchers and students with cutting-edge tools and knowledge to tackle climate challenges.

The Competence Centre serves as a hub for innovative research and capacity building, fostering collaboration across the region. The Master's programme in Informatics is designed to enhance the technological and analytical skills needed to address climate change impacts effectively.





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