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US opens 22 million acres for solar development in the West⁽¹⁾

The Department of the Interior announced an updated roadmap for solar energy development across the West, meant to expand solar energy production in more Western states and make renewable energy siting and permitting on America's public lands more efficient.

The Bureau of Land Management also announced the next steps on several renewable projects in Arizona, California, and Nevada, representing more than 1,700 MW of potential solar generation and 1,300 megawatts of potential battery storage capacity.

The Department published a draft analysis of the Utility-Scale Solar Energy Programmatic Environmental Impact Statement (known as the updated Western Solar Plan), which would streamline the BLM's framework for siting solar energy projects in order to support current and future national clean energy goals, long-term energy security, climate resilience, and improved conservation outcomes.

The proposal is an update of BLM's 2012 Western Solar Plan, which identified areas in Arizona, California, Colorado, Nevada, New Mexico, and Utah with high solar potential and low resource conflicts. Following months of stakeholder engagements – including 15 public scoping meetings – the updated roadmap refines the analysis in the original six states and expands it to include Idaho, Montana, Oregon, Washington, and Wyoming, the BLM said.

“The Bureau of Land Management revised a decade-old policy and opened 22 million acres of federal land for responsible solar development,” said Ben Norris, vice president of regulatory affairs at the Solar Energy Industries Association (SEIA). “The proposal also identifies 200,000 acres of land near transmission infrastructure, helping to correct an important oversight and streamline solar development. Under the current policy, there are at least 80 million acres of federal land open to oil and gas development, which is 100 times the amount of public land available for solar. The BLM's proposal is a big step in the right direction and recognizes the key role solar plays in our energy economy.”

In considering updates to the Western Solar Plan, the BLM worked with the Department of Energy's National Renewable Energy Laboratory to examine forecasts for national clean energy needs and said it

determined that approximately 700,000 acres of public lands would be needed to meet those goals. The BLM's preferred alternative in the updated Western Solar Plan would provide approximately 22 million acres of land open for solar application.



BLM utilized \$4.3 million from the Inflation Reduction Act to invest in these updates to the Western Solar Plan.

The analysis evaluates six alternatives, each proposing to make different amounts of public land available to solar development applications under different criteria such as proximity to transmission infrastructure, designated critical habitat, or other ecological and cultural resources. Public input will inform a Final Programmatic Environmental Impact Statement and Record of Decision.

In Nevada, the BLM is advancing four proposed solar projects:

- The BLM released a draft environmental impact statement for the proposed Libra Solar Project in Mineral and Lyon counties, which, if approved, will generate and store up to 700 MW of solar energy.
- The BLM released a draft environmental impact statement for the Rough Hat Clark County Solar Project, which, if approved, will add 400 MW of clean solar power to the grid. The proposed project would also include a 700-MW battery energy storage system.
- The BLM announced a Notice of Intent for the Dodge Flat II Solar project in Nevada, which, if approved, will generate up to 200 MW of photovoltaic solar energy on approximately 700 acres of public lands in Washoe County.
- The BLM released the draft environmental assessment for the Dry Lake East Energy Center Solar Project, which would build a 200 MW photovoltaic solar facility with 200 MW of battery energy storage and an additional 400 MW battery energy storage facility.

In California, the BLM will release in the coming days a Notice to Proceed for the Camino Solar Project in Kern County, allowing construction to begin on a 44-MW solar facility on 233 acres of public land.

In Arizona, the BLM announced that construction of the White Wing Ranch Solar Project has been completed. White Wing Ranch is a 179-MW solar photovoltaic project located on private lands in Yuma County with a generation interconnection (gen-tie) line across approximately 3.5 miles of BLM administered land.

The BLM also announced that construction on the Harquahala Valley (HV) Sunrise gen-tie line in Arizona will begin in February. It will connect the HV Sun solar project, which is a 150-MW solar photovoltaic project located on 1,000 acres of private lands in Maricopa County, with a gen-tie transmission line across approximately 1.1 miles of BLM-administered land.

The BLM is currently processing 67 utility-scale onshore clean energy projects proposed on public lands in the western United States. This includes solar, wind, and geothermal projects, as well as gen-tie lines that are vital to clean energy projects proposed on non-federal land. These

projects have the combined potential to add more than 37 GW of renewable energy to the Western electric grid. The BLM is also undertaking the preliminary review of over 195 applications for solar and wind development, as well as 97 applications for solar and wind energy site area testing.



The 360 Gigawatts Reason to Boost Finance for Energy Storage Now⁽²⁾

Our world has a storage problem.

As the technology for generating renewable energy has advanced at breakneck pace – almost tripling globally between 2011 and 2022 – one thing has become clear: our ability to tap into renewable power has outstripped our ability to store it.

Storage is indispensable to the green energy revolution. The most abundant sources of renewable energy today are only intermittently available and need a steady, stored supply to smooth out these fluctuations. Energy storage technologies are also the key to lowering energy costs and integrating more renewable power into our grids, fast.

If we can get this right, we can hold on to ever-rising quantities of renewable energy we are already harnessing – from our skies, our seas, and the earth itself.

The gap to fill is very wide indeed. The International Renewable Agency (IRENA) ran the numbers, estimating that 360 gigawatts (GW) of battery storage would be needed worldwide by 2030 to keep rising global temperatures below the 1.5°C ceiling. Only that will allow us to get almost 70% of our energy from renewable sources. The world urgently needs more pumped hydropower storage, more decentralized mini-grids, and bigger, better, and more recyclable electrochemical batteries. We need accelerated testing of new technologies, like green hydrogen, thermal storage using molten salts, or flywheel-based mechanical solutions.

When it comes to ramping up storage in developing countries, many creative actors are already working hard to get the mix right: setting out regulatory frameworks that can successfully monetize the value of new storage technologies, pioneering innovative new business models, and building the kind of infrastructure needed for a huge scale-up.

One large missing piece has been funding.

Storage projects are risky investments: high costs, uncertain returns, and a limited track record. Only smart, large-scale, low-cost



financing can lower those risks and clear the way for a clean future.

The Climate Investment Funds (CIF) – the world’s largest multilateral fund supporting energy storage in developing countries – is working on bridging this gap. CIF is the biggest funder globally of mini-grids, a proven game-changer for isolated communities. A single rural electrification project in Mali has given almost a half a million people access to cleaner, cheaper and more reliable electricity, by replacing costly and polluting diesel generators with a hybrid (battery storage and diesel) mini-grid system. CIF is also fueling the next frontier in energy storage: \$70m in CIF funding is set to help kick-start a \$9 billion energy revolution in Brazil, which includes substantial investments in energy storage, such as pumped hydro and green hydrogen development.

And in the Maldives, CIF is supporting the government’s efforts to hit one of the most ambitious climate targets in the world: net zero by 2030. Getting there will take a concerted effort. While sunshine is plentiful, the population of the Maldives is spread across more than 200 islands and is 95% reliant on generators driven by expensive and highly-polluting diesel.

In 2017, CIF and the Maldives embarked on our signature partnership model: the country led the process, backed by large-scale, long-term, and low-cost finance from ourselves and our multilateral development bank partners (in this case, the Asian Development Bank and the World Bank).

Within four years (from 2017 to 2021), the cost of electricity dropped from 21 cents to just 11 cents. And that initial support package has spurred an ambitious follow-on initiative expected to mobilize an incredible \$152.4 million in new investment, install 90 MWh of battery storage, and save the country \$42.38 million annually on diesel imports.

Over 4,000 miles away and with a population one hundred times larger, another country is making great strides in energy storage. Thanks to \$250 million in concessional finance from CIF, South Africa is soon to see 100 MW of new storage capacity come online. With technical assistance provided under this project, national grid codes and other essential policies were created, ultimately leading to 455 MW of battery storage being backed by private investors – to the tune of approximately \$605 million.

Many other developing countries want to move away from fossil fuels, but have been blocked by the costs of getting energy storage systems rolled out at scale.

That’s why CIF has just launched a first-of-its-kind \$400 million Global Energy Storage Program (GESP), dedicated to breakthrough storage solutions. This is the largest climate funding vehicle in the world solely focused on energy storage.



Twelve new projects across the developing world have already been approved, including in Bangladesh, Brazil, Colombia, Haiti, Honduras, India, Indonesia, the Maldives, and Ukraine. In the next three years, CIF plans to create 1.8 GW of new storage capacity and integrate an additional 16 GW.

And the best part? Every dollar invested is expected to generate up to \$16 in co-financing. It's time to get that ratio working, where it matters most.

Innovative Policymaking is Crucial to Drive Green Hydrogen Market and Ensure its Sustainable Production⁽³⁾

According to the International Renewable Energy Agency's (IRENA) World Energy Transitions Outlook 2023, the most realistic way to course corrects the 1.5°C Pathway is by tripling renewable energy and the doubling of energy efficiency by 2030. Green hydrogen has an important role to play in helping reach of that target.

Over the last few years, green hydrogen has been championed as the fuel of the future, thanks to its reputation as a clean, storable and portable energy source. Its high energy density makes it ideal for fuelling energy intensive industrial processes that are difficult to electrify and hard to abate sectors such as aviation and shipping.

There is a pressing need to increase demand by moving from commitments and pledges to actual projects. However, progress in international cooperation to establish global targets for demand creation has been limited. This is where policy framework should come in.

In light of the upcoming report by IRENA, the United Nations Industrial Development Organization (UNIDO) and the German Institute of Development and Sustainability (IDOS), speakers at the COP28's Global Renewables Hub discussed how policymakers can drive local value chain creation around green hydrogen production. Based on these insights, country-specific needs may subsequently be addressed through projects and cooperation.

In his opening, UNIDO Managing Director Gunther Beger, said, "Innovative solutions for de-risking investments are required to push the green hydrogen globally. Such solutions can path the way for hydrogen to help us reach net zero goals. I am very happy with this cooperation, resulting in an extensive and insightful report, which we hope can help accelerate the uptake of green hydrogen."

IRENA Acting Director of Knowledge, Policy and Finance Centre, Ute Collier said, "Green hydrogen development has the potential to generate socio-economic benefits such as job creation, which we would like to see more in the



developing world. We do hope our joint report can shed light on how policymakers can address the challenges faced by green hydrogen.”

Global South countries hold the keys for a sustainable green hydrogen production as they have the highest potential for producing it. By prioritising use over export and align green hydrogen production with Sustainable Development Goals, Global South countries can unleash the opportunities that this energy carrier can offer them, as pointed out by Rita Strohmaier from IDOS. After all, exploiting the benefits of green hydrogen accelerates the energy transition.

Scaling up green hydrogen production is not without consequences, however. Increased green hydrogen production equals increased water withdrawal and consumption. As global demand for hydrogen expands, the total freshwater withdrawal could more than triple by 2040 and increase sixfold by 2050.

Water shortages can put pressure on the energy sector, and are likely to continue to occur and become more frequent as extreme weather events intensify, especially in areas best suited to green hydrogen production. In regions where water is scarce – to reduce water use and potentially lower costs – the use of water-efficient cooling technologies like air cooling is recommended by another new report by IRENA.

Developed with Bluerisk and launched at COP28, Water for Hydrogen Production offers tailored recommendations to guide policymakers and industry towards more water-efficient practices. This includes conducting thorough water risk assessments and setting up stringent water use regulations, to ensure sustainable growth in the hydrogen industry while preserving scarce and shared water resources and minimising disruptions that could arise from climate risks or competition for water use.

Opening the launch session, IRENA Acting Director of Knowledge, Policy and Finance Centre, Ute Collier said, “Hydrogen is expected to play an important role in the energy transition that will allow us to achieve the 1.5°C climate target. This report aims to start a conversation between policymakers, industry leaders, and communities towards a more informed and sustainable production and use of hydrogen.”

The report’s in-depth analysis results in a set of specific recommendations. Chief among them is the call on governments to prioritise renewables-based hydrogen in the establishment of hydrogen market.

Concluding his presentation during the launch, Bluerisk Director, Tianyi Luo said, “Water withdrawal and consumption should be considered as performance indicators of green hydrogen. Our report recommends regulations and financial incentives to favour projects that demonstrate efficiency, prioritising sustainability of water and energy.”

The report Water for Hydrogen Production can be found [here](#).

The report Green hydrogen for Sustainable Industrial Development: A Policy Toolkit for Developing Countries will be available in the coming days.



MENA's Transforming Role in an Evolving Energy Landscape⁽⁴⁾

The Middle East and North Africa (MENA) region has been leading fossil fuel production for decades, creating tremendous economic growth.

However, fossil fuel-driven growth has proven to be unsustainable for both people and planet.

As the climate action clock ticks, and with the global community in a race to curb carbon emissions, the MENA region is redefining its role within an evolving energy landscape – one in which fossil fuels inevitably play a diminishing role.

Today, even without subsidies, solar and wind power stand cost-competitive with fossil fuels and have emerged as the preferred choices for new power generation. In fact, renewables accounted for 86% of all new power generation in 2022.

This trend is not merely set to continue; it is accelerating significantly, extending even beyond the power sectors.

For MENA countries, transitioning to a renewables-based energy system offers a pathway to simultaneously meet growing energy demand, promote economic growth, maximise socio-economic benefits, and achieve decarbonisation objectives.

Recognising this, Gulf Cooperation Council (GCC) countries are far from standing idle. In a strategic shift towards enhanced climate ambition, nations including Bahrain, Kuwait, Oman, Saudi Arabia, and the UAE have embraced net-zero emission targets.

According to IRENA's World Energy Transitions Outlook 2023 (WETO), global renewable power capacity must triple from approximately 3,000 GW to just over 11,000 GW by the year 2030.

The world is seemingly aligning to meet this objective with G7 countries, adopting IRENA's targets for the group, and more recently, G20 countries, including the Kingdom of Saudi Arabia, echoing IRENA's global goal to triple renewable energy capacity in New Delhi.

Nonetheless, the goal to triple renewable energy capacity is not confined to these nations alone; it is a global target that requires concerted efforts at the regional level to ensure that all countries are adequately represented and involved.

As an important milestone in the lead-up to the 2023 United Nations Climate Change Conference (COP28) in Dubai, MENA Climate Week in Riyadh stands as a significant opportunity to cultivate regional unity across the MENA region and drive coordinated action, with an eye toward forging a global consensus at COP28.



Recently, the UAE has embraced this level of ambition, pledging to triple its own renewable energy capacity by 2030. This endeavour is particularly noteworthy as the country prepares to host COP28, reflecting a genuine commitment to leading by example.

Building political momentum and commitment is a critical first step, but it is just the beginning. Everything, from our communities and energy frameworks to our everyday lives, is anchored in the current energy system. Yet, this has to change.

We need the courage to create a new reality and translate pledges into projects and actions.

IRENA's WETO envisions three pillars that will form the foundation for a way forward.

First, building the necessary infrastructure and investing at scale in grids, via both land and sea routes, to accommodate new production locations, trade patterns, and demand centres.

Due to its abundance of low-cost renewable power and a strategic geographical location near Europe and Asia, the MENA region possesses a competitive advantage in becoming a key green hydrogen hub. Developing a system that cultivates and amplifies this potential will be crucial for the region.

In this regard, it is vital that International Financial Institutions and Multilateral Development Banks strategically prioritise their resources to maximise impact, especially in enhancing the region's physical infrastructure, to encourage the scaling up of private investments.

Secondly, ambitious targets must be followed by effective policies and regulations that encourage investments. Fossil fuel investments in the Middle East are still significantly higher than renewable energy investments, indicating an urgent need to align financial flows with ambitious climate targets.

Although fossil fuels will inevitably remain a part of the energy mix for some time, their share must dramatically decrease as we approach mid-century.

The third priority is developing the necessary institutional capacities to help ensure that skills and capabilities match the energy system we aspire to create. This is crucial not only for a just transition but also for ensuring a workforce is ready for a new system.

Oil-importing economies in the MENA region exhibit higher levels of youth unemployment, necessitating extensive training, education, and capacity building.

Concurrently, oil-exporting countries will require deliberate policy attention to retrain workers and forge new employment opportunities by cultivating local industries and manufacturing, thereby replacing roles once sustained by the previous energy sectors.



Having hosted COP27 in Egypt last year, and with COP28 set to take place in Dubai later this year, the MENA region possesses a unique opportunity. It can ensure the emerging energy system not only accommodates but also capitalises on the region's abundant renewable energy potential and strategic geographical proximity to major global markets, thereby securing its position in an evolving energy landscape.

The path forward, while demanding extensive planning, investment, and collaboration, unveils a promising future wherein development is inclusive and beneficial, safeguarding the interests of all nations and future generations.

Infrastructure Reform is Key to Accelerating Africa's Energy Transition⁽⁵⁾

With 80% of the world's population without access to electricity residing in Sub-Saharan Africa, it is clear that the current fossil fuel-based energy system fails to meet Africa's power needs. Something needs to be done quickly.

Renewables offer a compelling solution. Not only are they the most rapidly deployable and versatile technology available. They are also the most affordable.

A recent analysis by the International Renewable Energy Agency (IRENA) shows that the adoption of renewable power in Africa since the year 2000 has led to USD 19 billion in fossil fuel cost savings within the electricity sector.

Given that Africa's renewable energy potential far outstrips its projected demand for electricity in 2040, the continent has more than enough renewable resources to promote inclusive growth and sustainable development as envisioned by the African Union in its Agenda 2063.

Africa's renewable energy resource potential, however, is unevenly distributed across the continent. There is a profound need for appropriate infrastructure to be put in place to utilise and distribute this potential among the different regions to enable efficient, sustainable, and affordable access to energy across Africa.

In the coming years, this means urgently overcoming the structural barriers across three priority areas: infrastructure, policy, and institutional capabilities.

Continued investments in cross-border transmission infrastructure and a deepening of electricity trade can bring more flexibility to achieve a smart diversified generation structure and accommodate a high share of variable renewable energy, thus enhancing Africa's grid reliability and resilience.



To achieve this transformation, in 2021 the African Union launched the African Single Electricity Market (AfSEM) aimed at creating one of the largest electricity markets in the world by 2040.

The Continental Power System Masterplan (CMP), under which IRENA collaborates with AUDA-NEPAD, serves as a blueprint and supports the establishment of a long-term continent-wide planning process for power generation and transmission involving all five African power pools.

Implementing this ambitious plan will be a herculean task, requiring an extraordinary level of financial resources – a burden that African nations cannot shoulder alone. As Kenya’s President William Ruto made clear at the recent launch of the Accelerated Partnership for Renewables in Africa (APRA), which IRENA facilitates, the question is not whether Africa has the ambition, but how to translate ambition into reality.

The energy transition requires large public investment to trigger systemic change and build the physical infrastructure needed to develop a new energy system powered by renewables. This is where multilateral financial institutions come into play.

For too long, institutions have addressed symptoms rather than root causes. While funding individual projects – be they utility-scale or off-grid – is crucial, without the necessary structural changes, this approach is not comprehensive. It cannot hope to attract sufficient capital to fundamentally transform the continent’s energy reality to deliver its socioeconomic development goals. A change in approach is needed.

It is time to reimagine how multilateral cooperation works and to strengthen collaboration between the Global North and the Global South. Reform is needed to the way lending is made. Priority must be given to building supportive physical infrastructure, enhancing local capacities, and creating local supply chains leveraging Africa's abundant critical materials. All of this must be done in a way that adds economic value for African countries.

Only 2% of global investments in renewable energy in the last two decades were made in Africa. The recent initiative announced by the COP28 Presidency during Africa Climate Week marks a significant milestone for the continent. Not only is the USD 4.5 billion commitment to develop clean power in Africa a significant sum, it is also targeted to address key energy transition barriers, including the continent’s infrastructure needs.

Later this year, at COP28, the first Global Stocktake since the Paris Agreement will be held in the United Arab Emirates. This event will measure the gap that remains between climate pledges and action. The moment, however, will also present us with a chance to chart a new course.

As we approach this pivotal moment in history, it is imperative that we construct an action-oriented narrative that tackles the key barriers.



Doing so will enable us to take meaningful strides towards keeping the 1.5-degree Celsius temperature rise within reach.



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