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Executive Director **Federal** Update –June/July 2021

Articles may be edited for content

August Or Bust? Dems Set Ambitious Timeline

Emma Dumain and Jeremy Dillon, E&E News reporters Published: July 12, 2021

Senators return to Washington this week with a short timetable for an ambitious infrastructure package but in a Capitol full of hard feelings and colliding interests.

Those interests include those of progressives, who are panicked that Democratic leaders are prepared to make too many compromises to win not only Republican votes for various infrastructure proposals but also those of moderate Democrats.

One big player in this battle, Sen. Joe Manchin (D-W.Va.), will get his chance on stage this week as his committee marks up a \$95 billion clean energy bill, parts of which are expected to be included in a bipartisan package.

Progressives have thus far been cool to Manchin's plan, eying it with suspicion that it could become the ceiling, rather than a floor, for addressing the climate crisis.

That's just one example of the uncertainty surrounding infrastructure, including timing and procedure. Senate Majority Leader Chuck Schumer (D-N.Y.) offered some clarity on both late last week when he said his intention was "for lawmakers to both pass a bipartisan infrastructure package and adopt a budget resolution," as he wrote in a Friday letter to his Democratic colleagues.

The budget resolution will open the door for Democrats to pursue reconciliation, the process that allows the majority to bypass a Republican filibuster. Many components of President Biden's original, more expansive infrastructure proposal are expected to be stuffed in that package. Among the biggest of those components are efforts to fight climate change.

And, if senators can't complete this work by the end of the first week of August — at which time the Senate is scheduled to break for its regular monthlong summer recess — Schumer has threatened they'll work overtime.

It's hard to imagine how the Senate will meet this self-imposed deadline. There is no text for the bipartisan deal with the White House on a \$973 billion measure that focuses mostly on surface

transportation, and support for that agreement remains fragile after Biden at one point suggested he wouldn't sign the narrower bill without a reconciliation measure alongside it.

Biden has since walked back that position, but it remains a red line for congressional Democrats who want to pressure Senate Democratic moderates — namely Manchin and Kyrsten Sinema of Arizona — to support reconciliation.

House Speaker Nancy Pelosi (D-Calif.) has said she will not allow the House to vote on the bipartisan infrastructure deal until the Senate has also advanced reconciliation. Schumer also reiterated Friday he has not abandoned the two-track approach.

Manchin's Energy Bill Markup

Pelosi and Schumer don't have a lot of wiggle room when it comes to shepherding their members through this process. They continue to work to pacify outspoken liberals but are also throwing bones to moderates whose votes will be necessary to advance a reconciliation measure in a 50-50 Senate.

There's no player more crucial in that equation than Manchin, who will this week preside in committee over a markup of his legislation that would provide nearly \$73 billion in energy infrastructure improvements in a \$95 billion bill.

Prior to the July 4th recess, Manchin — one of the chief negotiators on the bipartisan framework — floated a draft bill that subbed as his vision for how he saw his committee contributing to the larger package being worked out between senators and the Biden administration.

That bill is now set for a markup Wednesday in the Energy and Natural Resources Committee, which Manchin chairs.

Manchin's original proposal covered billions in grid and transmission improvements, tens of billions to fund clean energy demonstration projects at the Department of Energy authorized last year in bipartisan legislation, money for Western water improvements and a \$1.2 billion annual credit program to help financially at-risk nuclear reactors stay online, among other provisions.

The bill's latest iteration published on the committee website last week, however, drops direct funds for those clean energy demonstration projects, instead including language for reauthorization of the projects as well as an elimination of the nuclear credit program.

During the legislative hearing on the draft text last month, Senate Energy and Natural Resources Committee ranking member John Barrasso (R-Wyo.) criticized the direct spending appropriations language in the bill for things like efficiency grants, among other areas, as outside the jurisdiction of the panel. He also opposed the transmission policy he argued would bail out years of mismanagement by states like California.

Meanwhile, Democrats who have spent the better part of the last month doubling down on demands that the infrastructure package include substantial funding to help address the climate challenge are likely to insist Manchin's framework doesn't satisfy that objective.

Biden's Bureau Of Reclamation Pick Has Hill, Interior Chops

Jeremy P. Jacobs, E&E News reporter *Published: June 21, 2021*

President Biden has tapped a Nevada native with extensive Capitol Hill experience to the Interior Department's Western water agency as the parched region grapples with worsening drought conditions.

Biden nominated Camille Touton to be commissioner of the Bureau of Reclamation, which manages hundreds of reservoirs and hydropower projects in the West, including the Hoover Dam on the Colorado River.

Touton's "heart is in the West," the White House noted, but she has made her career in Washington.

She is a veteran of the House Natural Resources and Transportation & Infrastructure committees and Senate Energy and Natural Resources Committee.

She also served in the Interior Department during the Obama administration as deputy assistant secretary for water and science.

Touton has been working at Reclamation in a deputy commissioner role, and she is facing several challenging water issues across the West.

If confirmed, Touton would be the first Filipino American to helm the water agency. She has degrees from the University of Nevada, Las Vegas, and George Mason University.

'Big Step' On Transmission? High Hopes For FERC Task Force

Miranda Willson, E&E News reporter *Published: June 21, 2021*

Clean energy groups are rallying behind a first-of-its-kind partnership between the Federal Energy Regulatory Commission and state electricity regulators in hopes that the effort can ease the power grid's transition away from fossil fuels.

The five-member independent agency announced Thursday that it will form a task force with 10 state utility regulators aimed at unlocking transmission infrastructure needed for renewable resources.

The task force could find new ways to assign the costs of transmission upgrades or speed up how energy projects connect to the grid, according to FERC's announcement at its monthly meeting. The effort is a partnership between the commission and the National Association of Regulatory Utility Commissioners (NARUC) (E&E News PM, June 17).

Renewable energy advocates — who have long urged the commission to tackle transmission planning reforms — cheered the announcement, calling it a crucial step toward achieving a carbon-free grid.

Hundreds of megawatts of new wind, solar and other clean energy resources must be built quickly to achieve President Biden's goal of 100% carbon-free power by 2035, analysts say. High-voltage power lines and related infrastructure upgrades would be needed to support that build-out.

But transmission investments can take years to come to fruition — if they ever do. Transmission lines are costly to build and can run into permitting challenges, especially if they are proposed to pass through sensitive ecological areas.

Partnering with state officials is a "wise" first step toward comprehensive transmission planning reforms, said Rob Gramlich, president and founder of the power-sector consulting firm Grid Strategies LLC.

NARUC will nominate state officials to serve on the task force, and FERC will select members from those nominations within the next several months, according to the agency's announcement. Meetings are set to begin in the fall.

The move marks a refreshing shift in tone at the commission given past conflicts between FERC and states, said Mike Jacobs, a senior energy analyst at the Union of Concerned Scientists. Officials in some states with clean energy mandates have opposed FERC's so-called minimum offer price rule, a 2019 order that effectively wipes out state subsidies for renewables when they compete in key grid markets (Energywire, April 29).

Dam removal plan advances

The commission also on Thursday greenlit a proposal from two Western states, a utility and a regional environmental group that paves the way for the largest dam removal project in U.S. history.

FERC approved a request to transfer the license for the Lower Klamath Hydroelectric Project from its current owner, PacifiCorp, to Oregon, California and the Klamath River Renewal Corp., all of which aim to remove the four dams that make up the project on California's second-largest river. The decision is a key step toward allowing the new owners to demolish the dams.

Environmental groups and Native American tribes located near the Klamath River in Northern California and Oregon have sought to remove the dams for more than a decade. They've raised concerns about dwindling fish populations at the river and the dams' impacts on cultural resources. PacifiCorp has also supported the effort since at least 2016.

Last year, PacifiCorp sought FERC approval to transfer the project license to Klamath River Renewal. But FERC ruled at the time that PacifiCorp needed to remain a co-licensee for the project, prompting the proponents to go back to the drawing board with their proposal for transferring the license (Greenwire, July 17, 2020).

At Thursday's meeting, the commission unanimously approved the groups' updated request, which includes California and Oregon as co-licensees in addition to the nonprofit cooperation. The addition of California and Oregon as co-licensees had satisfied FERC's previous concerns, Glick said.

The next step in the process is to develop an environmental impact statement for the proposed dam decommissioning effort as required under NEPA, said Craig Tucker, natural resources policy consultant for the Karuk Tribe based in Northern California. FERC will need to approve that plan, as well, Tucker said.

"Assuming things work out and go as we planned, we could have FERC's approval by the end of the year," he said. "That puts us on track to remove dams in January 2023."

Bipartisan Bills Would Tweak Tax Break, FERC Powers

Geof Koss, E&E News reporter Published: June 22, 2021

Lawmakers are marshaling bipartisan support for new bills to expand a key clean energy tax incentive and empower the Federal Energy Regulatory Commission to protect consumers over natural gas overcharges.

The "Clean Energy Production Parity Act" introduced last week would expand eligibility for the investment tax credit to linear generators, which convert linear motion into electricity from renewable energy sources.

The electromagnetic generators can quickly provide backup power during emergencies, sponsor Rep. Jimmy Panetta (D-Calif.) said in a statement.

Expanding and extending the ITC is a major focus of Democrats in the wrangling surrounding President Biden's infrastructure push.

Empowering FERC

Separately, a bipartisan group of House Energy and Commerce lawmakers introduced legislation to boost FERC's ability to protect consumers from natural gas overcharges.

The "Protecting Natural Gas Consumers from Overcharges Act of 2021," H.R. 3979, from Reps. Rep. G. K. Butterfield (D-N.C.) and Billy Long (R-Mo.), would allow FERC to order refunds for residential and industrial consumers of natural gas when interstate pipelines are determined to be overcharging for services.

FERC currently has that authority under the Federal Power Act to order refunds from interstate electric utilities if the agency determines they've overcharged consumers, but it has no power to do so for interstate pipeline deliveries. The Butterfield-Long bill would amend the Natural Gas Act to provide that authority.

GOP Senators Want Transparency On WOTUS Rewrite

Ariel Wittenberg, E&E News reporter Published: June 22, 2021

A group of Republican senators slammed the Biden administration for deciding to redraw Clean Water Act jurisdiction this month.

Led by Environment and Public Works Chairwoman Shelley Moore Capito (R-W.Va.), the senators wrote that they were "disappointed" to learn about EPA and the Army Corps of Engineers' plan to withdraw the 2020 Navigable Waters Protection Rule, which limited which wetlands and waterways are protected under the Clean Water Act as "waters of the United States."

EPA and the Army Corps announced this month that they would withdraw the regulation written by the Trump administration because it did not adequately protect waterways and wetlands in arid states like New Mexico, where they said "nearly every one of over 1,500 streams assessed has been found nonjurisdictional."

The agencies said they are also aware of 333 projects that would have required dredge-and-fill Clean Water Act permits before the Trump rule but no longer do (E&E News PM, June 9).

However, even though EPA and Army Corps officials briefed lawmakers on the decision this month, the agencies have never explained what "significant environmental damage" and "ongoing environmental harm" was caused by the regulation, the letter said. "The agencies have not provided a complete analysis to back those assertions," the senators wrote.

Now, the senators are asking for more details, including "the complete analysis" conducted by the agencies to identify the 333 projects that no longer required permits under the Trump-era rule.

Companies Press Granholm, Congress To Build U.S. Battery Supply Chain

By Kelsey Tamborrino 06/14/2021

Executives from a group of U.S. renewable energy companies urged Energy Secretary Jennifer Granholm and Congress on Monday to help shore up the domestic lithium battery manufacturing supply chain so the U.S. does not lose out to China in the push to build a clean energy industry.

Representatives from several key companies involved in the battery supply chain laid out a series of moves that the federal government could take, including offering help for the processing, manufacturing and recycling of lithium that is used to produce lithium-ion batteries. They cited the need for the government to offer specific support to the mid- and upstream sectors of the industry, and applauded cost-sharing grants to produce the components of a battery that the Energy Department called for last week.

Joseph Mendelson, Tesla's senior counsel for public policy and business development, called for altering U.S. trade policies that created barriers for investing in advanced battery manufacturing in the U.S., such as that the Section 301 tariffs.

Glen Merfeld, chief technical officer of specialty chemicals maker Albemarle Corporation, said the U.S. should foster development of technologies to improve lithium recovery and purification resources, while REC Silicon's Sutton called on the U.S. government to go beyond trade restrictions or loan guarantees to stimulate U.S. manufacturing.

Granholm told the panel that President Joe Biden's targets for 100 percent clean electricity by 2035 and net-zero carbon emissions by 2050 won't be achievable without lithium batteries.

The Energy Department on Monday announced \$200 million in funding over five years to the national labs for electric vehicles, batteries and connected vehicles projects. That comes on the heels of a national blueprint to steer investments for lithium batteries released by the administration last week.

Granholm also signaled the department would soon be announcing a "critical" public-private partnership on the lithium battery supply chain, although she offered no other details.

The secretary warned against "bowing to the altar of low cost," which she called "a fight we will not win" unless there are strategic partnerships and a strategic plan like China has done to corner the market.

Colorado legislators direct all transmission utilities to join an organized wholesale market by 2030

Published June 8, 2021

Dive Brief:

- A bipartisan bill requiring all Colorado transmission utilities to join an organized wholesale market by 2030 cleared the Colorado legislature last Thursday, drawing praise from both advocates and utilities.
- Senate Bill 72 will also create an independent Colorado electric transmission authority to establish intrastate electric transmission corridors and to operate transmission and storage facilities as needed to enable Colorado utilities to physically participate regional markets.
- The bill's passage is not only an indicator of the growing interest of Western states in regional power markets, but could also put pressure on other states to create similar policies, according to Emilie Olson, policy principal at Advanced Energy Economy.

Dive Insight:

Colorado's transmission utilities will, if the governor signs the measure, have about 8.5 years to consider which regional wholesale power market they would like to join — and they may not be the only Western utilities to make such a decision in the near future, according to Olson.

States such as Oregon, Washington, Idaho and Montana have all been talking about regional transmission for some time, Olson said. New Mexico has opened a regulatory proceeding to discuss grid modernization, including regional transmission, and both Utah and Colorado have pursued studies considering the impact of joining regional transmission systems, with a 2009 study by the Colorado Governor's Energy Office pointed to regional interconnection as an option for accelerating renewable energy development.

In combination with similar legislation passed last week in Nevada, Olson said, Colorado could be "putting a finger on the scale" to push additional states toward joining regional energy markets.

Neither of Colorado's two investor-owned utilities currently participates in an RTO, although both have expressed interest and "dipped a foot in" by experimenting with real-time power markets associated with the California Independent System Operator and the Southwest Power Pool, Olson said. Advanced Energy Economy supported SB 72 not to push Colorado utilities toward regionalization, she said, but rather to accelerate the process and give the state's utilities a "clear, uniform goalpost."

In a statement to Utility Dive, Xcel Energy indicated it appreciated the bill and its sponsor for creating "a robust framework for evaluating market options we believe we can work with to help us determine the best future for our customers in delivering clean, reliable and affordable energy."

Further legislation in other states regarding grid regionalization, Olson said, is likely inevitable. The real question now, she said, is which states take early action, potentially reaping economic benefits by drawing more renewable energy to their states, and which lag behind.

House Lawmakers To Review Bipartisan Drought Bills

Jeremy P. Jacobs, E&E News Reporter Published: June 28, 2021

Lawmakers on a House panel will be up to their necks in water-related legislation tomorrow, including multiple bills seeking to boost supplies for the drought-stricken West.

The House Natural Resources Subcommittee on Water, Oceans and Wildlife will consider legislation to authorize environmental mitigation projects at the shrinking Salton Sea in Southern California, which poses a significant public health risk, and measures to boost wastewater recycling programs. The Salton Sea, California's largest lake, is rapidly shrinking due to reduced inflows and a large water transfer to San Diego from the agricultural area. The resulting exposed lake bed creates an air pollution public health crisis when winds whip it up ([Greenwire](#), June 13, 2016).

California Democratic Rep. Raul Ruiz's bill, [H.R. 3877](#), would authorize new projects at the lake, including greatly expanding the Bureau of Reclamation's authority over the effort. It would also boost the amount of money Reclamation can spend on the projects from \$10 million to \$250 million, his office said.

The panel will also consider [H.R. 4099](#) from Rep. Grace Napolitano (D-Calif.), Natural Resources Chair Raúl Grijalva (D-Ariz.) and Water, Oceans and Wildlife Subcommittee Chair Jared Huffman (D-Calif.) to establish a new \$750 million federal grant program for recycling projects. Napolitano chairs the House Energy and Commerce Subcommittee on Water Resources and Environment ([E&E Daily](#), June 25).

Panel lawmakers will weigh Republican-sponsored bills as well, including [H.R. 1851](#) to authorize updates to the St. Mary Diversion Dam and Canal Headworks at Reclamation's Milk River Project in Montana.

Another, [H.R. 1869](#), would clarify a water rights settlement involving the Shoshone-Paiute Tribes of the Duck Valley Indian Reservation in Idaho and Nevada.

Not on the list of bills being considered is H.R. 4018 from Rep. David Valadao and other California Republicans to boost deliveries of water to the state's agricultural hub ([E&E Daily](#), June 22).

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Cantwell, Murkowski Propose Hydropower Incentives

Geof Koss, E&E News Reporter Published: June 29, 2021

Two top Senate backers of hydropower have introduced legislation that would provide new tax breaks for making upgrades to existing dams and removing obsolete facilities.

The "Maintaining and Enhancing Hydroelectricity and River Restoration Act of 2021," [S. 2306](#), from Sens. Maria Cantwell (D-Wash.) and Lisa Murkowski (R-Alaska), would create a 30% investment tax credit to support grid resilience, dam safety upgrades and environmental improvements at existing hydro facilities.

The measure would also create a separate 30% tax break to support efforts by private, state, local and nonprofit groups to demolish and remove obsolete river barriers, according to a [summary](#).

Both incentives would provide a direct pay option, echoing the growing clamor from interest groups for such a mechanism to help weather the slowdown in tax equity markets brought on by the COVID-19 pandemic.

The bill, which the National Hydropower Association estimates would cost \$4.7 billion, represents the tax portion of a \$63 billion proposal that NHA and leading conservation groups sent to Capitol Hill in May for consideration in the infrastructure push ([E&E Daily](#), May 7).

In a statement, NHA, American Rivers, the Nature Conservancy and the Low Impact Hydropower Institute called the bill "a critical piece" of the proposal negotiated among stakeholders.

The groups said, "These investments would also bring environmental improvements, restoration of natural systems and increased resilience of rivers to the effects of climate change, all while improving the performance of existing hydropower."

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White House Escalates Push For Clean Electricity Standard

Nick Sobczyk and Scott Waldman, E&E News Reporters: June 30, 2021

White House climate adviser Gina McCarthy is laying out a case for Congress to pass a clean electricity standard in a budget reconciliation package, re-upping the push for climate legislation as Democratic leadership deals with competing infrastructure priorities on Capitol Hill.

In a memo circulated by the White House this morning, McCarthy and senior presidential adviser Anita Dunn said President Biden "intends to work with Congress through the budget process to pass additional legislation that will position the U.S. to combat climate change."

Biden struck a deal on infrastructure with a bipartisan group of senators this month. The White House and congressional leaders are hoping to enact the rest of his infrastructure plan — including its major climate provisions — via reconciliation, which allows certain spending and tax legislation to bypass the Senate filibuster.

The memo could help shore up support from environmental activists, who are increasingly worried their priorities will be left out of infrastructure talks altogether ([E&E Daily](#), June 29).

McCarthy and Dunn noted the environmental and electric vehicle provisions in the bipartisan deal, including investments in transit, EV charging and grid infrastructure.

In a partisan budget reconciliation package, they wrote, Biden will be looking to get expansions of clean energy tax breaks, a Civilian Climate Corps and a clean electricity standard that decarbonizes the power sector by 2035. All three were priorities laid out in his initial infrastructure plan.

Speaking at a morning event with Punchbowl News, McCarthy said the White House also wants the reconciliation package to include consumer credits and rebates for electric vehicles.

McCarthy said the clean electricity standard, which would aim to decarbonize 80% of the power grid by 2030, was an essential part of the administration's reconciliation strategy.

That's a view shared by congressional progressives, but it's unclear for now whether a CES could pass muster with the complicated parliamentary rules that govern reconciliation.

Typically, such policies mandate that utilities use increasing amounts of low-carbon or carbon-free generation to produce electricity. Environmental groups for months have been working to come up with alternate CES models that could fit into the reconciliation rules (Climatewire, June 23).

A CES, McCarthy said, would help utilities "make lots of money" when they build out clean energy sources.

Committee Sets Vote On Commission To Study Wildfires

Marc Heller, E&E News reporter Published: July 12, 2021

The Senate Homeland Security and Governmental Affairs Committee will vote this week on legislation creating a commission to study wildfire policy across federal agencies.

The bipartisan bill sponsored by Sens. Mitt Romney (R-Mass) and Mark Kelly (D-Ariz.), called the "Wildland Fire Mitigation and Management Commission Act," S. 2150, would create a 28-member panel composed of federal, state and local officials to examine wildfire policies, including aerial firefighting.

In the House, Rep. John Curtis (R-Utah) has sponsored a companion bill, H.R. 4082.

In a late June news release announcing the proposal, Romney's office said wildfire policy is a patchwork of legislation and regulation from Congress and federal agencies, and that the changing climate calls for a fresh approach to managing and mitigating catastrophic wildfire.

In Utah alone, the senator's office said, more than 400 fires this year have burned nearly 40,000 acres. Nationally, nearly 60,000 fires burned across 10 million acres, and more than 53,000 of those were caused by people, according to the National Interagency Fire Center.

The commission would be tasked with making recommendations to Congress, including reports on wildfire strategy and specifically on aerial wildfire equipment and strategy. It would be managed jointly by the secretaries of Interior and Agriculture and the director of the Federal Emergency Management Agency.

The legislation resembles a bill Romney announced last year, with a slight change to the composition of the commission. In the latest version, the panel would number 28 rather than 25. The new version adds three federal co-chairs to the eight federal members and 17 nonfederal members.

Romney's bill comes as the West faces another active fire season and after the Forest Service completed a multiyear study of the use and effectiveness of aerial firefighting, as recommended by the U.S. Government Accountability Office.

Major Hydrogen Initiatives Underway At US Department Of Energy

Jennifer Runyon 7.8.2021

DOE announces 52M for 31 hydrogen projects; issues RFI for projects to which Avangrid responds

Yesterday, the U.S. Department of Energy (DOE) announced \$52.5 million to fund 31 projects to advance next-generation clean hydrogen technologies and support DOE's recently announced [Hydrogen Energy Earthshot](#) initiative. The first Earthshot, Hydrogen Shot, which was launched one month ago, seeks to reduce the cost of clean hydrogen by 80% to \$1 per 1 kilogram in 1 decade (1 1 1).

Hydrogen is a clean fuel that—when combined with oxygen in a fuel cell—produces electricity with water and heat as by-products. Hydrogen can be produced from a variety of resources, such as natural gas, nuclear power, biomass, and renewable power like solar and wind. These qualities make it an attractive fuel option and input for transportation, electricity generation and industrial applications, such as in trucks, buildings, and manufacturing.

The 31 projects that DOE is funding will focus on bridging technical gaps in hydrogen production, storage, distribution, and utilization technologies, including fuel cells.

The DOE funding includes \$36 million from the Department's Office of Energy Efficiency and Renewable Energy (EERE) and \$16.5 million from the Office of Fossil Energy and Carbon Management (FECM).

The complete list of companies selected, along with the funding amounts they received, is available [here for awards from the EERE](#) and [here for awards from the FECM](#).

DOE Launches 'Earthshot' Storage Plan To Reach 100% Clean Power

By David Iaconangelo 07/14/2021

Energywire | The Energy Department announced yesterday it would seek to slash costs of long-lasting power storage 90% by decade's end, targeting a technology considered pivotal for renewables and President Biden's clean energy agenda.

The "Long-Duration Storage Shot" is the second part of DOE's newly created Energy Earthshots Initiative, which is aiming to catapult key clean energy technologies by inventing, funding and scaling up better and cheaper versions.

The storage plan involves technologies that can save and deliver more than 10 hours' worth of electricity, exceeding the four-hour range that is typical for lithium-ion batteries built to serve the grid.

Several of the country's biggest utilities have said that cheap ways to store wind, solar and other zero-carbon power will need to emerge in coming years in order for the companies to fulfill their own goal of reaching net-zero CO2 emissions. Secretary Jennifer Granholm also has described new storage technology as a necessity for President Biden's 100% clean power goal for 2035.

A 90% reduction in the kilowatt-hour cost of power would allow "clean dispatchable energy" to compete with legacy sources of electricity, DOE officials said on a call with reporters.

Lithium-ion batteries have seen "dramatic cost reductions in the past decade or two. This is slightly more aggressive but still within the innovation range of what we think the industry's capable of," said a DOE official.

Some research may hinge on support from Congress. The Biden administration is asking for over \$1 billion in new appropriations to support its cross-cutting energy storage work, more than double the current level of federal spending.

Lithium ion's plunging price, which is largely due to the technology's use in consumer electronics, has allowed it to emerge as a popular resource for renewable developers.

But researchers say there are natural limitations for lithium ion's grid use. Expensive precious metals used as key components could increase costs in the future, and the battery's design doesn't lend itself to cost declines when installations need to provide electricity for longer and longer periods.

The new initiative could include work on lithium-ion or pumped-storage hydropower, which is currently the largest source of long-term power storage. But it's largely meant to encourage roughly a dozen alternative technologies, ranging from flow and lead-acid batteries to compressed air and hydrogen that could end up beating out the more widely used lithium ion, whether for use by the nation's utilities or for remote, off-grid communities that are typically more dependent on fossil fuels.

The DOE official said that under the Long-Duration Storage Shot, DOE researchers would study ways to advance "commercial validation" and scale up manufacturing of new technologies, including through large-scale demonstrations. Storage installations could emerge at renewable projects as well as nuclear plants and even fossil fuel sites paired with carbon capture and storage, he said.

The new target follows another Earthshots Initiative plan announced in June focused on bringing down the cost of hydrogen. A third part of the series is expected to focus on CO2 removal. Granholm has also said the department intends to halve the cost of lithium-ion battery cells by 2030 and cut the price of solar power by 60%.

The 90% cost reduction for storage tech, said the DOE official, would be "aggressive but achievable."

Payments Or Fines: How Dems' CES Would Affect Utilities

By Benjamin Storrow, Scott Waldman 07/15/2021

Democratic senators agreed in principle yesterday to include a clean electricity standard as part of a sweeping \$3.5 trillion budget package, providing a political pathway for passage of President Biden's signature carbon-cutting policy.

The announcement represents a significant win for climate hawks, who were left deflated after the bipartisan infrastructure deal negotiated by Biden and moderate senators from both parties was shorn of many of its climate provisions.

But the proposal faces a series of serious political obstacles. Some progressive environmental groups want to see a standard phase out the use of fossil fuels while moderate senators and utilities believe fossil fuels remain important for ensuring the affordability and reliability of the grid.

Details of the standard must be finalized by congressional negotiators. But the broad contours outlined by proponents would amount to an ambitious new approach to cutting greenhouse gas emissions in America.

Instead of requiring that utilities generate a certain amount of electricity from clean sources — as many states do today — the federal standard would provide direct financial payments to utilities to produce clean electricity. It also would fine those that failed to keep up the pace of carbon reductions.

The change owes to the political realities of the Senate, where Democrats cling to a 50-50 majority by virtue of Vice President Kamala Harris' tie-breaking vote. Without 10 Republican votes needed to break a filibuster, the only way Democrats can pass a clean electricity standard is via budget reconciliation.

Notably, the standard is technology neutral — meaning nuclear facilities and fossil fuel power plants equipped with carbon capture and sequestration could qualify for clean energy payments, alongside renewables such as wind and solar. Proponents said that approach would provide utilities with flexibility to green the grid while ensuring reliability and affordability.

Utilities, meanwhile, have signaled they are willing to support a clean electricity standard provided it is technology neutral and makes some accommodation to natural gas.

Those aims were echoed by Sen. Joe Manchin, the influential conservative Democrat from West Virginia. He voiced concerns about phasing out fossil fuels almost as soon as Democratic senators announced that a clean electricity standard would be included in the budget deal.

States have long looked to renewable portfolio standards to require utilities to generate growing amounts of electricity from sources like wind and solar. Thirty states employ now a RPS. Some, like New York, New Mexico and Washington State, have committed to eliminating emissions from power plants entirely.

But the proposed federal standard would differ from the traditional RPS model in several key regards. In the traditional RPS model, utilities are required to generate a certain amount of their total electricity from clean sources.

Smith's proposal would pay or penalize utilities based on how much renewable energy they add on an annual basis. President Biden has targeted 100% zero carbon electricity by 2035.

The traditional RPS model places the cost on ratepayers, a policy that can put a disproportionate impact on poor households to finance the energy transition via their electricity bills. The federal government paying utilities to clean up puts more of the burden on more affluent households because the federal tax code is more progressive, Jenkins said.

At the same time, Smith's plan provides more flexibility to utilities, which often have varying degrees on low carbon electricity generation depending on the availability of resources locally.

Under a traditional regulatory approach, all those utilities would be required to reach a certain threshold for clean generation, leaving the coal reliant power companies facing a steeper climb to meet the government's requirements.

In the budget model, payments or penalties are assessed on utilities' ability to install a set amount of renewable energy every year.

That method essentially ensures larger amounts of zero-carbon electricity are brought online, but it would not penalize utilities that are starting with less clean power on their systems.

The budget approach has one more advantage: It is designed to pass via the reconciliation process.