



U.S. Department of the Interior
Bureau of Land Management

Public Land Renewable Energy – Fiscal Year 2021

Report to Congress

March 2022



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Excerpt from the Energy Act of 2020

43 U.S.C. § 3002(f)

(1) IN GENERAL —

Not later than February 1 of the first fiscal year beginning after December 27, 2020, and each February 1 thereafter, the Secretary shall submit to the Committee on Energy and Natural Resources and the Committee on Environment and Public Works of the Senate and the Committee on Natural Resources of the House of Representatives a report describing the progress made under the program established under subsection (a) during the preceding year.

(2) INCLUSIONS —

Each report under this subsection shall include—

(A) projections for renewable energy production and capacity installations; and

(B) a description of any problems relating to leasing, permitting, siting, or production.



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Executive Summary

In accordance with the Energy Act of 2020 (Energy Act), this report summarizes the activities and progress made within fiscal year 2021 (FY21) at the Department of the Interior (DOI) to support onshore renewable energy through the Bureau of Land Management's (BLM's) administration of the public lands.

In FY21, the DOI and the BLM began upgrading the renewable energy program to enhance infrastructure permitting coordination and facilitate environmental reviews to responsibly support the national goal towards 25 gigawatts (GWs) of solar, wind, and geothermal energy on America's public lands between 2021 and 2025 as required by 43 U.S.C. 3004(b). Apart from the western public lands and National Forest System (NFS) lands, vast contiguous areas available for onshore renewable energy deployment are sparse. Therefore, public lands and NFS lands have a unique role to play in meeting Congress's direction under the Energy Act and the Biden–Harris administration's goal of a carbon pollution-free power sector by 2035.

This report describes the efforts initiated, activities accomplished, and the progress made toward achieving the national goal of 25 GW by 2025. Sections 1-3 of this report summarize these efforts and Section 4 provides the requested information to the Committees¹ related to challenges and opportunities associated with the permitting and siting of renewable energy on public land. Within Section 4, the DOI and the BLM have also included technical advice relating to challenges and opportunities for the Committees' consideration.

Section 1 – BLM Is Reinvigorating Its Renewable Energy Program

The BLM authorizes three major categories of renewable energy generation on public lands: solar, wind, and geothermal. The BLM issues rights-of-way (ROW) grants and leases under Title V of the Federal Land Policy and Management Act for solar and wind energy and for transmission lines that support renewable energy projects. The BLM authorizes geothermal projects in phases, under the Geothermal Steam Act, by issuing leases, permitting drilling operations to verify resources, and approving utilization plans to develop powerplants. Once any project is approved, the BLM remains responsible for maintaining appropriate oversight, including monitoring and inspections of the projects until they are ultimately decommissioned, and the land is properly restored.

The Energy Act directs the DOI to establish and implement a program to prioritize and improve Federal permit coordination for onshore renewable energy. Consistent with the direction in the Energy Act, the DOI and the BLM are establishing Renewable Energy Coordination Offices (RECOs) and have executed an interagency memorandum of understanding (MOU) with key Federal departments and agencies. The MOU, included as Attachment A, will enhance interagency prioritization and coordination for renewable energy projects.

The MOU was developed collaboratively with key Federal agencies and was shaped by lessons learned from decades of permitting utility-scale renewable energy projects on public lands. The RECOs will function as the centerpiece of interagency cooperation under the MOU to facilitate accelerated agency decision making, essential to achieving the national goal of 25 GW of renewable energy by 2025. Additionally, the RECOs will aid other Federal permitting agencies to develop

¹Committee on Energy and Natural Resources and Committee on Environment and Public Works of the Senate; and Committee on Natural Resources of the House of Representatives

organizational enhancements and improve process efficiencies to achieve and maintain the ongoing, long-term management of renewable energy projects on public lands. The program will undergo annual interagency review to collaboratively update and optimize Federal permit coordination for onshore renewable energy. The most essential program areas addressed within FY21 are summarized below and include comprehensive coordination enhancements, strategic agreements, and updating plans and policies.

Section 1.1 – RECO MOU Finalized; Provides Comprehensive Coordination Enhancements

MOU to improve Federal agency coordination on renewable energy

The Energy Act of 2020 directs the DOI to develop an MOU between the Departments of the Interior, Agriculture, and Defense and the Environmental Protection Agency. The Department of Energy was also included as a signatory to the MOU due to its involvement with renewable energy and ability to advise on Federal agency coordination improvements to improve reviews for renewable energy projects. Under the MOU, these Federal agencies have agreed to prioritize reviews by establishing interagency coordination teams with qualified staff to facilitate preparation of environmental analyses, accelerate renewable energy decision making, and coordinate any specific agency review requirements. The MOU also provides for subsequent interagency cost sharing or funds transfer agreements (43 U.S.C. § 3002(e)). The MOU was developed in FY21 and executed on January 6, 2022 and reflects the strong consensus and support among senior departmental leadership to prioritize expedient coordination for responsible onshore renewable energy.

Enhancing Coordination to Problem-Solve in Real Time

In early 2021, and consistent with the intent in the Energy Act, the BLM began hosting weekly renewable energy coordination meetings with leadership and program staff at BLM state offices and National Park Service, Bureau of Indian Affairs, and Fish and Wildlife Service (FWS) regional offices to improve interagency coordination. The BLM has also prioritized consistent engagement with Federal agencies outside of the DOI—including the Department of Defense, U.S. Forest Service, Department of Energy, Environmental Protection Agency, and others—on its inventory of renewable energy projects, coordination of interagency activities to maintain forward progress, sharing of relevant information, and elevating project-specific issues for coordinated resolution. This consistent and robust coordination has already resulted in advancing the permitting review on dozens of renewable energy projects and transmission lines. Among the various agencies involved, management and staff are engaging with energy developers to coordinate on existing renewable energy proposals as well as the steady inflow of new proposals.

Continuing Meaningful Engagement and Consultation with Tribal Nations and Other Stakeholders

Early engagement with Tribes through government-to-government consultation is being emphasized and implemented through early outreach and virtual meetings on rulemaking efforts and project proposals. The BLM is also enhancing coordination with other Federal agencies, state and local governments, local communities, conservation groups, and the renewable energy industry to promote responsible clean energy development on public lands. The BLM led virtual listening sessions in September 2021 to hear from these interested stakeholders on issues, concerns, and ideas related to rights-of-way and renewable energy.

Section 1.2 – Commissioning and Funding Strategic Agreements

The BLM has initiated agreements with the National Renewable Energy Laboratory (NREL) and United States Geological Survey (USGS). The BLM is also developing an interagency agreement between the BLM and FWS.

The agreement with NREL has already generated an updated solar energy assessment that will inform the BLM's future solar energy planning efforts and its understanding of technological advancements in photovoltaic deployment capabilities. The BLM anticipates undertaking a programmatic update to its 2012 Western Solar Plan beginning in early 2023 to provide strategic and targeted land use plan amendments that will open new areas to solar deployment and position the BLM to offer expanded opportunities for solar energy deployment in the coming decade (Figure 1).

Also under the agreement, NREL will provide virtual workshops to inform BLM management and staff on technical advancements for solar, wind, and geothermal energy development. These workshops will educate agency personnel to better understand the best management practices associated with renewable energy development as the BLM considers proposals on public land and undertakes environmental review efforts.

The BLM's agreement with the USGS was established as a pilot project, referred to as the Renewables-Wildlife Solutions Initiative (RWSI). The pilot project will develop, archive, and catalog wildlife found deceased at renewable energy facilities and provide the BLM with a more comprehensive understanding of the impacts of wildlife mortalities from solar and wind energy developments within the context of an entire population. If successful, the pilot project can be scaled to provide nationally relevant information to expedite science-based analyses and decisions on renewable energy proposals.

The national interagency agreement between the BLM and FWS, once approved, will commit funding from the BLM for additional FWS staff dedicated to support the BLM RECOs and the priority renewable energy workload. The additional staff is critical to keeping pace with the increasing number of renewable energy project proposals on public land. It is also critical to enhancing interagency coordination and to facilitate FWS's ability to support priority project review of regulatory requirements and permitting under key environmental laws, including the Endangered Species Act, Migratory Bird Treaty Act, and the Bald and Golden Eagle Protection Act. The agreement will also enable the agencies to undertake programmatic efforts where economies of scale can serve to reduce costs and accelerate renewable energy deployment.

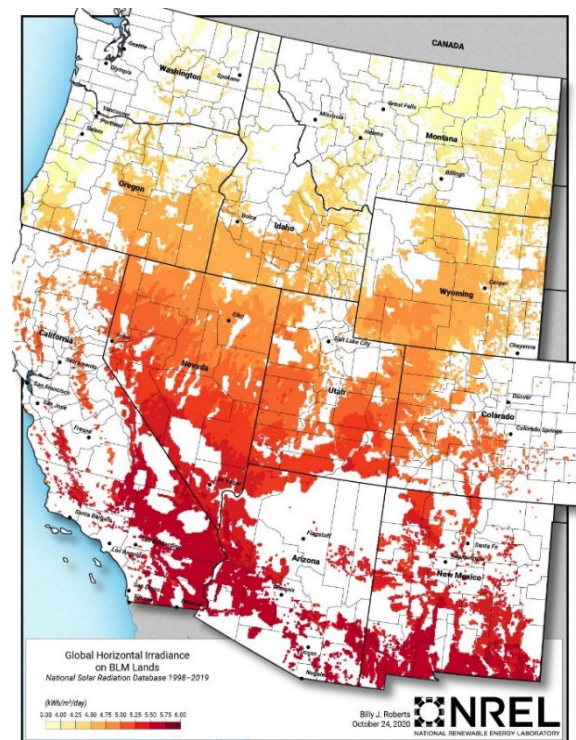


Figure 1 – *Updated photovoltaic solar insolation assessment specific to public land in western states.*

Section 1.3 – Updating Plans and Policies to Send Strong Signals to the Industry and Facilitate Processing of Renewable Energy Projects

In FY21, the BLM initiated a rulemaking effort to update its 2016 Solar and Wind Energy Rule (43 CFR 2800, 2880) and implement provisions of the Energy Act of 2020. The BLM expects this rulemaking to address enhancements to prioritizing and processing of applications for solar and wind rights-of-way grants or leases, update acreage rent and megawatt capacity fees, and consider rent and fee reductions for solar and wind energy authorizations under the Energy Act of 2020 (43 U.S.C. § 3003).

The BLM issued an instruction memorandum in June 2021 to quickly implement the authority under the Energy Act of 2020 to reduce calendar year 2021 acreage rental rates for solar and wind energy projects in several counties in California. Wind and solar projects in Riverside, San Diego, and San Bernardino Counties had realized unprecedented rent increases in recent years based on the land value increases in those counties. The BLM is currently developing additional robust policies related to cost recovery, the prioritization of applications, the variance process, and competitive processes for authorizing solar and wind projects. When completed, the BLM expects that these policies will enhance program consistency and productivity and provide greater regulatory and financial confidence to applicants and authorization holders.

The BLM initiated a programmatic land use planning update to the West-Wide Energy Corridors, which were designated pursuant to the Energy Policy Act of 2005. This effort capitalizes on the multiyear energy corridor review effort and leverages the lessons learned from robust stakeholder input to revise, delete, and add corridors (Figure 2). The effort is anticipated to maintain key energy pathways in environmentally preferable locations and unlock new opportunities for renewable energy deployment while simultaneously providing enhanced conservation of public lands and resources.

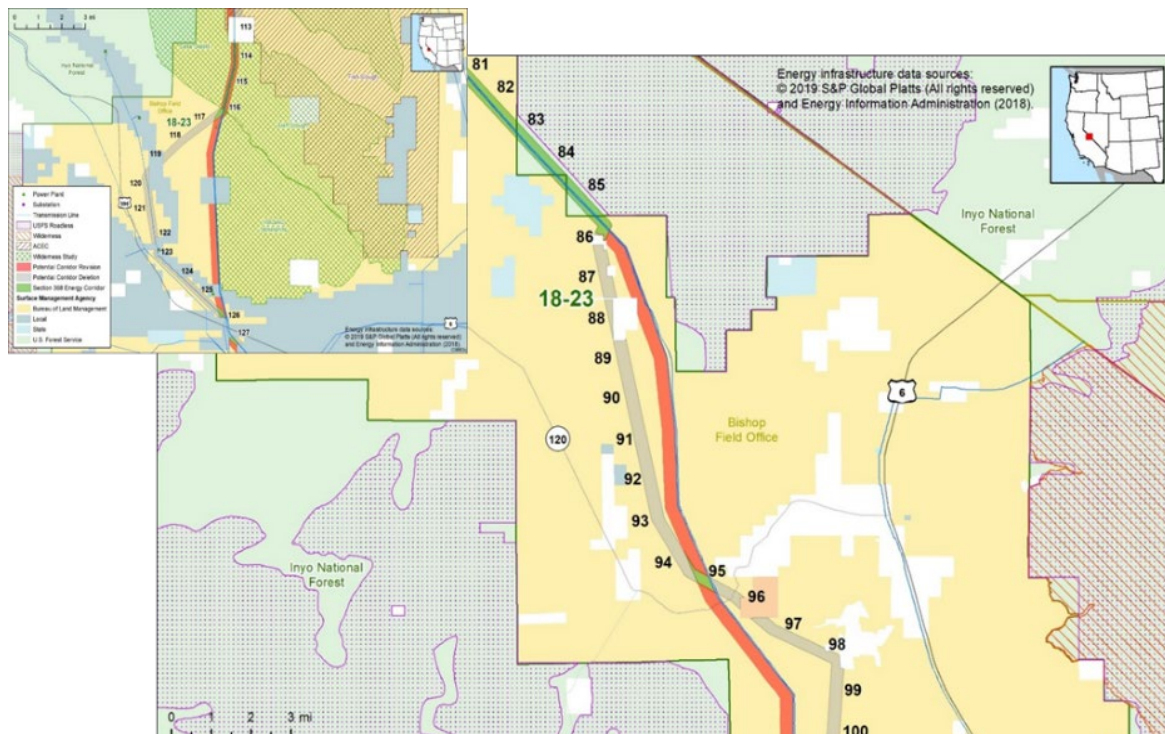


Figure 2 – Potential revision for Corridor 18-23 in California to avoid Tribal land and better align with existing 1,000 kV transmission line

Section 2 – Assessing the BLM’s Staffing Needs to Achieve Clean Energy Goals

In early 2021, the DOI and the BLM initiated an assessment of renewable energy program workload and staffing levels and determined that, initially, an additional 56 full-time employees would be needed to substantially improve permitting coordination and appropriately prioritize and sustain the implementation of the BLM’s permitting improvement program for onshore renewable energy. Following the initial assessment of staffing capacity, the BLM saw an unanticipated increase in interest and applications for renewable energy in several states, including North Dakota, South Dakota, Idaho, Montana, Oregon, and Washington a development that BLM expects to continue. BLM anticipates that if new applications for renewable energy continue to increase, an additional 10 full-time employees will be needed to appropriately support the BLM’s renewable energy workload. As such, a total of 66 full-time employees are needed to substantially improve permitting coordination.

Section 2a – Renewable Energy Coordination Offices (RECOs)

The BLM collaboratively planned for the establishment of RECOs to implement the Energy Act of 2020, which are also needed to achieve the goals set out in President Biden’s Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*. The National RECO is planned to report to the BLM’s Assistant Director for Energy, Minerals and Realty Management and its key function is to implement the Secretary of the Interior’s program to improve Federal permit coordination for renewable energy. Additionally, the BLM plans to establish individual state RECOs within the Arizona, California, and Nevada State Offices, as well as a regional RECO to support program work across Colorado, New Mexico, Utah, and Wyoming. These field RECOs will review and process renewable energy project applications for the development of solar, wind, and geothermal energy resources and associated electrical transmission systems on public lands.

Section 3 – Focusing on Renewable Energy Projects

The expansive land area under its jurisdiction and its multiple-use mission uniquely positions the BLM to promote responsible development of onshore renewable energy in the western United States. While permitting solar, wind, and geothermal projects on public lands is a significant component of the BLM’s renewable energy workload, equally important is the BLM’s role in permitting interconnect transmission projects (gen-tie) that are critical to the feasibility of renewable energy projects proposed on Federal, Tribal, state, and private lands. Finally, the BLM serves as the lead Federal agency under the National Environmental Policy Act for permitting many complex and controversial major transmission lines for bulk electricity. Although major transmission lines are not typically proposed or constructed to support an individual renewable energy project, new high-voltage transmission lines are vital to enhancing the western electric grid and unlocking substantial renewable energy deployment opportunities. These activities are summarized in Sections 3a–3c for the committee’s awareness.

Section 3a – BLM Permitted 2,890 MW in FY21

In FY21, the BLM authorized or facilitated 12 projects on public lands that directly support the development of 2,890 megawatts (MW) of onshore solar, wind², and geothermal energy generation capacity. These contributions reflect responsible management of public lands and sound permitting decisions on the projects listed in table 1. This was a 35% increase from the fiscal year 2020 total of 2,148 MW directly supported through public land management. The BLM plans to increase its year-over-year permitting and has provided projections in Section 3b.

Date Approved	State	Project	Type	Megawatts
1/15/2021	Nevada	Yellow Pine Solar	Solar	500
3/22/2021	Utah	Zion Solar	Solar (gen-tie)	80
4/16/2021	Nevada	Hot Pot	Solar (gen-tie)	350
4/16/2021	Nevada	Iron Point	Solar (gen-tie)	250
4/30/2021	Nevada	San Emidio Phase 2	Geothermal	40
5/3/2021	California	Crimson Solar	Solar	350
5/21/2021	Nevada	Baltazor Hot Springs	Geothermal	60
7/14/2021	Nevada	Bighorn Solar I	Solar (gen-tie)	300
7/14/2021	Nevada	Bighorn Solar II	Solar (gen-tie)	100
8/11/2021	New Mexico	Arroyo Solar	Solar (gen-tie)	300
8/16/2021	Utah	Quicksilver	Solar (gen-tie)	300
9/17/2021	Arizona	Sonoran Solar	Solar	260
TOTAL				2,890

Table 1 – Fiscal year 2021 permitting directly supporting solar and geothermal energy

Section 3b – Prospective Permitting Projections for Fiscal Years 2022 through 2025³

As of December 2021, the BLM has prioritized the processing and environmental permitting review of 54 proposed renewable energy projects on Federal and non-Federal land with a combined potential capacity of 33,000 MW. These proposed projects are summarized below. In addition to this priority energy workload, the BLM also has over 50 additional solar, wind, and geothermal projects pending early-stage conformance review prior to initiating the environmental and permitting review processes. Figure 3 shows the geographic distribution of the approximately 100 projects proposed on public land.

² No wind projects were approved in FY21

³ Prospective permitting decision timing assumes the following: 1) applicants will provide all necessary requirements in a reasonable time; 2) interagency staff prioritizes renewable energy projects; 3) funding is available to increase BLM staffing according to planned Renewable Energy Coordination Offices.

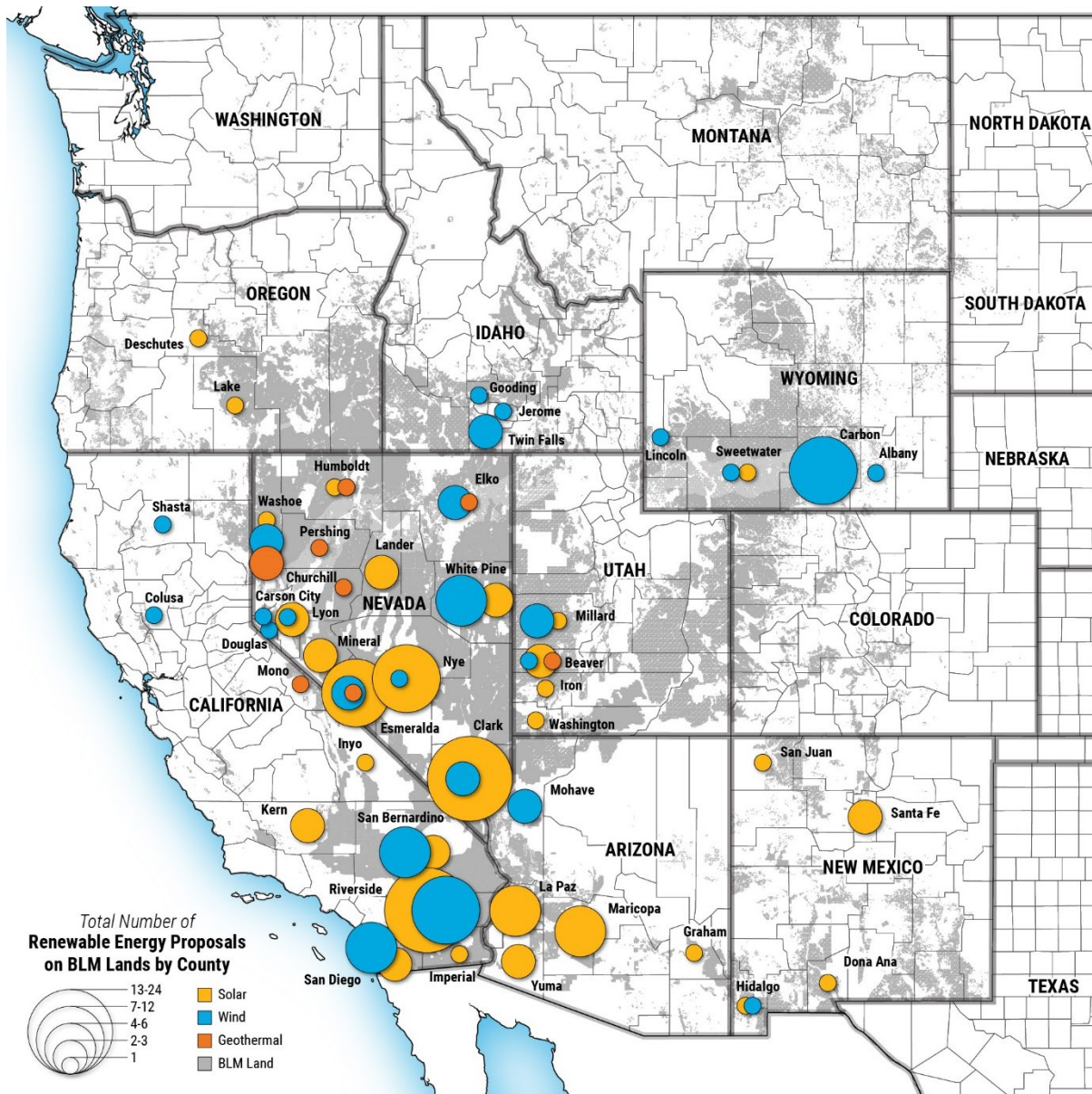


Figure 3 – BLM pending project workload for solar, wind, and geothermal energy by county based on proponent-initiated applications and nominations (as of December 2021).

Section 3c – Priority Renewable Energy Projects Currently Undergoing Environmental Review

Projected permitted megawatts from proposed renewable energy projects through FY25 are described below and shown on figure 4.

39 Solar Projects – Processing is underway on 28 applicant-driven proposals for solar projects and 11 bureau-initiated lease offerings for solar energy zones in Arizona, California, Colorado, New Mexico, Nevada, and Utah. Combined, these 39 projects represent a potential generation capacity of over 29,000 MW.

- Permitting projections for solar energy are as follows:
FY22=3,595 MW; FY23=5,582 MW; FY24=13,524 MW; FY25=6,894 MW

4 Wind Projects – Processing is underway on 4 applicant-driven proposals for wind farms in California, Idaho, Utah, and Wyoming. Combined, these projects have a potential generation capacity of over 2,000 MW.

- Permitting projections for wind energy are as follows:
FY23=1,000 MW; FY24=1,044 MW

5 Geothermal Projects – The BLM offered 103,219 acres under 2 geothermal lease sales in FY21 resulting in the leasing of 49,551 acres. Processing is underway on 5 geothermal projects located in Nevada and Utah. Combined, these projects have a potential generation capacity of 188 MW.

- Permitting projections for geothermal energy are as follows:
FY22=108 MW; FY23=80 MW

6 Renewable Energy Interconnect Projects – Processing is underway on 6 interconnect transmission lines or “gen-tie” projects. These gen-tie projects are critical to the feasibility of renewable energy proposals on non-Federal lands in Arizona, Colorado, New Mexico, and Utah. The 6 gen-tie projects support solar projects with a combined capacity of over 1,700 MW.

- Permitting projections for renewable energy interconnect are as follows:
FY22=1,350 MW; FY23=382 MW

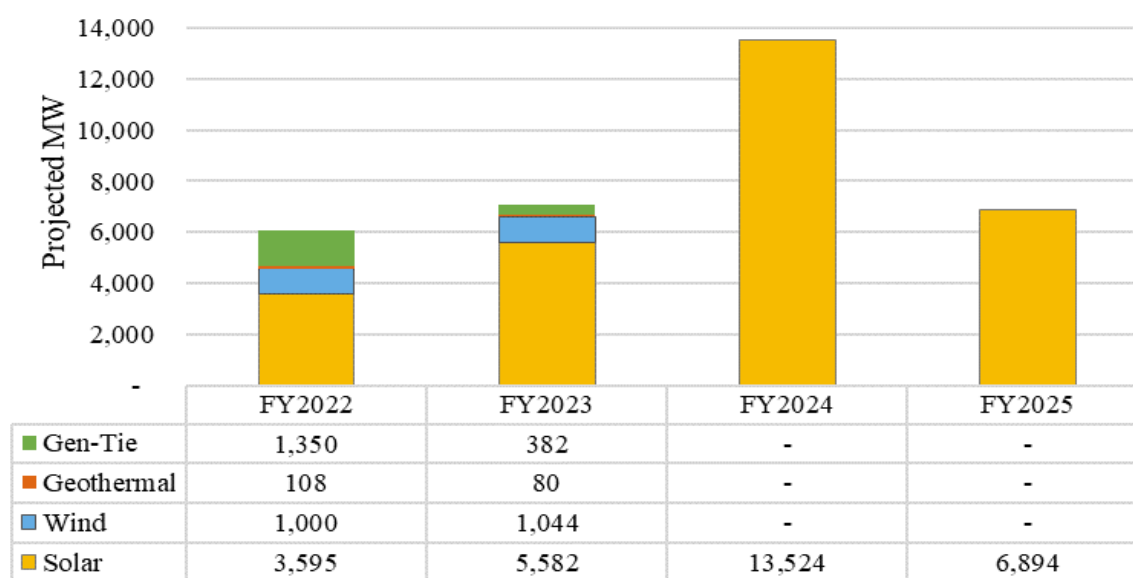


Figure 4 – *Projected permitting megawatts (by fiscal year) for solar, wind, and geothermal energy projects described in Section 3c.*

4 Major Transmission Lines – The BLM is prioritizing four proposed major transmission lines on public land currently undergoing environmental review in Arizona, Nevada, New Mexico, and Utah. The BLM anticipates potential permitting decisions for Greenlink West and SunZia in FY23 and Greenlink North and TransCanyon Cross-Tie in FY24. If constructed, each of these transmission lines have potential to unlock substantial renewable energy deployment opportunities along their routes.

Section 4 – Challenges and Opportunities

Since its establishment in 1946, the BLM has met the challenges and opportunities that come with managing the vast public domain for numerous public interests. As the needs of the nation and its citizens grow and change over time, the BLM has adapted and enhanced its management ability to meet the nation's needs. This section describes challenges related to leasing, siting, permitting, or production of renewable energy on public lands, and actions currently being undertaken to attempt to address these challenges.

Challenge 1: Ensuring that staffing keeps pace with workload. Over fiscal years 2017–2020, the BLM's renewable energy program did not have enough staff to keep pace with renewable energy workload. Previously dedicated staff were lost due to retirement, adjustments to workload priorities, and organizational realignment.

Action 1: Reprioritize the renewable energy program. Beginning in early 2021, the BLM began to reshape the renewable energy program in response to the Energy Act direction and the administration's priorities around clean energy. During 2021, the DOI and the BLM have begun work on establishing RECOs, executing the interagency MOU to begin implementing the program to prioritize and improve Federal permit coordination for onshore renewable energy. Realignment of existing staff and hiring of additional staff is underway to support the BLM's clean energy goals. This has required substantial effort, in terms of both personnel and priorities; however, as a result, the BLM anticipates increasing productivity in its renewable energy permitting in FY22 and beyond due to the efficiencies developed over the course of FY21.

Action 2: Monitor renewable energy trends and add staffing capacity as needed. Based on the trend of increasing expressions of interest and applications for renewable energy over calendar years 2020 and 2021, the BLM anticipates a continued expansion of the renewable energy workload across all levels of the organization. The BLM has identified that an additional staffing capacity of 56 full-time employees would be needed to appropriately support this priority workload if the trend continues through FY22. The increased interest from solar, wind, and geothermal developers is also occurring in states where the BLM has not previously seen renewable energy interest on public land, such as North Dakota, South Dakota, Idaho, Montana, Oregon, and Washington. The BLM could, with adequate funding, establish an additional RECO supported by 10 full-time employees in FY23 to cover the burgeoning workload in these states.

Challenge 2: Creating robust opportunities for coordination and aligning various permitting timelines. A consistent challenge in efficient permitting involves FWS review and permitting under the Endangered Species Act, Migratory Bird Treaty Act, and Bald and Golden Eagle Protection Act. As described in this report, the interagency agreement between the BLM and FWS is being developed to facilitate dedicated staffing capacity from FWS to support the regulatory reviews and permitting for public land renewable energy projects.

Action: Appropriately increase renewable energy staff at key partner agencies. Commensurate with annual appropriations and cost-recovery project funding, the additional FWS staff capacity can be facilitated under the Energy Act (43 U.S.C. § 3002(e)) through transfers of funding from the BLM as budgets allows. The DOI has identified this need in the President's budget request for 2022.

Challenge 3: Rental rates adjustments for wind and solar energy on public land. In recent years, the BLM has seen significant increases in the fair market value for acreage rents for solar and wind projects authorized on public lands within certain counties in the West. As described in this report, the BLM is taking steps to address these increases, consistent with its legal authorities, including the Energy Act of 2020.

Action: Appropriately adjust rent and fee rates using new authority under the Energy Act. The BLM has implemented an initial policy to reduce rents and fees for wind and solar projects sited in California and is considering making additional reductions under its Energy Act of 2020 authority.

Challenge 4: Competitive requirements for siting solar and wind energy projects on public land. The BLM recognizes that its regulatory competitive auction requirements for solar and wind leases may have affected interest for development in designated leasing areas due to the potential for additional upfront costs and negligible long-term financial and regulatory incentives.

Action: Appropriately adjust competitive requirements. The BLM is currently addressing this issue through a rulemaking that will consider increasing the agency's flexibility as to when it utilizes competitive processes in designated leasing areas.

Challenge 5: The geothermal program is limited in its ability to undertake programmatic efforts to enhance the program.

Action: The BLM will continue to prioritize Congressional appropriations to support the geothermal program. Unlike its ability to charge cost-recovery funding of project proponents for wind and solar proposals under section 504 of the Federal Land Policy and Management Act, the BLM's geothermal program has no legal authority to charge cost-recovery funding of project proponents to cover the costs associated with environmental review and permitting work for geothermal energy proposals. As such, the BLM currently relies entirely on appropriations to fund dedicated staff for geothermal leasing, permitting, and long-term compliance monitoring.

Section 5 – Conclusion

The BLM and numerous Federal agency partners are pleased to report the progress being made on renewable energy actions across the western states. Within fiscal year 2021, the BLM authorized or facilitated 12 projects on public lands that directly support the development of 2,890 megawatts (MW) of onshore renewable energy.

In addition to the quantifiable results of permitting specific projects, extensive effort was invested in the development of the MOU by the BLM and Federal partner agencies to establish fundamental interagency coordination enhancements at all levels of their respective organizations. The dividends from organizational investment through strategic collaboration, tactical actions, and unity-of-purpose across the involved Federal agencies will be realized in the coming year as the agencies continue to promote additional efficiencies and enhance productive coordination for renewable energy and electricity transmission permitting. Founded on the interagency permitting coordination partnerships established in FY21, the BLM and Federal partners are poised to make substantial progress on renewable energy permitting towards the national goal of 25,000 MWs by 2025.