



# OCED

U.S. Department of Energy  
Office of Clean Energy Demonstrations

Bipartisan Infrastructure Law

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# ENERGY STORAGE PILOT DEMONSTRATIONS

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**Funding Opportunity Number:** DE-FOA-0003399

**Concept Papers due:** October 16<sup>th</sup>, 2024, 5:00pm ET

**Applications due:** February 13<sup>th</sup>, 2025, 5:00pm ET

*Questions about this NOFO? Email [LDESFOA@hq.doe.gov](mailto:LDESFOA@hq.doe.gov)*

*Problems with OCED eXCHANGE? Email [OCED-ExchangeSupport@hq.doe.gov](mailto:OCED-ExchangeSupport@hq.doe.gov)*

*Include NOFO name and number in subject line*

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# Before you begin

If you believe you are a good candidate for this funding opportunity, secure your SAM.gov and other registrations now. If you are already registered, make sure your registration is active and up to date. All registrations are free.

[See Step 3: Submit Your Application](#)

## SAM.gov registration (this can take several weeks)

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You must have an active account with [SAM.gov](#). This includes having a Unique Entity Identifier (UEI).

## OCED eXCHANGE (this can take 48-72 hours)

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Registering with [OCED eXCHANGE](#), with Login.gov or ID.me.

## FedConnect (this can take 48-72 hours)

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Registering with [FedConnect](#)® is fast and easy. Only individuals who are designated as Points of Contact in SAM.gov can create a new company account.

## Grants.gov registration (this can take several days)

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You must have an active [Grants.gov](#) registration. Doing so requires a Login.gov registration as well.

## Submit your Concept Paper by October 16, 2024

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Concept Papers are due by 5:00 p.m. Eastern Time.

## Apply by February 13, 2025

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Applications are due by 5:00 p.m. Eastern Time.

# STEP 1: REVIEW THE FUNDING OPPORTUNITY

## IN THIS STEP

Basic Information

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# Basic Information

## Funding detail

**Announcement Type:** Initial

**Expected total available funding:** \$100 million

**Expected number and type of awards:** 5 – 15 awards as Cooperative Agreements or Grants

**Expected dollar amount of individual awards:** \$5 million - \$20 million Federal share

**Expected award project period:** The maximum expected project period is 5 years; the scope of the proposed project would determine that specific project period within the maximum project period. Depending on the number and quality of Applications, DOE may not award the full NOFO funding amount and may issue other NOFOs to support additional strategies and approaches or incorporate lessons learned from the first round of Applications.

## Statutory Authority

Section 3201(c) of the Energy Act of 2020, as amended by Section 41001 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, codified at 42 U.S.C. § 17232(c).

## Agency contact information

Office of Clean Energy Demonstrations  
U.S. Department of Energy  
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Washington, D.C. 20585  
Email: [OCED@hq.doe.gov](mailto:OCED@hq.doe.gov)  
Phone: 202-586-OCED

For questions relating to this specific NOFO, please use [LDESFOA@hq.doe.gov](mailto:LDESFOA@hq.doe.gov).

NOTE: The [2024 Revisions](#) to 2 CFR 200 will be in effect for awards issued under this NOFO.

## KEY FACTS

**Funding Opportunity Title:**

Energy Storage Pilot Demonstrations

**Funding Opportunity Number:**

DE-FOA-0003399

**Assistance Listing:**

81.255

## KEY DATES

**Concept Paper Deadline:**

October 16<sup>th</sup>, 2024, at 5:00pm ET

**Application Deadline:**

February 13<sup>th</sup>, 2025, at 5:00pm ET

**Anticipated Award Date:**

Summer 2025

**Estimated Period of Performance**

Fall 2025 – Summer 2030

## Executive summary

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The energy storage community is rapidly growing and evolving. There are many solutions under investigation within the research and development (R&D) community across electrochemical, mechanical, and thermal approaches. However, many of these energy storage solutions have not yet been demonstrated in operational environments and at pilot scale. This limits their ability to access utility-scale demonstration funding and establish a commercial order book due to remaining scaling risk and uncertainty around real performance characteristics. Beyond the technical demonstration needs, there is a clear gap in market mechanisms to value and monetize storage services beyond 4-hour discharge. While significant efforts are needed to advance market mechanisms, this program is focused primarily on technology performance demonstrations.

This program seeks to:

1. Advance a diverse set of non-lithium energy storage technologies towards commercial viability and utility-scale deployment.
2. Generate high-quality operational datasets and techno-economic models.
3. Build investor, utility, and other end user confidence in the real performance and adoptability of the proposed solutions.

This program will fund technology demonstrations for energy storage solutions at the pilot-scale. The program will focus on non-lithium technologies, long-duration (10+ hour discharge) systems, and stationary storage applications.

Applicant teams must include at least one technology provider as a recipient or a subrecipient. Priority will be given to proposals that include utility, developer, and/or end user members, a plan to demonstrate the solution in an operational environment, and a plan to build investor confidence to secure support for follow-on projects.

The following entities are eligible to apply as recipients: (1) State energy office, (2) Indian Tribe, (3) Tribal organization, (4) Institute of higher education, (5) Electric utility (including electric cooperatives, Tribal utilities, municipally owned electric utilities, and investor-owned utilities), and (6) Private energy storage companies.

This NOFO is being released in coordination with The Office of Electricity (OE) Critical Facility Energy Resilience (CiFER) Solicitation [DE-FOA-0003384](#) which is providing up to \$30 million to support large-scale deployment of innovative storage technologies to support energy resiliency needs at a host site containing critical infrastructure. Eligible entities are allowed to apply separately to both opportunities.

**Table 1. Program overview. All values anticipated. Details to be determined through merit reviews and project negotiations.**

<b>Total DOE Funding</b>	\$100M
<b>Project Funding</b>	\$5M - \$20M DOE share, 50% minimum required non-Federal cost share
<b>Project Count</b>	5 - 15 projects
<b>Key Objectives</b>	<ol style="list-style-type: none"> <li>1. Advance a diverse set of non-lithium energy storage technologies towards commercial viability and utility-scale deployment.</li> <li>2. Generate high-quality operational datasets and techno-economic models.</li> <li>3. Build investor, utility, and other end user confidence in the real performance and adoptability of the proposed solutions.</li> </ol>
<b>Example Technology Types (non-exhaustive)</b>	<ul style="list-style-type: none"> <li>• Electrochemical solutions, including flow and non-flow batteries.</li> <li>• Mechanical solutions, including both pressure and gravity based.</li> <li>• Thermal solutions, including sensible, latent and thermochemical heat storage mechanisms configured for electrical to electrical, electrical to thermal, and thermal to thermal input-output configurations.</li> </ul>
<b>Applications specifically NOT of interest</b>	<ul style="list-style-type: none"> <li>• Proposals that use lithium-based energy storage technologies or other technologies that are deployed at &gt;100MW capacity.</li> <li>• Proposals that intend to produce a bulk chemical as a storage medium, such as hydrogen or ammonia.</li> <li>• Proposals with technologies that cannot achieve a 10-hour continuous discharge duration.</li> </ul>
<b>Requirements and Priorities</b>	<ul style="list-style-type: none"> <li>• Minimum pilot-scale system capacities required: <ul style="list-style-type: none"> <li>■ Electrochemical: 100kW<sub>DC</sub></li> <li>■ Mechanical: 1MW<sub>AC</sub></li> <li>■ Thermal (electric to thermal): 1MW<sub>th</sub></li> <li>■ Thermal (electric to electric): 1MW<sub>e</sub></li> <li>■ Thermal (thermal to thermal): 1MW<sub>th</sub></li> </ul> </li> <li>• DOE will require teams to include a technology provider as a recipient or subrecipient and encourages inclusion of facility owner/operators, utilities, storage developers, financiers and others that support a clear path to commercial adoption.</li> <li>• DOE will expect projects to share operational datasets and techno-economic information first produced in performance of the award with DOE and potentially National Laboratory programs to improve system performance modeling capabilities and validate performance. To the extent such data constitutes Protected Data,<sup>1</sup> DOE will share such information publicly only if it is possible to aggregate and anonymize the data in accordance with OCED protocols.</li> </ul>

<sup>1</sup> Protected Data is technical data or commercial or financial data first produced in the performance of the award which, if it had been obtained from and first produced by a non-Federal party, would be a trade secret or commercial or financial information that is privileged or confidential under the meaning of 5 U.S.C. 552(b)(4) and which data is marked as being protected data by a party to the award.

# Eligibility

## Eligible applicants

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The proposed recipient and subrecipient(s) must be domestic entities. The following types of domestic entities are eligible to participate as a recipient of this Notice of Funding Opportunity (NOFO):

1. State, territory or District of Columbia energy offices
2. Indian Tribes, as defined at 25 U.S.C. § 4103<sup>2</sup>
3. Tribal organization
4. Institution of higher education
5. Electric utility (including electric cooperatives, Tribal utilities, municipally owned electric utilities, and investor-owned utilities)
6. Private energy storage company

To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States or under the laws of the United States; have majority domestic ownership and control; and have a physical place of business in the United States, or otherwise qualify as an Indian Tribe or Tribal organization.

The above entity types may also participate as subrecipients. In addition, Department of Energy (DOE) Federally Funded Research and Development Centers (FFRDC) are eligible to apply for funding as a subrecipient but are not eligible to apply as a recipient. The funding for the FFRDC will flow through the recipient. Non-DOE FFRDCs are eligible to participate as a subrecipient, subject to approval of their sponsor agency, but are not eligible to apply as a recipient. Notwithstanding the above, Federal agencies, instrumentalities, and corporations (other than DOE) are eligible to participate as a subrecipient but are not eligible to apply as a recipient.

Entities banned from doing business with the U.S. government, such as entities debarred, suspended, or otherwise excluded from or ineligible from participating in Federal programs, are not eligible.

Entities identified on a Department of Homeland Security Binding Operational Directives as an entity publicly banned from doing business with the United States government are not eligible. See <https://cyber.dhs.gov/directives/>.

Non-profit organizations described in Section 501(c)(4) of the Internal Revenue Code of 1986 that engaged in lobbying activities after December 31, 1995, are not eligible to apply for funding. Non-profit organizations described in Section 501(c)5 of the Internal Revenue Code are eligible to apply for funding. See the [Applicant Eligibility Guidance](#) for more information.

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<sup>2</sup> "Indian Tribe," for the purposes of this NOFO and as defined in in section 4 of the Indian Self-Determination and Education Assistance Act ([25 U.S.C. § 5304](#)), means any Indian tribe, band, nation, or other organized group or community, including any Alaska Native village or regional or village corporation as defined in or established pursuant to the Alaska Native Claims Settlement Act ([85 Stat. 688](#)) [[43 U.S.C. § 1601, et seq.](#)], which is recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians. Federally Recognized Indian Tribes are also considered disadvantaged communities for the purposes of Justice40 requirements in this NOFO per [https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09\\_Signed\\_CEQ\\_CPO.pdf](https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf).



## Other Eligibility Criteria

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### Foreign Entities

In general, foreign entities are not eligible to apply as either a recipient or subrecipient. In limited circumstances, DOE may allow a foreign entity to participate as a recipient or subrecipient. A foreign entity may submit an Application to this NOFO, but the Application must be accompanied by an explicit disclosure of the foreign entity's participation. Likewise, if the applicant seeks to include a foreign entity as a subrecipient, the applicant must submit a separate explicit disclosure in the Application for each proposed foreign subrecipient.

See the *Applicant Eligibility Guidance* on the [Eligibility](#) page for more information on applicant eligibility. Information about foreign entity disclosure requests can be found in the *Foreign Entity Participation and Performance of Foreign Work in the United States Guidance* document located on the [What other Information may be requested?](#) page. DOE's decision concerning foreign entity participation or foreign entity work is not appealable.

### Cost sharing

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The cost share must be at least 50% of the total project costs for demonstration projects or a commercial application activity. The cost share must come from non-Federal sources unless otherwise allowed by law. DOE funding is limited to the award amounts listed in [Basic Information](#) and [Table 1](#) sections; therefore, any cost increases to the negotiated total project cost must be covered by additional non-Federal cost share.

Cost share may come from project recipients, subrecipients, state or local governments, Tribes or other third-party financing. Federal financing, such as DOE Loan Guarantees, cannot be leveraged by applicants to provide the required cost share or to otherwise support the same scope that is proposed under the Energy Storage Pilot Demonstrations Program. Generally, realized tax credits may be used as cost share.<sup>3</sup> Also, in general, deferred or avoided costs such as tax credits may not be used as cost share.

However, non-Federal cost share can include Tennessee Valley Authority power sales revenue, which is specifically allowed under the Energy Policy Act of 2005. See 42 U.S.C § 16352(c) (Section 988 of Energy Policy Act of 2005) and 2 CFR 910.130(d)(2)(v).

To assist applicants in calculating proper cost share amounts, DOE included a cost share information sheet and sample cost share calculation within the *Cost Sharing Guidance* on the [Preparing Your Budget](#) page. Further, applicants are encouraged to review the regulations regarding [Program Income](#) and be aware of the ways in which Program Income can be treated during the award. For awards made under this NOFO, the default use of program income is Addition, where program income may be added to the award with prior approval and must be used for the purposes of the award. Any other treatment of Program Income must be negotiated and approved by DOE. Program Income should not be included as cost share in the applicant's budget.

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<sup>3</sup> Tax credits authorized by the Inflation Reduction Act of 2022 (P.L. 117-169) are considered a non-Federal source and are not a Federal award for purposes of cost sharing.

# Program Description

## Purpose

OCED was established to build on DOE's expertise in clean energy research and development and expand DOE's scope to fill a critical gap in demonstration of first-of-a-kind (FOAK) technologies. OCED's mission is to deliver clean energy demonstration projects at scale in partnership with the private sector to accelerate deployment, market adoption and the equitable transition to a decarbonized energy system. OCED has over 100 projects under award or selected and in negotiations, representing nearly \$20 billion in Federal investment.

Variable renewable solar and wind are expected to grow significantly in the coming years and comprise the majority of new capacity additions.<sup>4</sup> In addition, electricity demand is expected to continue to increase through 2050, driven by electrification of various sectors and loads<sup>5,6</sup> and growth of information processing demands.

Short duration (<4 hours) energy storage is already supporting resource adequacy, reliability, and flexibility needs of the grid.<sup>7</sup> Continued deployment of variable generation may push utility-scale storage duration requirements above 4 hours<sup>8</sup> and beyond the commercially viable discharge duration of currently deployed Li-ion systems. The Long Duration Energy Storage (LDES) Pathways to Commercial Liftoff report estimates that "the U.S. grid may need 225-460 GW of LDES capacity for power market application" by 2050.<sup>9</sup>

### National Storage Capacity, GW

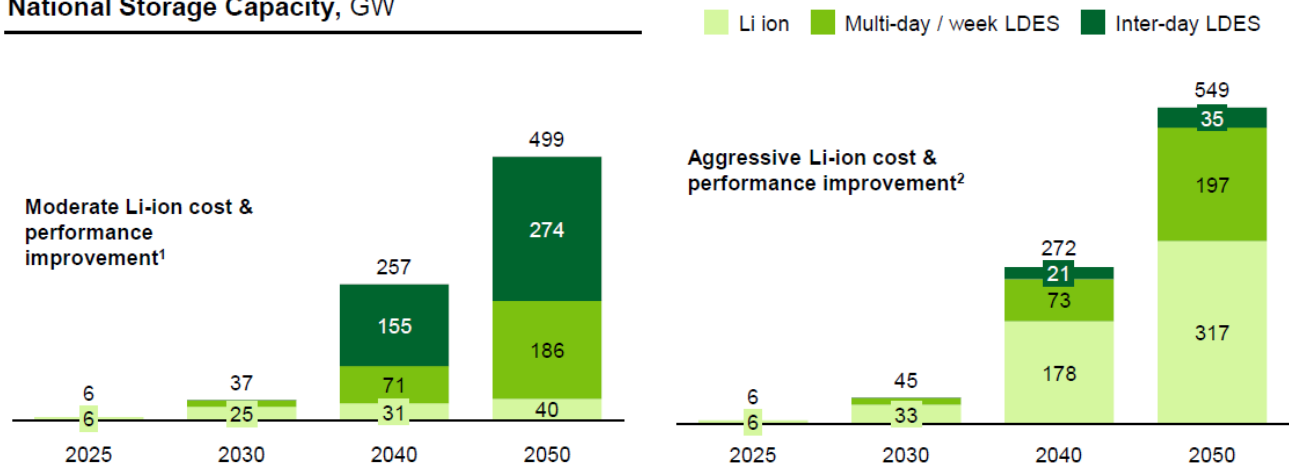


Figure 1. Estimates of LDES requirements from 2025 to 2050 under varying Li-ion performance scenarios.<sup>10</sup>

<sup>4</sup> <https://www.eia.gov/todayinenergy/detail.php?id=56160>

<sup>5</sup> NREL Electrification Futures Study, <https://www.nrel.gov/docs/fy21osti/79094.pdf>

<sup>6</sup> Energy Information Administration, Annual Energy Outlook 2023, <https://www.eia.gov/outlooks/aeo/>




<sup>7</sup> [https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery\\_storage\\_2021.pdf](https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery_storage_2021.pdf)




<sup>8</sup> <https://www.nrel.gov/docs/fy23osti/85878.pdf>

<sup>9</sup> [https://liftoff.energy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5\\_UPDATED-v10.pdf](https://liftoff.energy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5_UPDATED-v10.pdf)

<sup>10</sup> [https://liftoff.energy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5\\_UPDATED-v10.pdf](https://liftoff.energy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5_UPDATED-v10.pdf)

Energy storage at this scale requires materials that are lower cost and less environmentally impactful than lithium. Lithium batteries also experience significant supply chain competition from the electric vehicle market.<sup>11</sup> Multiple technologies (mechanical, thermal, electrochemical and chemical) are under development across the research, development and demonstration (RD&D) community. Each of these technologies has a unique set of challenges and opportunities.<sup>12</sup>

 Faces geologic constraints   
  Not enough public datapoints to obtain a reliable value   
 Less Desirable  More Desirable

Inter-day    
 Can function as both    
 Multi-day/week 






Duration	Energy storage form	Technology	Nominal duration, hrs	LCOS, \$/MWh	Min. deployment size, MW	Average RTE, %	TRL
Inter-day 	Mechanical	Traditional pumped hydro (PSH) 	0–15	70–170	200 – 400	70–80	9
		Novel pumped hydro (PSH)	0–15	70–170	10–100	50–80	5–8
		Gravity-based 	0–15	90–120	20–1,000	70–90	6–8
		Compressed air (CAES) 	6–24	80–150	200–500	40–70	7–9
		Liquid air (LAES)	10–25	175–300	50–100	40–70	6–9
		Liquid CO <sub>2</sub>	4–24	50–60	10–500	70–80	4–6
Multi-day / week 	Thermal	Sensible heat (e.g., molten salts, rock material, concrete)	10–200	300	10–500	55–90	6–9
		Latent heat (e.g., aluminum alloy)	25–100	300	10–100	20–50	3–5
		Thermochemical heat (e.g., zeolites, silica gel)	XX	XX	XX	XX	XX
	Electrochemical	Aqueous electrolyte flow batteries	25–100	100–140	10–100	50–80	4–9
		Metal anode batteries	50–200	100	10–100	40–70	4–9
		Hybrid flow battery, with liquid electrolyte and metal anode (some are Inter-day)	8–50	XX	>100	55–75	4–9

Figure 2. Examples of LDES technologies and typical performance characteristics.<sup>13</sup>

Regardless of technology class, there are remaining challenges for long-duration energy storage solutions from technology and commercial adoption readiness perspectives.

**Technology Readiness Level (TRL)**<sup>14</sup> varies across energy storage technologies.<sup>15</sup> Depending on the technology area, challenges may be at the minimum viable module scale or involve complex systems integration:

- Electrochemical solutions may need to establish confidence in performance characteristics at the module or subsystem level (up to the direct current (DC) module capacity). Aggregation of DC modules to align with commercial-scale inverter capacities is fairly well established.
- Mechanical and thermal solutions often have well established technical performance at the subsystem level but have not yet demonstrated a fully integrated system.

<sup>11</sup> <https://www.energy.gov/policy/articles/americas-strategy-secure-supply-chain-robust-clean-energy-transition>

<sup>12</sup> <https://www.energy.gov/oe/storage-innovations-2030>

<sup>13</sup> [https://liffenergy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5\\_UPDATED-v10.pdf](https://liffenergy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5_UPDATED-v10.pdf)

<sup>14</sup> <https://www.directives.doe.gov/directives-documents/400-series/0413.3-EGuide-04/@images/file>

<sup>15</sup> [https://liffenergy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5\\_UPDATED-v10.pdf](https://liffenergy.gov/wp-content/uploads/2023/10/Pathways-to-Commercial-Liftoff-LDES-May-5_UPDATED-v10.pdf), p 13

**Commercial Adoption Readiness Level (ARL)<sup>16</sup>** challenges for long- duration energy storage include:

- Delivered cost – There is high uncertainty in many cases for Nth of a Kind (NOAK) costs given the relatively small scale of demonstrated systems to date.
- Functional performance – Asset owners and utilities lack confidence in long-duration energy storage system performance (closely linked to TRL above).
- Demand maturity/market openness – In many regions there is a lack of clear valuation methods and market mechanisms for long-duration energy storage.
- Capital flow – There may be reluctance to invest in these technologies due to uncertainty in cost and performance characteristics and monetization of services.
- Manufacturing and supply chain – For some energy storage technologies, supply chains are underdeveloped, and serial production methods and facilities have not yet been established. Some energy storage technologies rely on raw materials that do not have reliable and resilient supply chains.
- Regulatory environment – There is a lack of clear rules or a multi-year horizon for market participation of energy storage and distributed energy assets in many cases. There is uncertainty for updating codes, standards, and permitting regulations developed for lithium-ion batteries to accommodate a range of non-lithium technologies.
- Safety – Li-ion battery safety incidents may influence perception of safety of other energy storage systems and limit siting opportunities.

With this program, DOE seeks to directly address challenges in both TRL and ARL to advance the technical maturity of multiple energy storage technologies and increase investor and end-user confidence in the path to commercial viability.

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<sup>16</sup> <https://www.energy.gov/technologytransitions/adoption-readiness-levels-arl-complement-trl>

## Program goals and objectives

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With this program, DOE seeks to directly address challenges in both TRL and ARL, primarily through increasing confidence in performance and cost characteristics, planning for manufacturability and supply chain maturation, and engagement with investors and end users. Specifically, this program seeks to:

1. Advance a diverse set of non-lithium long-duration energy storage technologies towards commercial viability and utility-scale deployment.
2. Generate high-quality operational datasets and techno-economic models.
3. Build investor, utility, and other end user confidence in the real performance and adoptability of the proposed solutions.

To support the goals of building a clean and equitable energy economy, DOE anticipates supporting projects that define a robust Community Benefits Plan, including:

1. Supporting meaningful community and labor engagement;
2. Investing in America's workforce and supporting good jobs;
3. Advancing diversity, equity, inclusion, and accessibility; and
4. Contributing to the President's goal that 40% of the overall benefits of certain Federal investments flow to disadvantaged communities (the Justice40 Initiative).<sup>17</sup>

This investment will allow the U.S. to develop more cost-effective, investable long-duration energy storage technologies and solutions while supporting climate action and providing benefits to communities and workers.

## Award contribution to goals and objectives

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In this NOFO, DOE seeks to fund technology demonstrations for energy storage solutions at the pilot-scale. The program will focus on non-lithium technologies with long-duration (10+ hour) discharge in stationary storage applications, potentially including electrochemical, mechanical, and/or thermal solutions. Priority will be given to proposals that include utility, developer, and/or end user members, a plan to demonstrate the storage technology in an operational environment, and a plan to build investor confidence to secure support for follow-on projects.

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<sup>17</sup> The Justice40 Initiative, established by EO 14008, "Tackling the Climate Crisis at Home and Abroad," January 27, 2021, sets a goal that 40% of the overall benefits of certain federal investments flow to disadvantaged communities that are marginalized by underinvestment and overburdened by pollution. Pursuant to [EO 14008](#) and the Office of Management and Budget's Interim Implementation Guidance M-21-28 and Addendum M-23-09 guidance, DOE recognizes disadvantaged communities as the census tracts identified as disadvantaged by the White House Council on Environmental Quality's Climate and Economic Justice Screening Tool (CEJST), located at <https://screeningtool.geoplatform.gov/>, as well as all Federally Recognized Tribes (whether or not they have land). See [https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09\\_Signed\\_CEQ\\_CPO.pdf](https://www.whitehouse.gov/wp-content/uploads/2023/01/M-23-09_Signed_CEQ_CPO.pdf). DOE's Justice40 Implementation Guidance is located at <https://www.energy.gov/sites/default/files/2022-07/Final%20DOE%20Justice40%20General%20Guidance%20072522.pdf>.

DOE is seeking to support projects that can:

- Demonstrate reliable, repeatable technology performance at pilot scale.
- Generate high-fidelity operational data sets that enable quantification of the social cost of GHG avoided<sup>18</sup> from the project as well as anticipated future deployments of the technology.
- Produce high-confidence techno-economic models and cost-down projections from First of a Kind to Nth of a Kind.
- Refine and optimize system designs for commercial deployments.
- Refine and optimize robust and resilient supply chains.
- Establish partnerships with end-users and financiers for future projects.

## Funding priorities

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This NOFO will fund demonstrations of a variety of energy storage solutions at pilot-scale to advance technology maturity, reduce uncertainty in cost and performance characteristics, generate operational datasets, and increase investor and end-user confidence in technical and commercial maturation pathways and timelines.

DOE will consider proposals that include (non-exhaustive):

- **Electrochemical solutions**, including flow and non-flow batteries.
- **Mechanical solutions**, including both pressure and gravity based.
- **Thermal solutions**, including sensible, latent and thermochemical heat storage mechanisms configured for electrical to electrical, electrical to thermal, and thermal to thermal input-output configurations.

Funding will support technology maturation activities including design for manufacturability, pilot system development, fabrication and installation, operational testing and validation, and commercial scale system design and supply chain maturation.

## Technology and System Requirements

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In the interest of maximizing funding impact and differentiating this program from related prior and current DOE efforts, the minimum requirements stated in Table 2 below apply for all projects under this NOFO.

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<sup>18</sup> Applicants may use the social cost of greenhouse gases calculation such as that developed by the Environmental Protection Agency, found at <https://www.epa.gov/environmental-economics/scghg>

**Table 2. System requirements for all projects.**

TECHNOLOGY TYPE	MINIMUM CAPACITY	STRETCH CAPACITY
<b>Electrochemical</b>	100kW <sub>DC</sub>	1MW <sub>DC</sub>
<b>Mechanical</b>	1MW <sub>AC</sub>	5MW <sub>AC</sub>
<b>Thermal (electric to thermal)</b>	1MW <sub>th</sub>	5MW <sub>th</sub>
<b>Thermal (electric to electric)</b>	1MW <sub>e</sub>	5MW <sub>e</sub>
<b>Thermal (thermal to thermal)</b>	1MW <sub>th</sub>	10MW <sub>th</sub>

Applicants must justify why the size of the system proposed is commercially relevant (i.e., it is the module, container, or minimum unit size that once validated in this pilot could be duplicated across units for a commercial-scale project). If deviating from this table or the discharge duration range identified, applicants must justify their readiness for a pilot-scale demonstration and show a clear development and demonstration path to commercial viability and market acceptance.

All projects should have an integrated system TRL of 5-6 at the start of the project and a TRL of 7-8 by the end of the project. All projects are expected to attain at least 10 hours of continuous discharge at or above the minimum capacity.

Applications should clearly describe the proposed demonstration site, which could be an industrial facility, grid-connected utility site, a utility testbed, or a laboratory testbed, and explain the rationale for their selection and approach to apply project results to commercialization efforts. If not proposing to utilize an existing site, applicants must explain their approach to manage increased execution and schedule risks as well as their understanding of any required environmental reviews.

Commercialization support activities, such as supply chain maturation and system design for future developments beyond this pilot, should be limited to ≤15% of the project budget.

The application should describe the intended outcomes from pilot scale testing and the rationale for developing the pilot at a test facility or an end user facility. Utilizing a test facility will allow the pilot to be run through a designed test profile to validate key performance characteristics and accumulate long-term operational and degradation information on the system but may not demonstrate integration with the end user. Utilizing an operational facility will demonstrate end user integration but, by nature of following the end user's required load profile, will more slowly accumulate operational cycles and may not be able to validate key performance characteristics.

Applications must show a clear path to technology commercialization and follow-on investment, including a clear articulation of potential cost reduction mechanisms, an investor engagement strategy, a business plan to scale and enter markets, an assessment of the competitive landscape, a monetization approach for services provided, and similar relevant commercialization plans.

DOE anticipates providing awards to teams that are led by a single entity. All applicants are encouraged to partner with experts in technical engineering support or analysis, lifecycle analysis, commercialization, financing, and/or community benefits, if none exist within the applicant's team.

## Project Examples

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A few examples of projects or components of projects are included below. These are intended to illustrate the range of potential approaches for clarification only. This list is non-exhaustive.

- **Electrochemical:** Module validation testing at a utility test bed, including design de-risking through operational testing campaigns, systems integration designs for commercial asset and design for commercial manufacturing. Team to include technology provider, facility partner, commercialization partners, and similar.
- **Electrochemical:** 100kW-1MW battery energy storage system at an end-user facility, such as co-located with a renewable generation asset or in a behind the meter configuration at a commercial sector site. Demonstrate full system integration and operation under real-world conditions. Validation of operation as a long-duration storage asset. Team to include technology provider, facility partner, commercialization partners, and similar.
- **Mechanical:** 1-5MW geothermal pressurized-fluid system installed at an existing abandoned well or mining site. Off-grid and operational testing, leading to performance validation of fully integrated system. Team to include technology provider, facility engineering partners, and similar.
- **Thermal:** 1-10MW electrical to thermal energy storage system tested in a campaign mode at an industrial site to offset natural gas fired boiler usage. Team to include technology provider, industrial facility owner/operator, facility engineering partners, and similar.

## Applications Specifically NOT of Interest

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- Proposals that use lithium-based energy storage technologies or other technologies that are deployed at >100MW capacity.
- Proposals that intend to produce a bulk chemical as a storage medium, such as hydrogen or ammonia.
- Proposals with technologies that cannot achieve a 10-hour continuous discharge duration.
- Proposals that intend to expand or construct a pilot manufacturing line or manufacturing facility.



## Expected performance goals, indicators, targets, baseline data, and data collection

To evaluate program performance and advancement of the supported energy storage solutions, selected projects may be required to report on relevant metrics such as system capital costs, lifetime and degradation, round trip efficiency, idle energy losses, and system physical size.

Projects will be expected to share operational datasets first produced in performance of the award with DOE and potentially National Laboratory programs to improve system performance modeling capabilities and validate performance; findings will be supplied to projects and may be used to support performance claims to investors and/or end users. To the extent such data first produced in performance of the award constitutes Protected Data, DOE may share such information publicly, but only if it is possible to aggregate and anonymize the data in accordance with OCED protocols.

## Expected award and project management structure

Awards selected under this NOFO will adhere to a four-phased structure for managing scope, schedule, deliverables, and budget, typically with one Budget Period per phase. Figure 3 shows an example of the phase progression, major work activities, funding proportion and timeline. These activities will also be further defined during award negotiations and subsequent negotiations between phases. DOE anticipates all awarded projects to be funded through Phase 4 pending successful go / no-go reviews, which will be designed to manage risk and will occur between and within phases.

While the phase figure and the narrative text below provide approximate timetables for each phase, these timetables are representative only. It is DOE's intention to work with Recipients to progress projects through the phased project implementation as prudently as possible. While phases are used to conceptually describe the progression of project development, awards will be managed in Budget Periods as defined in 2 CFR 200.1 "Budget period."<sup>19</sup>

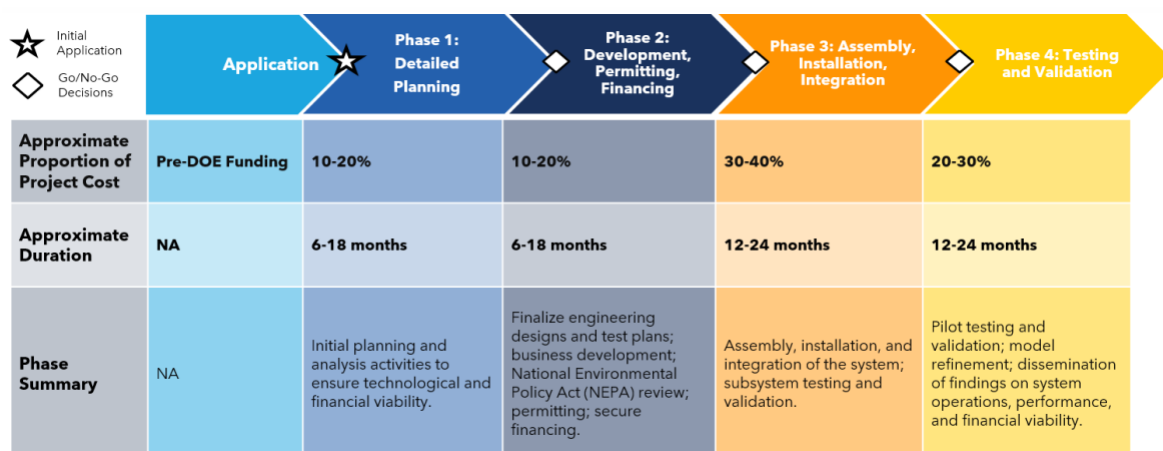


Figure 3. Summary of the anticipated phase structure of the projects awarded under this NOFO.

<sup>19</sup> [https://www.ecfr.gov/current/title-2/part-200#p-200.1\(Budget%20period\)](https://www.ecfr.gov/current/title-2/part-200#p-200.1(Budget%20period))

## Phase 1 – Detailed Planning

Phase 1 activities will focus on completing specific details about the overall project plan and analysis to refine projections submitted as part of the proposal. These activities must provide assurance to DOE that the overall project plan is technologically, financially, and legally viable, with buy-in from relevant local and community stakeholders.

Teams will complete preliminary engineering, construction, and commercial-scale designs. This will include finalization of a Project Management Plan, a Risk Management Plan, the initial Safety Plan, an initial financial plan for the entire 4-phase effort, and final site selection and procurement plan for the various components to be included in the award. As specified by DOE, Teams will prepare an environmental information volume (EIV) or an environmental considerations summary (ECS) to support DOE's National Environmental Policy Act (NEPA) evaluation of construction and operating impacts.

Phase 1 should also include a continuation of analysis activities to refine and update Techno-Economic Analysis (TEA) data provided in the application and expand the initial environmental impact evaluation into a quantitative Life-Cycle Analysis (LCA) for the specific project. Outreach and stakeholder engagement should continue throughout Phase 1 as the project details are finalized and community impacts become clearer. Applicants should be fully engaged with the DOE's NEPA team as they develop environmental and regulatory plans to prepare for permitting and approval processes in Phase 2.

## Phase 2 – Project Development, Permitting, and Financing

Phase 2 encompasses advanced planning activities. Recipients will finalize their project development plans, commercial agreements, financial structure, fabrication plans, and complete the necessary permitting and approval activities required to begin construction. By the end of Phase 2, engineering and operational designs should be sufficiently mature to support completion and execution of relevant fabrication, procurement, or construction contracts and overall commencement of major project execution tasks. Plans for operational, validation, or other testing should be refined.

Long-lead procurement activities may be started in Phase 2 with prior DOE approval. Third-party financing agreements should be completed and any relevant offtake agreements in place. Risk management plans should be revised and updated to reflect progress made and risks mitigated as well as new or emerging risks and corresponding management plans.

By the completion of Phase 2, safety and security plans should be finalized and execution ready. All necessary permits and regulatory approvals should be in place to prepare for construction, including completion of DOE's NEPA review. All procurement plans should be finalized. Final pre-implementation LCA and TEA activities should be completed according to DOE expectations and corresponding verification and validation (V&V) plans should be in place. Community and labor engagement should have progressed, and updated comprehensive Community Benefits Commitments should reflect community and labor input and implementation experience to date and set the stage for ongoing engagement. Community impact targets should be finalized, and tracking plans should be in place to monitor economic, environmental, and social impacts (including the social cost of GHG avoided) of projects as relevant as they progress to implementation.

## Phase 3 – Assembly, Installation and Integration

Phase 3 activities will focus on implementation. Recipients will employ industry standard project management tools and will be required to provide regular status updates and reports. Plans developed in the preceding phases will be revised and updated as appropriate to reflect actual performance. Engineering drawings may be further developed within this phase. Operational protocols and controls will be finalized within this phase.

Previously and newly developed risks will be tracked, actively managed, and regularly reported to DOE. Reporting frequencies and content requirements will be unique to each award and negotiated prior to Phase 3 commencement.

While recipients will manage implementation, DOE will closely monitor progress and evaluate it against the plans developed through Phase 2. DOE and/or its third-party representatives will visit the site(s) regularly to verify progress and collect data, including data related to community benefits, consistent with the established reporting requirements.

During Phase 3, recipients will continue to advance their community benefits commitments and provide ongoing mechanisms for community and labor input that will support the realization of meaningful benefits and minimization of any project negative impacts. Outcomes and impacts related to community benefits efforts will be tracked to assess progress.

Phase 3 may look significantly different for each award as there will be varying amounts of construction and retrofitting. Specific details will be addressed for selected projects during the negotiation phase. System commissioning should be complete at the end of Phase 3 in preparation for testing and operations in Phase 4. Phase 3 will likely include procurement, fabrication, site preparation, and installation. By the end of Phase 3, the pilot systems should be fully built and commissioned.

## Phase 4 – Testing and Validation

In Phase 4, recipients will transition to testing and operations. Phase 4 activities will focus on integrated system performance and ramp-up. By the end of Phase 4, each award will have demonstrated fully functional operations over an extended period.

A key objective is for DOE-funded demonstration projects to catalyze follow-on private sector investments while meeting community benefits goals. Recipients should show a clear path to replicability and extensibility of their solution. To meet this key objective, Phase 4 is likely to include financial, socio-economic, environmental, and operational data collection and reporting to DOE. To the extent practicable and while ensuring the protection of sensitive and proprietary information first produced in the performance of the award, DOE will aggregate and anonymize site and operations data that qualifies as Protected Data from all awarded projects into quantitative and qualitative analyses that can be promulgated to external stakeholders for the purpose of informing future private sector investment decisions.

In addition to the expectation to share data with National Laboratory experts as noted previously, project teams are also encouraged, though not required, to disseminate operational data, lessons learned, financial, planning, and O&M strategies to the broader community and the public. Specific details regarding dissemination will be finalized during negotiations.

## Transitions between Phases

All projects selected under this NOFO will be eligible to complete all four phases pending successful execution of milestones. DOE is not planning a competitive down-select process among projects after awards are made; however, to manage risk, all projects will be required to complete regular Go/No-Go reviews at the end of each Budget Period. Specific Go/No-Go criteria will be negotiated with each selected project for transitions between each Budget Period.

This may include a requirement to submit a standardized set of data to provide quantitative and qualitative insight on metrics spanning the technological, environmental, economic, market, workforce, community benefits, and other components of the project's analysis activities. DOE may also require the negotiation of additional Go/No-Go decision points within phases (i.e., phases may include one or more budget periods with Go/No-Go points at the end of each budget period). Applicants must propose quantitative Go/No-Go criteria for each budget period as defined in the Technical Volume section.

If DOE determines that an award is making insufficient progress, additional scrutiny and oversight by DOE or its representatives may be employed, and corrective measures negotiated. Awards may be discontinued at any of the Go/No-Go decision points if the Go/No-Go criteria, project, and/or program requirements are not met. If awards are proceeding on an accelerated schedule, it may be possible to move to a Go/No-Go review earlier than originally planned and advance to the next phase if the review is successfully completed.

Specific project structure details for each recipient will be negotiated on a project-by-project basis to produce the best possible balance between project outcomes and DOE risk exposure. Examples of factors that may be considered as part of such negotiations include project and risk management processes, team capabilities, cost share amounts, financial contingencies, and engagement of independent monitors such as an Independent Engineers and/or Community Benefits Plan consultants. DOE will require access to project performance and financial data necessary to track progress against a project baseline (or similar). As these projects are new pilot demonstrations, project progress data first produced in performance of the award will be shared with interested stakeholders to the greatest extent possible. If such data is Protected Data, it will only be shared publicly if aggregated and anonymized in accordance with OCED protocols.

If funded through all four phases, DOE expects that the projects selected under this NOFO will significantly advance technical and commercial viability. Projects may be decommissioned at the end of the pilot or continue to operate beyond the financial assistance project period (beyond DOE funding). Achieving DOE's broad end goals will necessitate review and evaluation of proposed project characteristics that include cost, schedule, and scope; technology; environmental; business; market; financial; management; community support or other factors throughout the project to validate assumptions made for determining technical and commercial viability.

The phased approach is designed to guide Recipients through the project development process incrementally. Each subsequent phase is structured to ensure that each award meets a standard level of maturity, employs a robust execution approach, and that technical and non-technical project risks are adequately and appropriately managed throughout the award. If the project expects to continue operating fully independent of Federal funds, DOE may also request financial sustainability plans or long-term decommissioning plans as part of future decision points. This may include proposed sources of funding/revenue and the business model which will support the projects beyond the DOE award.

## Cooperative Agreement Substantial Involvement

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A Cooperative Agreement is an award funding type where there will be substantial Federal scientific or programmatic involvement. Substantial involvement includes but is not limited to the following:

1. DOE shares responsibility with the recipient for the management, control, direction, and performance of the project.
2. DOE may intervene in the conduct or performance of work under this award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.
3. DOE may redirect or discontinue funding the project based on the outcome of DOE's evaluation of the project at the Go/No-Go decision point(s).
4. DOE participates in major project decision-making processes.

## Unallowable Costs

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All expenditures must be allowable, allocable, and reasonable in accordance with the applicable Federal cost principles. Pursuant to [2 CFR 910.352](#), the cost principles in the Federal Acquisition Regulations ([48 CFR 31.2](#)) apply to for-profit entities. The cost principles contained in [2 CFR Part 200 Subpart E](#) apply to all entities other than for-profits.

## Pre-Award Costs

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Applicants selected for award negotiations (selectees) must request prior written approval to charge pre-award costs. Pre-award costs cannot be incurred prior to Applicants receiving notification of selection for award negotiations.

Pre-award expenditures are made at the applicant's risk. DOE is not obligated to reimburse costs as outlined in the *Applicant Supplemental Budget and Cost Information* document located on the [Preparing Your Budget](#) page.

## Authorizing Statutes and Regulations

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Section 3201(c) of the Energy Act of 2020, as amended by Section 41001 of the Infrastructure Investment and Jobs Act of 2021, Public Law 117-58, codified at 42 U.S.C. § 17232(c).

1. REVIEW

2. GET READY

3. SUBMIT

4. SELECTION

5. REQUIREMENTS

6. CONTACTS

# STEP 2: GET READY TO APPLY

## IN THIS STEP

Application Contents and Format

# Application Contents and Format

Component and Subcomponent	File Naming Convention	Page Limit	Format
Concept Paper	ControlNumber_LeadOrganization_ConceptPaper.pdf	6	PDF
<b>Application</b>			
Application For Federal Assistance	Standard Form <a href="#">SF-424</a>	N/A	PDF
Technical Volume	ControlNumber_LeadOrganization_TechVol.pdf	25	PDF
Community Benefits Plan	ControlNumber_LeadOrganization_CBP.pdf	5	PDF
Community Partnership Documentation	ControlNumber_LeadOrganization_Partner_Doc.pdf	2	PDF
Impacting Indian Tribe Documentation	ControlNumber_LeadOrganization_IMT_Doc.pdf	N/A	PDF
Resumes	ControlNumber_LeadOrganization_Resumes.pdf	2	PDF
Letters of Commitment	ControlNumber_LeadOrganization_LOCs.pdf	1	PDF
Application for Federal Assistance	Standard Form <a href="#">SF-424</a>	N/A	N/A
Budget SF-424-A	Standard Form <a href="#">SF-424-A</a>	N/A	N/A
Budget Justification Workbook	ControlNumber_LeadOrganization_Budget_Justification.xlsx		Excel
Subrecipient Budget	ControlNumber_LeadOrganization_Subrecipient_Budget_Justification.xlsx		Excel
Transparency of Foreign Connections	ControlNumber_LeadOrganization_TransparencyFC.pdf	N/A	PDF
Potentially Duplicative Funding	ControlNumber_LeadOrganization_DupFund.pdf	N/A	PDF

## Application Package

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This application process includes 2 stages: Concept Paper and Application. The application and supplemental information you submit through electronic systems used by the DOE, including OCED eXCHANGE and FedConnect.net, constitutes the authorized representative's approval and electronic signature.

This NOFO may also require the following:

- Third-party information such as references, letters of support, or letters of commitment to the project or to contribute to cost sharing.
- A reference to any requirements to provide documentation to support an eligibility determination, such as proof of 501(c)(3) status or an authorizing tribal resolution.
- If applicable, the need to identify proprietary information. Include how to do so and how the Federal agency will handle it.

## Document Format Requirements

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Your submission must conform to the form and content requirements described in this section, including maximum page lengths. A Control Number will be issued when you begin the OCED eXCHANGE application process. The control number must be included with all Application documents. The control number must be prominently displayed on the upper right corner of the header of every page and included in the file name (i.e., Control Number\_Applicant Name\_Application).

## Format Requirements

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- Each document must be submitted in **Adobe PDF** format unless otherwise stated (e.g., Budget in Excel).
- Include assigned **Control Number** in upper right corner of the header of every page along with the file name.
- Page numbers must be included in the footer of every page.
- You must not exceed the specified page limit. DOE will only review authorized number of pages.
- All documents must be written in **English** language.
- All pages must format to fit 8.5-11-inch paper with margins no less than one inch on all sides.
- Use **Calibri** typeface, **black** font color, font size of **12 point** or larger. Figures and tables may use 10-point font.
- References must be included as footnotes or endnotes in a **font size of 10** or larger. Footnotes and endnotes are counted toward the maximum page requirement.



- The maximum file size that can be uploaded to the OCED eXCHANGE website is **50 megabytes (MB)**. Files in excess of 50 MB cannot be uploaded, and hence cannot be submitted for review.
- If a file exceeds 50 MB but is still within the maximum page limit specified in the NOFO, it must be broken into parts and denoted to that effect.

## 1. Concept Paper

### **Content**

- Cover Page
- Technical Solution and Business Case
- Project Plan and Team
- Community Benefits Plan

**Total Concept Paper page limit: 6 pages**

Applicants must submit a Concept Paper by the specified due date and time to be eligible to submit an Application. Applicants who do not submit a Concept Paper cannot submit an Application. Each Concept Paper must be limited to a single concept. The Concept Paper must conform to the requirements listed below, including the stated page limits. Each Concept Paper must be submitted as a single file in OCED eXCHANGE.

The Concept Paper must address all the requirements described in this subsection. DOE will review only the authorized number of pages. Please note that all statements of expertise provided will need to be substantiated in the Application submission. DOE makes an independent assessment of each Concept Paper based on the criterion in [Step 4: Application Review Information](#). DOE will encourage a subset of applicants to submit Applications and other applicants will be discouraged from submitting an application, see [Step 4: Award Notices](#).

The following are the Concept Paper components and their requirements. Each potential applicant must provide the following information as part of the Concept Paper.

### **Cover Page**

The cover page must include all of the following:

- The project title.
- The project team, including recipient name, entity type and an explanation of eligibility as described in [Step 1](#), both the technical and business points of contact, and names of all team member organizations.
- The project location(s).
- The proposed energy storage solution and capacity.
- The proposed Federal funding level, cost share and period of performance.
- Any statements regarding confidentiality as described in [Step 3](#).
- Applicants are encouraged to use the cover page format shown at the end of the [Step 2](#) section.

## Technical Solution and Business Case

Applicants are required to describe:

- The technology solution to be demonstrated, including pilot system capacity and key performance indicators such as anticipated system capital costs, lifetime and degradation, round trip efficiency, idle energy losses, and system physical size. Applicant should include figures, schematics, and performance data as appropriate.
- Justification for the commercial relevance of proposed system capacity.
- Preliminary business plan for replication and scaling of the technology solution.
- Preliminary list of potential cost-reduction mechanisms and sources.
- Preliminary budget for the proposed project.
- Preliminary financing plan for the proposed project.
- The impact that DOE funding would have on the proposed project.

## Project Plan and Team

Applicants are required to describe:

- The proposed demonstration site, including rationale for selection.
- Preliminary development plan and timeline, including key risks and regulatory actions.
- Preliminary test plan, including any identified standards and protocols and anticipated outputs.
- Team qualifications and capabilities, prior experience, and key roles and responsibilities.
- A summary of data and information sharing agreements that will be necessary for the project including information about which ones are already in place and steps necessary to obtain the remaining agreements.

## Community Benefits Plan

Applicants are required to explain how their proposed project will address these four core elements:

- Supporting meaningful community and labor engagement.
- Preparing a skilled workforce and supporting quality jobs.
- Advancing diversity, equity, inclusion, and accessibility.
- Contributing to the Justice40 Initiative goal that 40% of the overall benefits of Federal climate and clean energy investments flow to disadvantaged communities.

For additional information, see [About Community Benefits Plans](#).

## 2. Application

### ***Content***

- Cover Page
- Project Overview
- Technical Approach
- Financial and Market Viability
- Management and Organization
- Workplan
- Risk Analysis and Mitigation

**Total Technical Volume Maximum Page Limit: 25 pages**

**Only applicants who have submitted an eligible Concept Paper will be eligible to submit an application.**

Applicants will have approximately 75 days from DOE's posting of the Concept Paper Encourage/Discourage notification on OCED eXCHANGE to prepare and submit an application.

Regardless of the date the applicant receives the Encourage/Discourage notification (see Step 4: [Award Notices](#)), the submission deadline for the Application remains the date and time stated on the NOFO cover page.

Each Application must be limited to a single proposal. Applications must conform to the content and form requirements listed below and must not exceed the stated page limits. Applicants must provide sufficient citations and references to justify the claims and approaches made to DOE. However, DOE and reviewers are under no obligation to review cited sources.

### **Technical Volume**

The Technical Volume must include the table of contents, and all citations, charts, graphs, maps, photos, or other graphics, and must include all the components listed above. The Applicant should consider the weighting of each of the technical review criterion (see Step 4: Application Review Information) when preparing the Technical Volume. All elements of the Technical Volume must be addressed; however, it is expected the applicant will tailor the information provided in the Technical Volume to the size and complexity of the proposed project.

## Cover Page:

The cover page must include all of the following:

- The project title.
- The project team, including recipient name, entity type and an explanation of eligibility as described in [Step 1](#), both the technical and business points of contact, and names of all team member organizations.
- The project location(s).
- The proposed energy storage solution and capacity.
- The proposed Federal funding level, cost share and period of performance.
- Any statements regarding confidentiality as described in [Step 3](#).
- Applicants are encouraged to use the cover page format shown at the end of the [Step 2](#) section.

## Project Overview:

This section must include a description of:

- The technology solution to be demonstrated.
- The major value proposition of the proposed solution, and the plan to translate pilot demonstration results into a commercial solution.
- The team's rationale for pursuing this project.
- The high-level objectives and performance targets for the project.
- The demonstration location and why it was chosen.
- The impact of DOE funding and how the DOE funding, relative to prior, current, or anticipated funding from other public and private sources, is necessary to achieve the project objectives.
- How the project will enable further replication and/or extension of the project and approach.
- The ways in which the proposed project location and related infrastructure, skilled workforce, community engagement, and others will contribute to the overall project viability and long-term success.

## Technical Approach:

This section must include a description of:

- The proposed energy storage technology including:
  - The specific pilot system proposed for this project, including system capacity and any existing engineering evaluations and design work.
  - Operational characteristics and typical system architectures, including a system schematic.
  - A justification of the system size chosen, including the relevance of this system size for future commercial operation
  - A clear articulation of similarities and differences relative to the anticipated commercial system design.
  - Preliminary supply chain assessment for pilot project and future commercial systems, including required critical minerals and raw materials.
  - Current manufacturing approaches, comparison to anticipated manufacturing methods for commercial-scale deployments, and a discussion of how the system components will be procured or fabricated for this project.

- Test data and test reports from prior scale and an explanation of a path towards required performance levels. Test data should demonstrate the system’s ability to meet the 10-hour discharge requirement and the minimum capacity requirement or an explanation of how that duration and capacity will be achieved if the prior scale was a different duration and/or size.
- Performance Indicators, including
  - Key Performance Indicators (KPIs) including: system capital costs, lifetime and degradation, round trip efficiency, idle energy losses, and system physical size for (1) existing systems; (2) planned pilot system in this project; (3) targets for future commercial-scale systems. Discuss sources of lifetime limitations and degradation and how this pilot will mitigate those issues in preparation for future commercial deployment.
  - Any additional metrics and associated target values that will be utilized to establish value of the proposed demonstration.
- Siting and test considerations, including:
  - The pilot test environment and the rationale for selection.
  - NEPA considerations for the proposed site.
  - Testing plans and justification of how the tests chosen will provide the needed information for future scale-up and deployment.
  - Data and information sharing agreements that will be necessary for the project, including information about which agreements are already in place and steps necessary to obtain the remaining agreements.
  - Identification of key items such as contracts, required permits and other agreements necessary to accomplish the proposed project
  - Environmental impact of the proposed approach, including emissions changes from current operations and any other local air and water emissions or utilization impacts. Descriptions should include estimates for any readily quantifiable elements such as new zero-carbon generation enabled, new carbon-emitting capacity avoided, and similar.

## Financial and Market Viability:

This section must include:

- An evaluation the project’s commercial adoption readiness using the risk dimensions outlined in DOE’s Adoption Readiness Level Framework (ARL)<sup>20</sup> or a similar framework. Assessment should include a rating (High / Medium / Low) for each risk dimension and discuss which elements of the application address higher risk dimensions (e.g., Delivered Cost is currently “medium risk,” and the Techno-Economic Analysis (TEA) demonstrates the cost-curve pathway to “low risk,” or cost parity with incumbent solutions).

<sup>20</sup> <https://www.energy.gov/technologytransitions/adoption-readiness-levels-arl-complement-trl>

- A preliminary project finance plan, including total project funding requirements, financial relationship between project members, plan and ability to meet cost share, including other sources of project funding or finance. This plan should also include a project finance diagram.
- A preliminary business plan, including:
  - A TEA of the proposed technology solution, considering both the proposed project and future commercial deployments under selected market conditions.
  - Potential sources of cost reductions for future projects and estimates of Nth-of-a-kind costs.
  - Strategies and key actions to scale and replicate the proposed solution to commercial scale, including key partnerships, future demonstrations, and similar.

## Management and Organization:

This section must include:

- Management Plan, including key organizational members and structure, project partners roles and responsibilities, and relevant prior experience. This plan must address any changes to the personnel, approach and/or responsibilities as the project moves from planning to implementation and demonstration.
- Description of the skills and expertise that the Lead Project Manager (LPM) and Project Team have to successfully design, develop, and operate the proposed plan.
- Description of any relevant prior organizational experience, which demonstrates an ability to perform tasks of similar risk and complexity. If applicable, provide details on the applicant team's prior work together on projects.
- Safety and Occupational Health Plans: Applications should include a brief description of safety culture, including safety and occupational health plan, and available performance history (such as an OSHA 300A form or Experience Modification Rating) of the entities and management involved in the award.
- Time commitment of key roles and personnel: A table showing time commitment (hours per week) of key organizational roles for all project phases and key personnel to fill each role for, at minimum, Phase 1 and Phase 2.
- A summary organization chart of the team must be provided. The chart must include identification of any subrecipients or contractors.

## Workplan:

The Workplan must include:

- Technical Scope Summary, divided by budget periods in alignment with the four Project Phases described in Figure 2.
- Proposed Go/No-Go Decision Points for each project phase.
- **Work Breakdown Structure (WBS).**
- **Integrated Project Schedule (IPS)** showing critical path for the entire project, and including task and subtask durations, milestones, Community Benefits Plan, and Go/No-Go decision.
- **Task Description Summary**, with a concise description of the specific activities to be conducted over the life of the project (including project construction and operations) for each task/subtask. This should include identification of the anticipated Federal, state, and local codes, regulations, and permitting requirements applicable to siting, construction, and operation of the proposed project.
- A summary of the End of Project Goal(s).

## Risk Analysis and Mitigation:

This section must include an initial Risk Management Plan (RMP), including:

- Identification of **technical** risks, including technology, systems integration, infrastructure, engineering, scale-up and similar elements.
- Identification of **security** risks, including cybersecurity, physical security, internal and external threat identification and response, and similar elements.
- Identification of **financial** risks including project finance, market and regulatory structures, commercial business models, and similar elements.
- Identification of **organizational** risks, including project team, project management structure, and similar elements.
- Identification of **execution** risks, including engineering, procurement, construction, permitting, safety, testing, and similar elements.
- Assessment of the probability of occurrence of each risk and potential impacts.
- Identification of proposed mitigations for identified risks.

## Community Benefits Plan

Projects funded under this NOFO are required to support meaningful community and labor engagement; invest in the American workforce; advance diversity, equity, inclusion, and accessibility (DEIA); and contribute to the President's goal that 40% of overall benefits of certain Federal investments flow to disadvantaged communities (the Justice40 Initiative). CBP activities should be fully integrated into the project schedule, workplan, budget, and other key documents. For additional information, see [About Community Benefits Plans](#). Applicants are encouraged to provide Community and Labor Partnership Documentation (submitted under the Community Partnership Documentation) from organizations reflecting engagement and feedback on the applicant's CBP.

The CBP is organized into three parts: Part A addresses budget and staff; Part B addresses the community and workforce impacts of the pilot project itself; and Part C addresses plans for assessing how the project, including lessons learned through project implementation, can lead to the expansion of LDES benefits to Tribes, disadvantaged communities (as identified through the Climate and Economic Justice Screening Tool), Low-to-Moderate Income communities (LMIs), Minority-Serving Institutions (MSIs), and/or businesses majority owned or controlled by underrepresented<sup>21</sup> persons or groups of underrepresented persons, hereafter referred to as underrepresented businesses.

**The CBP must not exceed 5 pages total.**

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<sup>21</sup> "Underrepresented" refers to populations sharing a particular characteristic, as well as geographic communities, that are shown to have been systematically denied a full opportunity to participate in aspects of economic, social, and civic life, as exemplified by communities that have been denied fair, just, and impartial treatment, which may include women, persons with disabilities, persons who live in rural areas, persons otherwise adversely affected by persistent poverty or inequality, veterans, members of religious minorities, Black, Latino, Indigenous and Native American persons, Asian Americans and Pacific Islanders, other persons of color, and lesbian, gay, bisexual, transgender, and queer (LGBTQ+) persons.



### **Part A: CBP Budget and Staff**

Part A should address the CBP budget and staff proposed for the implementation of CBP Parts B (impacts during project phases 1-4) and C (plans to expand benefits for future LDES deployment).

Applicants must describe the roles and responsibilities, expertise, and percentage time commitment of the staff who will have responsibility to implement the community benefits activities. Applicants must provide cost data and justification in the OCED Budget Justification Workbook template.

### **Part B: Impacts during project phases 1-4**

Part B of the Community Benefits Plan should address the community and workforce impacts of project phases 1-4 at and around the proposed project location(s).

**Community and Labor Engagement.** This section should include the following elements:

1. **Community and Stakeholder Overview.** Describe communities or groups that could experience impacts from the proposed project. Summarize the social, economic, environmental, and energy characteristics of these groups.
2. **Engagement Plan.** Describe objectives, approaches, and timelines for engaging stakeholders, workforce organizations, labor unions, and other impacted communities, including underrepresented groups. Discuss how the project will incorporate input from engagement, how engagement can impact project decisions or characteristics, and how communities will access, and participate in collecting, project data. If applicable, describe any plans to negotiate Workforce and Community Agreements.<sup>22</sup>

If awarded, and in conjunction with DOE, the Recipient will also identify federally recognized Indian tribes, including Alaska Native village or regional or village corporations (who are not project partners) whom the proposed project may impact as applicable. The Recipient will provide information to support DOE's development of a Tribal engagement plan that acknowledges each Tribe's consultation policies, traditions, and expectations, and adheres to [DOE Order 144.1](#) on Tribal consultation, so appropriate mitigation can be identified through government-to-government consultation to off-set potentially unintended adverse impacts. DOE is and remains responsible for government-to-government consultation with federally recognized Indian tribes, including Alaska Native village or regional or village corporations.

**Quality Jobs and Workforce Development.** This section should include the following elements:

1. **Quality Jobs.** Describe plans and ongoing efforts to attract and retain a skilled, local workforce that includes workers from underrepresented communities or groups and from disadvantaged communities for construction (if applicable), operations, and decommissioning (if applicable). Describe the quality of existing and anticipated jobs, if applicable, for this project, including efforts to support worker organizing and collective bargaining.

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<sup>22</sup> The applicant should consider that for large construction projects, DOE may require a Project Labor Agreement (PLA), an agreement between a private entity (or entities) and a labor organization (or organizations) representing individuals who will be working on a construction project. Assessment of applicability will be conducted on a case-by-case basis.

2. **Workforce Development.** Describe plans and ongoing efforts to invest in workforce development, including workforce education and training for local workers and support for workers' skill acquisition and opportunities for advancement.

**Diversity, Equity, Inclusion, and Accessibility (DEIA).** This section should include the following elements:

1. **Background and Advancing Current Efforts.** Describe the team's prior and ongoing DEIA efforts. Describe how DEIA is incorporated in the technical project objectives and identify specific actions to integrate into the research goals and project teams. Submitting an institutional DEIA plan without specific integration into the project will be deemed insufficient.
2. **Implementation Plan.** Describe DEIA outcomes and implementation strategies by project phase. Include any plans to:
  - a. Partner with Tribes
  - b. Partner with MSIs and underrepresented businesses
  - c. Support underrepresented suppliers or sub-contractors
  - d. Provide comprehensive supportive services (to improve representation and access to jobs) and work with other organizations serving underrepresented communities and those facing barriers to employment.

**Justice40 Initiative:** This section should include the following elements:

1. **Assessment of project benefits.** Describe all anticipated pilot project benefits to impacted communities and workers, including but not limited to reductions in energy burden, improvements in energy reliability and resiliency, and avoided or reduced pollution. For each benefit, include the expected magnitude of the benefit; metrics to track the benefit; time horizon for the benefit; and the % of the benefit that will flow to Disadvantaged communities.
2. **Assessment of project negative impacts.** Describe all anticipated pilot project negative impacts (including direct, indirect, and cumulative impacts).<sup>23</sup> For each negative impact, include the expected magnitude of the impact; metrics to track the impact; time horizon for the impact; and the % of the impact that will flow to Disadvantaged communities. Describe how project negative impacts will interact with existing cumulative burdens.
3. **Implementation Plan.** Describe any strategies, methods, and milestones aligned with project phases to:
  - a. Maximize benefits, including reductions in energy burden, improvements in reliability and resiliency, and pollution reduction in disadvantaged communities
  - b. Minimize negative impacts, including impacts to disadvantaged communities
  - c. Measure, track, and report impacts, including impacts to disadvantaged communities
  - d. Ensure accountability, feedback, and transparency mechanisms, especially to impacted disadvantaged communities.

<sup>23</sup> Negative impacts may include ecological (e.g., effects on natural resources and on components, structures, and functioning of ecosystems), aesthetic, historic, cultural, economic, social, or health impacts.

### **Part C: Plans to expand benefits for future LDES deployment**

This part of the CBP should explain plans for assessing how the project, including lessons learned through project implementation, can lead to the expansion of LDES benefits to Tribes, disadvantaged communities, LMIs, MSIs, and/or underrepresented business enterprises, suppliers, and contractors as the LDES technology is commercially deployed. This should include the following elements:

1. **Workforce analysis and tracking:** Describe plans to identify workforce needs for commercial deployment of the LDES technology, including job type, number of positions, and skills needed for manufacturing, installation, operations, and maintenance. Describe plans to identify any gaps in the current U.S. workforce, or in local workforces in areas that may be likely to host LDES installations, related to job skills and workforce availability. If any information related to workforce needs is already known, please include.
2. **Plans for equitable LDES deployment:** Describe plans to assess anticipated technology benefits to host communities and workers if the technology is deployed commercially. This should include, at a minimum, plans to assess air pollution, emissions, or discharges; water use; waste streams; any other process or construction inputs or outputs that could cause environmental, health, economic, or other impacts; and changes to consumer energy prices. Describe plans to assess barriers to equitable LDES deployment, especially deployment in disadvantaged communities. Describe plans to develop strategies for technology design and deployment that could maximize benefits for host communities and maximize benefit flow to disadvantaged communities. Propose activities to apply project learnings and extend successful project results to improve equitable outcomes from future projects. If any information related to benefits, negative impacts, and barriers is already known, please include.
3. **Plans to support Underrepresented businesses in LDES supply chain and contracting:** Describe plans to increase opportunities for underrepresented businesses in LDES supply chain and contracting.
4. **Engagement:** Identify individuals or groups that have specific expertise in just and equitable LDES deployment and workforce development and outline engagement strategies for how the team will collaborate with these groups for CBP Part C. Describe plans to disseminate results to Tribal communities, LMI communities, or disadvantaged communities in collaboration with those communities to understand the potential for equitable commercial deployment.

### **Community Partnership Documentation**

In support of the Community Benefits Plan, applicants may submit letters, Memoranda of Understanding, or other similar agreements from partnering Tribes, labor unions, and/or community entities specifically describing the nature of existing or planned partnerships. If the applicant intends to enter into a Workforce and Community Agreement, please include letters from proposed partners. Supporting documents may each be up to two pages in length.

## Impacted Indian Tribe Documentation

For any application that potentially impacts Indian Tribes or is on Tribal land<sup>24</sup>, including when the potentially impacted Indian Tribe is the applicant, applicants are required to submit additional documentation at the time of application, and possibly during negotiation and prior to award. For any project that potentially impacts Indian Tribes, applicants are required to submit documentation demonstrating that an authorized representative<sup>25</sup> of each potentially impacted Indian Tribe is, at a minimum, aware of the nature of the application and its potential impacts to the relevant Indian Tribes. The notified authorized representative must be holding their position while the award is open for applications, and documentation must demonstrate affirmative awareness of the application (e.g., a delivery record from certified mail, a reply by the authorized representative).

For any project intended to be sited on Tribal land(s) or intersecting with Tribal subsurface rights, applicants are required to submit documentation demonstrating support from the relevant Indian Tribes at the time of application.

Documentation of support submitted at the time of application will be considered to also demonstrate awareness of an Indian Tribe (specified above). Documentation may include either:

- A letter of support from Tribal leadership. The letter must be signed by an authorized representative of the Indian Tribe. The signer(s) must be holding their position while the award is open for applications or negotiations.
- A Tribal Council Resolution, Board resolution (including the Board of Directors of an Alaska Native Corporation (ANC)), or similar act passed by the legislative body of the Tribal government or Board of Directors of an ANC, expressing support for the project.

Applicants are encouraged to reference or include any applicable community benefits agreements in the Tribal support documentation, and to integrate any Tribal support documentation in the Community Benefits Plan as appropriate. For projects not intended to be sited on Tribal land(s) or intersecting with Tribal subsurface rights, but that may have other potential impacts on Tribal resources or reserved rights, letters of support or resolutions of support are strongly encouraged and, depending on the nature of the impact, may be required if selected for negotiation of an agreement. Applicants are encouraged to reach out to Indian Tribes as early as possible in the application process to give Indian Tribes ample time to evaluate and respond.

The following resources may be useful to help determine if a project may impact an Indian Tribe(s) resources or reserved rights and the appropriate contacts. These resources are not exhaustive, and many Indian Tribes have resources or reserved rights which extend beyond their Tribal lands, or are covered within treaties, statutes, or case-law.

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<sup>24</sup> Tribal land is as defined in 25 U.S.C. §§ 3501(2), (3), (4)(A) and (13)

<sup>25</sup> An authorized representative must be an elected official or designated leader according to the traditions, constitution, or charter of the Indian Tribe, or someone with relevant delegated authority within the Tribal government. Examples include: Chief, Chairman, Chairwoman, Governor, Nation Representative, President, Chief Executive Officer, Chief Financial Officer, Speaker of the Council, Speaker of the Congress, Tribal administrator

Applicants are encouraged to do additional research:

- Map of Indian Lands: <https://bia-geospatial-internal.geoplatform.gov/indianlands/>
- Tribal Treaties Database: <https://treaties.okstate.edu/>
- Directory of Federally recognized Tribes and Tribal leaders: <https://www.bia.gov/service/tribal-leaders-directory>
- Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and other similar rights in Federal regulatory actions: [https://www.bia.gov/sites/default/files/media\\_document/best\\_practices\\_guide.pdf](https://www.bia.gov/sites/default/files/media_document/best_practices_guide.pdf)

To help determine if an Indian Tribe's resources or reserved rights may be impacted by the project, applicants must address the following elements. If the applicant is an Indian Tribe, these elements should be addressed to ascertain impacts to Indian Tribes other than the applicant. Applicants do not need to reveal specific details about sacred sites such as specific location or specific ceremonies:

- Identify any elements of the project that will occur on or near Indian land, Tribal historic sites, or sacred sites and describe its potential impacts to Indian Tribes. Identify the potentially impacted Indian Tribe(s).
- Identify any [other] proposed actions which may impact an Indian Tribe(s) resources or reserved rights. Tribal resources and reserved rights include, and are not limited to, an Indian Reservation or Land (as defined in 25 U.S.C. § 3501) [or intersecting Tribal sub-surface rights], historic homelands from which they were removed, cultural sites, sacred sites, water rights, mineral and other subsurface rights, fishing rights, and hunting rights. Identify the Tribe(s) potentially impacted and any sources of uncertainty or confidentiality.
- Explain any actions taken by the applicant to mitigate or address any potential impacts identified above, including engaging with the potentially impacted Indian Tribe(s), in the application.

Applicants are required to document any efforts taken to identify any potential impacts to Indian Tribes, Indian lands, Alaska Native regional and village land, traditional homelands, Tribal rights, or Tribal historic sites, or sacred sites. This includes any correspondence with Indian Tribes. These documents should be available on request to DOE. An applicant's failure to submit documentation of an Indian Tribe's awareness, or a letter of support, when required as described above, may constitute grounds for determining an application ineligible, non-responsive to the NOFO/OT solicitation, not subject to further review and/or not otherwise subject to selection or award.

Any application that may potentially impact Indian Tribe(s) may be shared with the potentially impacted Indian Tribe(s). Thus, although it is recommended that Applicants avoid including in their application trade secret or business-sensitive, proprietary or otherwise confidential information, if such information must be included, applicants should include a Notice of Restriction on Disclosure and Use of Data identifying any business sensitive, trade secrets, proprietary, or otherwise confidential information as further described in the section entitled [Treatment of Applicant Information](#).

Such information shall be used or disclosed only for evaluation of the application or to determine whether the proposed project affects an Indian Tribe(s). If an applicant determines an Indian Tribe(s) will be impacted, the applicant must provide information on the project location, potential impacts and how the applicant will engage with Indian Tribe(s), during the period of performance of the agreement, and, if necessary, after the end of the agreement.

Approval by DOE must be obtained before any activities take place that could impact Tribal resources or reserved rights, including but not limited to lands, cultural sites, sacred sites, water rights, mineral rights, fishing rights, and hunting rights. DOE will determine if formal government-to-government consultation is needed, and DOE will conduct that consultation accordingly, in addition to any engagement by applicant.

## Resumes

A resume must be provided for all senior and key personnel. A resume provides information that can be used by reviewers to evaluate the individual's relevant skills and experience of the personnel. Resumes may be up to two pages in length.

## Letters of Commitment

Submit letters of commitment from all subrecipient and third-party cost share providers. If applicable, the letter must state that the third-party cost share provider is committed to providing a specific minimum dollar amount or value of in-kind contributions allocated to cost sharing. The following information for each third party contributing to cost sharing should be identified: (1) the name of the organization; (2) the proposed dollar amount to be provided; and (3) the proposed cost sharing type – (cash-or in-kind contributions). Each letter must not exceed one page.

## Application for Federal Assistance (SF-424)

The Standard Form [SF-424](#) represents the government-wide standard form for grant application packages, and requires basic information about the applicant (name, address, telephone number, type of applicant, etc.), including a list of sources of proposed funding and a description of the proposed project.

Complete all required fields in accordance with the instructions on the form.

In Field 21 of the SF-424, the authorized representative must certify and agree with the Certification and Assurances found on [SAM.gov](#).

Note: The dates and dollar amount on the SF-424 are for the complete project.

## Budget and Budget Justification Workbook

Applicants must provide a Budget and a Budget Justification Workbook. For any subaward listed in the application, a separate Budget Justification Workbook must be provided for each subaward listed in the application. See the [Required Applications Documents](#) section and the [Applicant Supplemental Budget and Cost Information](#) for guidance.

## Budget

Applicants must use the [Standard Form SF-424-A BUDGET INFORMATION - Non-Construction Programs](#) to submit their budget.

## Budget Justification Workbook

Applicants are encouraged to use the Budget Justification Workbook template available on OCED eXCHANGE at <https://oced-exchange.energy.gov/> or it can be found on the [Apply for Funding Opportunities](#) page. The Budget Justification Workbook includes built in calculations to support a detailed and robust budget and a narrative which supports the information you provide in the Standard Form SF-424-A. Applicants must complete each tab within the “Budget Justification Workbook” for the project, including all work to be performed by the recipient and its subrecipients and contractors. If the applicant elects to not use the Budget Justification Workbook template, they must provide all data elements and justifications which follow the SF-424a and the Budget Justification Workbook template.

Applicants must include costs associated with implementing the various Bipartisan Infrastructure Law (BIL)/Inflation Reduction Act (IRA)-specific requirements (e.g., Buy America requirements for infrastructure projects, Davis-Bacon, reporting, oversight, construction signage<sup>26</sup>) and with required annual audits and incurred cost proposals in their proposed budget documents. Such costs may be reimbursed as a direct or indirect cost. These costs must be justified in the narrative section with details and description for the basis of each proposed cost, explaining how it was calculated, and how the costs associated with each budget category relate to the implementation of the project.

## Transparency of Foreign Connections

Applicants must identify the following as they relate to the proposed recipient and subrecipients:

1. Entity name, website address, and physical address.
2. The identity of all owners, Principal Investigator/Lead Project Manager, and senior/key personnel, at the recipient and subrecipient level, who are a party to any *Foreign Government-Sponsored Talent Recruitment Program* of a foreign country of risk (i.e., China, Iran, North Korea, and Russia).
3. The existence of any joint venture or subsidiary that is based in, funded by, or has a foreign affiliation with any foreign country of risk.<sup>27</sup>
4. Any current or pending contractual or financial obligation or other agreement specific to a business arrangement, or joint venture-like arrangement with an enterprise owned by a foreign state or any foreign entity.
5. Percentage, if any, that the proposed recipient or subrecipient has foreign ownership or control.
6. Percentage, if any, that the proposed recipient or subrecipient is wholly or partially owned, directly or indirectly, by an entity in a foreign country of risk.

<sup>26</sup> After receiving a DOE award, recipients are encouraged to display DOE Investing in America signage during and after construction. Guidance can be found at: (<https://www.energy.gov/design>). Proposed signage costs that meet these specifications are an allowable cost and should be included in the proposed project budget.

<sup>27</sup> Countries of risk may change but currently include the People’s Republic of China, Iran, Russia, and North Korea.



7. Percentage, if any, of venture capital or institutional investment by an entity that has a general partner or individual holding a leadership role in such entity who has an affiliation with any foreign country of risk.
8. Any technology licensing or intellectual property sales to a foreign country of risk, during the 5-year period preceding submission of the proposal.
9. Any equipment that is identified at the time of application, that will be used on the project, and that is made, or uses code written in a foreign country of risk.
10. Any foreign business entity, offshore entity, or entity outside the United States related to the proposed recipient or subrecipient.
11. An organization chart to illustrate the relationship between your entity and the immediate parent, ultimate parent, and any intermediate parent, as well as any subsidiary or affiliates. Identify where each entity is incorporated.

DOE reserves the right to request additional or clarifying information based on the information submitted.

## Potentially Duplicative Federal Funding

If the applicant or project team member has other active awards of Federal funds, the applicant must determine whether the activities of those awards potentially overlap with the activities set forth in its application to this NOFO. If there is a potential overlap, the applicant must notify DOE in writing of the potential overlap and state how it will ensure any project funds (i.e., recipient cost share and Federal funds) will not be used for identical cost items under multiple awards.

Likewise, for projects that receive funding under this NOFO, if a recipient or project team member receives any other award of Federal funds for activities that potentially overlap with the activities funded under the DOE award, the recipient must promptly notify DOE in writing of the potential overlap and state whether project funds from any of those other Federal awards have been, are being, or are to be used (in whole or in part) for one or more of the identical cost items under the DOE award. If there are identical cost items, the recipient must promptly notify the DOE Grants and Agreements Officer in writing of the potential duplication and eliminate any inappropriate duplication of funding.

If a recipient or project team member receives any other award of Federal funds for activities that potentially overlap with the activities funded under the DOE award, the recipient must promptly notify DOE in writing of the potential overlap and state whether project funds from any of those other Federal awards have been, are being, or are to be used (in whole or in part) for one or more of the identical cost items under the DOE award. If there are identical cost items, the recipient must promptly notify the DOE Grants and Agreements Officer in writing of the potential duplication and eliminate any inappropriate duplication of funding.

## Other Required Application Forms

### Disclosure of Lobbying Activities (SF-LLL)



Recipients and subrecipients may not use any Federal funds to influence or attempt to influence, directly or indirectly, any officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress, in connection with any Federal contract, grant, loan, or cooperative agreement. In addition, if any registrants under the Lobbying Disclosure Act of 1995 have made a lobbying contact on behalf of the applicant (including with non-Federal funds) with respect to this funding opportunity, the applicant must complete and submit SF-LLL, “Disclosure of Lobbying Activities” ([SF-424 Individual Family | Grants.gov](#)).

## Other Submission Requirements

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### Applicant Disclosure of Existing Work or Relationship with National Laboratories

The applicant shall disclose pre-existing work or relationship with national laboratories that is prior to this NOFO’s application and that is or may be relevant to the NOFO application.

## Example Cover Page for Concept Papers and Applications

Project Title:		OCED eXCHANGE Control Number:	
Applicant Name:			
Applicant Entity Type and Explanation of Eligibility:			
Project Location by city, state, and zip code +4:			
Proposed Energy Storage Technology:			
Proposed System Capacity (kW/MW and kWh/MWh):			
Team Member Organizations (e.g., Sub-Recipients, Key Technology Providers, and Project Partners):			
Senior/Key Personnel and Their Organizations:			
<p><b>Do the proposed recipient and <u>all</u> subrecipients qualify as domestic entities*?</b> <input type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>If not, specify which entities do not qualify as domestic entities will require a foreign entity disclosure here and include necessary foreign entity disclosures with the application:</p>		<p>* To qualify as a domestic entity, the entity must be organized, chartered, or incorporated (or otherwise formed) under the laws of a particular state or territory of the United States; have majority domestic ownership and control; and have a physical place of business in the United States.</p>	
<b>Points of Contact</b>	Name	Email	Phone Number
Demonstration Project Manager			
Business Point of Contact			
Confidentiality Statement (if applicable):			
Total DOE Funding Request (\$M USD):			
Total Non-Federal Cost Share (\$M USD):			
Total Project Costs (\$M USD):			
Total Period of Performance (yrs):			

1. REVIEW

2. GET READY

3. SUBMIT

4. SELECTION

5. REQUIREMENTS

6. CONTACTS

# STEP 3: SUBMIT YOUR APPLICATION

## IN THIS STEP

[Submission Requirements and Deadlines](#)

# Submission Requirements and Deadlines

## Request application package

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All Application, Concept Paper, forms, and instructions are available on OCED eXCHANGE. To access these materials, go to <https://OCED-exchange.energy.gov> and select the Notice of Funding Opportunity Number (enter Notice of Funding Opportunity Number).

## Submission instructions

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### Actions Needed Prior to Applying

You must complete several one-time actions before applying to this funding opportunity. Some actions may take several weeks, and failure to complete them could interfere with your ability to apply to this funding opportunity, or to meet the negotiation deadlines and receive an award if the Application is selected. These requirements are as follows:

### SAM.gov

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Effective January 1, 2020, the System for Award Management (SAM) is the central repository for common government-wide certifications and representations required of Federal grants recipients. As registration in SAM is required for eligibility for a Federal award and registration must be updated annually, Federal agencies use SAM information to comply with award requirements and avoid increased burden and costs of separate requests for such information, unless the recipient fails to meet a Federal award requirement, or there is a need to make updates to their SAM registration for other purposes.

You must have an active account with SAM.gov. This includes having a Unique Entity Identifier (UEI). SAM.gov registration can take several weeks. Begin that process today. To register, go to [SAM.gov](https://sam.gov) [Entity Registration](#) and click Get Started. From the same page, you can also click on the Entity Registration Checklist for the information you will need to register.

Each applicant must:

1. Be registered in SAM.gov before submitting an Application;
2. Provide a valid Unique Entity Identifier in the Application; and
3. Continue to maintain an active registration in SAM.gov with current information at all times during which you have an active Federal award or an Application or plan under consideration by a Federal agency.

NOTE: Start the UEI and SAM registration process as soon as possible. If you have technical difficulties with the UEI validation or SAM registration process, use the Help feature on SAM.gov.

Additional entity validation resources can be found here: [GSAFSD Tier 0 Knowledge Base - Validating your Entity](#).

DOE may not make a Federal award to an applicant until the applicant has complied with all applicable UEI and SAM requirements and, if an applicant has not fully complied with the requirements by the time DOE is ready to make a Federal award, DOE will determine that the applicant is not qualified to receive a Federal award and use that determination as a basis for making a Federal award to another applicant.

## OCED eXCHANGE

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You must register with and submit application materials through OCED eXCHANGE at <https://oced-exchange.energy.gov>, OCED's online Application portal. See detailed instructions at [Financial Opportunities: Manuals \(energy.gov\)](#). OCED eXCHANGE is designed to enforce the deadlines specified in this funding opportunity. The "Apply" and "Submit" buttons will automatically disable at the defined submission deadlines. If an applicant experiences technical difficulties with a submission, the applicant should contact the OCED eXCHANGE helpdesk for assistance ([OCED-exchangeSupport@hq.doe.gov](mailto:OCED-exchangeSupport@hq.doe.gov)).

## FedConnect

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Register in FedConnect at <https://www.fedconnect.net>. To create an organization account, your organization's SAM.gov Marketing Partner Identification Number is required. For more information about registration requirements, review the FedConnect Ready, Set, Go! Guide at: [https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect\\_Ready\\_Set\\_Go.pdf](https://www.fedconnect.net/FedConnect/Marketing/Documents/FedConnect_Ready_Set_Go.pdf).

## Grants.gov

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Register in Grants.gov (<http://www.grants.gov>) to receive automatic updates when modifications to this NOFO are posted. However, please note that Concept Papers and Applications will not be accepted through Grants.gov. As applicable, modifications to this funding opportunity will be posted on the OCED eXCHANGE website and the Grants.gov system. However, you will only receive an email when a modification is posted if you register for email notifications for this NOFO in Grants.gov. OCED recommends that you register as soon after the release of the NOFO as possible to ensure you receive timely notice of any amendments or other NOFOs.

## Submission dates and times

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### Concept Paper

You must submit your Concept Paper by October 16, 2024, at 5:00pm ET.

### Application

You must submit your Application by February 13<sup>th</sup>, 2025, at 5:00pm ET.

## Intergovernmental review

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Applications under this program are not subject to Executive Order 12372, "Intergovernmental Review of Federal Programs."

## Office of Research, Technology, and Economic Security

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The DOE [Office of Research, Technology, and Economic Security](#) (RTES) performs a due diligence review on recommended applicant selections and alternates. RTES' risk-based review is part of the broader U.S. Government effort to combat undue foreign influence in Federally funded activities. DOE may contact the applicant and/or proposed project team members for additional information to inform the review. This review is conducted separately from the technical merit review.

## Standards for Application Evaluation

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Applications that are determined to be eligible will be evaluated in accordance with this NOFO, by the standards set forth in the Notice of Objective Merit Review Procedure (76 Fed. Reg. 17846, March 31, 2011) and the guidance provided in the [DOE Merit Review Guide for Financial Assistance](#).

## Evaluation and Administration by Non-Federal Personnel

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In conducting the merit review evaluation, the Go/No-Go Reviews and Peer Reviews, the government may seek the advice of qualified non-Federal personnel as reviewers. The government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities, including DOE contractors. The applicant, by submitting its application, consents to the use of non-Federal reviewers/administrators. Non-Federal reviewers must sign conflict of interest and non-disclosure acknowledgements (NDA) prior to reviewing an application. Non-Federal personnel conducting administrative activities must sign an NDA.

## Treatment of Application Information

Applicants should not include business sensitive (e.g., commercial or financial information that is privileged or confidential), trade secrets, proprietary, or otherwise confidential information in their application unless such information is necessary to convey an understanding of the proposed project or to comply with a requirement in the NOFO. Applicants are advised to not include any critically sensitive proprietary detail.

If an application includes business sensitive, trade secrets, proprietary, or otherwise confidential information, it is furnished to the Federal government (government) in confidence with the understanding that the information shall be used or disclosed only for evaluation of the application. Such information will be withheld from public disclosure to the extent permitted by law, including the Freedom of Information Act. Without assuming any liability for inadvertent disclosure, DOE will seek to limit disclosure of such information to its employees and to outside reviewers when necessary for merit review of the application or as otherwise authorized by law. This restriction does not limit the government's right to use the information if it is obtained from another source.

Applications, and other submissions containing confidential, proprietary, or privileged information must be marked as described below. Failure to comply with these marking requirements may result in the disclosure of the unmarked information under the Freedom of Information Act or otherwise. The U.S. Government is not liable for the disclosure or use of unmarked information and may use or disclose such information for any purpose as authorized by law.

The cover sheet of the Application, and other submissions must be marked as follows and identify the specific pages containing business sensitive, trade secrets, proprietary, or otherwise confidential information:

### Notice of Restriction on Disclosure and Use of Data:

"Pages [list applicable pages] of this document may contain business sensitive, trade secrets, proprietary, or otherwise confidential information that is exempt from public disclosure. Such information shall be used or disclosed only for evaluation purposes or in accordance with a financial assistance or loan agreement between the submitter and the Government. The Government may use or disclose any information that is not appropriately marked or otherwise restricted, regardless of source."

In addition, (1) the header and footer of every page that contains business sensitive, trade secret, proprietary, or otherwise confidential information must be marked as follows: "Contains Business Sensitive, Trade Secrets, Proprietary, or otherwise Confidential Information Exempt from Public Disclosure," and (2) every line or paragraph containing such information must be clearly marked with double brackets or highlighting. DOE will make its own determination about the confidential status of the information and treat it according to its determination.

In furtherance of OCED's mission, and to support the further private investment in and deployment of clean energy technologies, as well as to support clean energy markets, OCED may publish aggregated and anonymized data derived from unmarked application information (information that is not marked as business sensitive, trade secret, proprietary, or otherwise confidential information with the Notice of Restriction). The goal is to appropriately share aggregated and anonymized applicant data for the benefit the nation's broader clean energy ecosystem while ensuring robust protection of the underlying information or data.

## Rights in Technical Data Under Award

The Treatment of Applicant Information section discusses data generated prior to the award that the Applicant is submitting as part of the application. This section discusses data that will be part of or arises out of the award itself. For more information the Applicant should review the *NOFO Supplementary Requirements* document located on the [Funding Opportunities](#) page.

Pursuant to special statutory authority, the funding program has determined for awards under this NOFO that Protected Data first produced in the performance of corresponding DOE awards may be protected from public disclosure for up to ten years after the data is first produced. Protected Data is technical data or commercial or financial data first produced in the performance of the award which, if it had been obtained from and first produced by a non-Federal party, would be a trade secret or commercial or financial information that is privileged or confidential under the meaning of 5 U.S.C. 552(b)(4) and which data is marked as being protected data by a party to the award. Such Protected Data must be marked as set forth in the award's intellectual property terms and conditions.

## Intellectual Property Management Plan

Awardees may be required to prepare and submit and executed Intellectual Property Management Plan (IPMP) between the members of the team. While the award IP terms will set forth the treatment of and obligations related to intellectual property rights between DOE and the individual members, the IPMP should describe how the members will handle intellectual property rights and issues between themselves while ensuring compliance with Federal intellectual property laws, regulations, and policies. Refer to the *NOFO Supplementary Requirements* document on the [Funding Opportunities](#) page, for additional information on IPMPs.

## Retention of Submissions

DOE expects to retain copies of all applications and other submissions. No submissions will be returned. By applying to DOE for funding, applicants consent to DOE's retention of their submissions.



## Personally Identifiable Information

All information provided by the applicant must to the greatest extent possible exclude Personally Identifiable Information (PII), which is information which can be used to distinguish or trace an individual's identity, such as their name, social security number, biometric records, alone, or when combined with other personal or identifying information which is linked or linkable to a specific individual, such as date and place of birth, or mother's maiden name. See OMB Memorandum M-07-16 dated May 22, 2007, found at: [https://www.whitehouse.gov/wp-content/uploads/legacy\\_drupal\\_files/omb/memoranda/2007/m07-16.pdf](https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/memoranda/2007/m07-16.pdf).

By way of example, applicants must screen resumes to ensure that they do not contain PII such as personal addresses, personal landline/cell phone numbers, and personal emails. **Under no circumstances should Social Security Numbers (SSNs) be included in the application.** Federal agencies are prohibited from collecting, using, and displaying unnecessary SSNs. See, the Federal Information Security Modernization Act of 2014 (Pub. L. No. 113-283, Dec 18, 2014; 44 U.S.C. § 3551).

# STEP 4: LEARN ABOUT REVIEW AND SELECTION

## IN THIS STEP

[Application Review Information](#)

[Risk review](#)

[Award Notices](#)

# Application Review Information

## Responsiveness review

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The following Concept Papers and Applications will be deemed nonresponsive and will not be reviewed or considered:

- Applications not based on established scientific principles
- Applications proposing approaches identified specifically as NOT of interest.

## Review criteria

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### Compliance criteria

All applicant submissions for Concept Papers and Applications must:

- Comply with the applicable content and form requirements listed in [Step 2](#) of the NOFO
- Include all required documents
- Upload successfully in OCED eXCHANGE including clicking the “Submit” button
- Comply with the submission deadline stated in the NOFO

DOE will not review or consider submissions submitted through means other than OCED eXCHANGE, submissions submitted after the applicable deadline, or incomplete submissions.

## Technical Review Criteria

### Concept Papers

Concept Papers are evaluated based on consideration of the following factors.

#### ***Concept Paper Criterion: Overall NOFO Responsiveness and Viability of the Project (Weight: 100%)***

This criterion involves consideration of the following factors:

- Applicant clearly describes the proposed scope of the pilot demonstration project including the key technologies and systems, demonstration site and test plan, and commercialization approach.
- Applicant clearly identifies how the proposed approach could be replicated and/or extended to commercial-scale long duration energy storage systems.
- Where appropriate, the applicant demonstrates how it plans to leverage other Federal and/or state funding and/or incentive programs (including rebates and tax credits) and partnerships.

- Applicant has identified a preliminary project development plan and timeline that shows a clear path to execution of the proposed project, including a finance plan, any key risks, challenges, and possible mitigation strategies, and has shown the impact that DOE funding and the proposed project would have on supporting decarbonization goals.
- Applicant and proposed team have the qualifications, experience, capabilities, and other resources necessary to design, develop, build, and operate the proposed project.
- Description of strategies to ensure meaningful community and labor engagement, quality jobs and workforce development, DEIA, benefits to disadvantaged communities, the Justice40 Initiative, and methods to ensure accountability for all strategies.
- Proposed work, if successfully accomplished, would meet the objectives as stated in the NOFO, including achieving market liftoff and attracting follow-on investments from the private sector.

## Applications

### ***Criterion 1: Technical Approach and Impact (25%)***

This criterion involves consideration of the following factors:

#### ***Project Technical Approach and Impact:***

- **Project Objectives:** Degree to which the proposed project approach will advance the technical maturity and commercial readiness of the proposed energy storage technology.
- **Project Relevance:** Extent to which the application specifically and reasonably demonstrates how the proposed project will be capable of meeting the technical objectives and system requirements outlined in the NOFO.
- **Project Timeline:** Degree to which the proposed project can substantiate an ability to quickly achieve its technical objectives.
- **Project Description:** Degree to which the proposed technology, site, testing plan, and commercialization activities are clearly described in the application.
- **Project Work Scope:** Degree to which technical work scope to achieve full pilot system operation is clearly defined, including testing and validation plans, project development, and construction, commissioning, and testing.
- **Project Environmental Impact:** Adequacy of the details in the preliminary environmental impact evaluation to assess relative environmental value of the technology proposed versus existing LDES technologies and the environmental viability of the technology if widely commercialized.
- **Project Government Collaboration:** Where appropriate, the extent to which the applicant demonstrates how it plans to leverage other Federal and/or state programs and partnerships.

- **Project Technical Risks:** Adequacy and clarity of the project **technical** risk assessment and management discussion, including technology, systems integration, control approach, infrastructure, engineering, scale-up and similar elements as well as the quality of the mitigation strategies to address them.
- **Project Security:** Adequacy and clarity of the **security** risk assessment and management discussion, including preliminary cybersecurity, physical security, and internal and external threat identification and response planning.

***Liftoff Technical Approach and Impact:***

- **Replicability:** Degree to which the proposed project's approaches are replicable and extensible to commercial-scale long duration energy storage systems.
- **Industry Adoption:** Degree to which the proposed project reasonably expects to enable, encourage and accelerate broader industry-wide implementation.
- **Design Scalability:** Sufficiency of technical detail provided in the application addressing whether the proposed technologies and systems would be commercially viable at scale.
- **Liftoff Technical Risks:** Adequacy and clarity of the **technical** risk assessment of scale-up and future market adoption, including needed technology improvements and cost reductions, manufacturing and supply chain expansion, broader infrastructure engagement, and similar elements as well as the quality of the mitigation strategies to address them.

***Criterion 2: Financial and Market Viability (25%)***

This criterion involves consideration of the following factors:

***Project Financial and Market Viability:***

- **Project Competitiveness and Sustainability:** Degree to which the applicant assesses and demonstrates potential market competitiveness and sustainability for the proposed project through project assessment using **Adoption Readiness Level (ARL)** framework.
- **Project TEA:** Adequacy of the details in the preliminary techno-economic analysis (TEA) to justify viability and feasibility of the project and the value proposition and timeline of the technology to be replicated.
- **Project Financing:** Availability, credibility, and risk/terms of non-Federal cost share sources and funds necessary to meet ongoing cost share needs. This includes the ability to leverage DOE financial assistance funding from this NOFO with state and local incentives and private financing.
- **Financial Commitment:** Degree to which the applicant addresses each key participating organization's financial commitment to the proposed project including overall financial strength and financial capability to implement the proposed plan.

- **Existing Resource Utilization:** Degree to which the proposed project utilizes and leverages available resources such as testing infrastructure, workforce, supplies, or equipment to meet the required NOFO objectives.
- **Project Budget:** Adequacy and justification of the proposed budget and spend plan covering both DOE funding and non-Federal cost share. This includes applicant's ability to provide contingency to meet unknown project cost overruns often seen with demonstration projects.
- **Project Development Plan:** Adequacy of the business plan for developing key project agreements such as financing, acquisition strategies, supply chain, and other relevant project documents.
- **Impact of DOE Funding:** Degree to which DOE funding is necessary to achieve the demonstration project objectives.

***Liftoff Financial and Market Viability:***

- **Demonstration Impact:** Degree to which project mitigates or reduces barriers to broader market adoption identified in ARL assessment.
- **Liftoff Potential:** Degree to which the application justifies the economic viability, sustainability, and potential replication and/or extension beyond DOE funding of the system to be demonstrated, including securing follow-on investments.
- **Financial Risk Assessment:** Adequacy and clarity of the **financial** risk assessment and management discussion including project finance, market and regulatory structures, commercial business models, and similar elements as well as the quality of the mitigation strategies to address them.

***Criterion 3: Management and Organization (20%)***

This criterion involves consideration of the following factors:

- **Management Capability:** Capability of the recipient, the proposed team, and key personnel to manage and address all aspects of the proposed work with a high probability of success.
- **Team Experience:** Qualifications and relevant experience, including number of years and specific project experience, of the key project participants in performing similar projects and the allocation of responsibility commensurate with this experience.
- **Time Commitment:** Reasonableness of time commitment from key personnel to successfully manage a project of this size and complexity.
- **Safety History:** Demonstrated safety performance history of all team organizations.
- **Participation:** Level of participation by project participants as evidenced by letter(s) of commitment and how well they are integrated into the Workplan.
- **Facilities and Infrastructure Use:** Degree to which existing facilities and/or infrastructure provided by the applicant team are leveraged to support the project.

- **Project Management Discussion:** Strength of the project management discussion in the project Workplan to give confidence in a high likelihood of project success.
- **Project Management Structure:** Degree to which the applicant has defined and described a project management structure that addresses interfaces with DOE and key team members.
- **Team Roles:** Clarity and appropriateness of the roles of the team members.
- **Organizational Risk:** Adequacy and clarity of the **organizational** risk assessment and management discussion, including project team, project management structure, and similar elements as well as the quality of the mitigation strategies to address them.

#### ***Criterion 4: Workplan (15%)***

This criterion involves consideration of the following factors:

- **Project Schedule:** Overall reasonableness of the Integrated Project Schedule based on the associated complexity of the proposal.
- **Workplan Clarity:** Degree to which the proposed Workplan and critical path have been clearly and thoroughly described and thoughtfully considered.
- **Workplan Tasks:** Degree to which the task descriptions are clear, detailed, timely, and reasonable, resulting in a high likelihood that the proposed Workplan will succeed in meeting the project goals.
- **Milestone Clarity:** Strength and level of clarity in the definition of the project phases, metrics, Integrated Project Schedule, and Go/No-Go criteria.
- **Deliverables:** Strength of the deliverables as defined in the application, such that DOE and independent experts will be able to review key technical, financial, regulatory, permitting, and community benefit milestones at appropriate project Go/No-Go decision points to mitigate project risk and enable the successful design, procurement, construction, and operation of the proposed project.
- **CBP Integration:** Extent to which the CBP is integrated into the project management schedule and provides mechanisms with measurable actions that enable impacts to project direction in a timely manner.
- **Execution Risk:** Adequacy and clarity of the **execution** risk assessment and management discussion, including engineering, procurement, construction, permitting, safety, testing, operations, and similar elements as well as the quality of the mitigation strategies to address them.

***Criterion 5: Community Benefits Plan (15%)***

This criterion involves consideration of the following factors:

***Overall Approach***

- Extent to which the team and resources—including staff and budget—are capable of implementing plans outlined in the CBP.

***Community and Labor Engagement***

- Extent to which the project demonstrates a clear and appropriately robust plan to meaningfully engage local stakeholders, including community-based organizations, organizations that support or work with disadvantaged communities, labor unions, and/or Tribes, in a manner that can impact project decisions, including any plans to negotiate enforceable Workforce and Community Agreements (e.g., good neighbor agreements, workforce agreements, project labor agreements, collective bargaining agreements, and similar agreements).
- Extent to which the project will collaborate and partner with experts in just and equitable implementation to inform project planning, execution, and assessments.

***Job Quality and Workforce Continuity***

- Extent to which the Community Benefits Plan demonstrates that the jobs supported by the proposed project will be quality jobs and provides robust and credible plan to attract, train, and retain skilled local workers (e.g., through a Workforce and Community Agreements; pledges to make public any commitments to remain neutral in the face of an organizing effort; commitments to wages above prevailing wage requirements, benefits, or other worker support).
- Extent to which the approach to document the worker knowledge, skills, and abilities of required to manufacture, construct, operate, and maintain this technology will result in improved understanding of the workforce implications of LDES commercial deployment.

***Diversity, Equity, Inclusion, and Accessibility (DEIA)***

- Extent to which the Community Benefits Plan includes specific and high-quality actions to meet DEIA goals, which may include DEIA recruitment procedures, equitable pathways to employment and training, plans to support underrepresented suppliers and contractors, partnerships with MSIs, and other DEIA initiatives.
- Extent to which the plans to extend benefits to Tribes, disadvantaged communities, LMIs, MSIs, and underrepresented businesses include specific and high-quality actions to advance DEIA in the future.

***Justice40 Initiative***

- Extent to which the Community Benefits Plan identifies specific and measurable project benefits, how the benefits will flow, and how negative impacts would be mitigated—and specifically describes these impacts on disadvantaged communities. Extent to which plans to extend benefits to disadvantaged or underrepresented communities are likely to support equitable commercial deployment.



## Other selection factors

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In addition to the above criteria, the Selection Official may consider the following **program policy factors** in determining which applications to select for award negotiations:

- Degree to which the proposed project exhibits technological diversity in technology and implementation approach when compared to the existing DOE project portfolio and other projects selected from the subject NOFO;
- Degree to which the proposed project exhibits diversity and differentiation in business model and valuation approaches when compared to existing DOE project portfolio and existing operational systems;
- Degree to which the proposed project, or group of projects, represent a desired geographic distribution (considering past awards and current applications);
- Level of regulatory, permitting and/or local policy support for the proposed project;
- Degree to which the proposed demonstration supports secure, resilient domestic clean energy supply chains;
- Degree to which the project contributes to a portfolio that increases domestic energy security;
- Degree to which the project contributes to a portfolio that increases national economic competitiveness;
- Degree to which the proposed project incorporates applicant or team members from Minority Serving Institutions (e.g., Historically Black Colleges and Universities (HBCUs)/Other Minority Serving Institutions); and partnerships with underrepresented businesses.

## Review and Selection Process

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### Overview

The evaluation process consists of multiple phases; each includes an initial eligibility review and a thorough technical review. Rigorous technical reviews of eligible submissions are conducted by reviewers that are experts in the subject matter of the NOFO. Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as the program policy factors and risk reviews, in determining which applications to select. The DOE Office of Research, Technology, and Economic Security (RTES) performs a due diligence review on recommended applicant selections and alternates. RTES' risk-based review is part of the broader U.S. Government effort to combat undue foreign influence in Federally funded scientific research.

## Pre-Selection Interviews

As part of the evaluation and selection process, DOE may invite one or more applicants to participate in pre-selection interviews or pre-selection site visits. Pre-selection interviews are distinct from and more formal than pre-selection clarifications. The invited applicant(s) will meet with DOE representatives to provide clarification on the contents of the Applications and to provide DOE an opportunity to ask questions regarding the proposed project. The information provided by applicants to DOE through pre-selection interviews contributes to DOE's selection decisions. DOE will not reimburse applicants for travel and other expenses relating to the pre-selection interviews or site visits, nor will these costs be eligible for reimbursement as pre-award costs.

Any pre-selection interviews and site visits may also include discussions with affected stakeholders or communities potentially impacted to understand their views.

## Pre-Selection Clarification

DOE may determine that pre-selection clarifications are necessary from one or more applicants. Pre-selection clarifications are distinct from and less formal than pre-selection interviews. These pre-selection clarifications will solely be for the purposes of clarifying the Application. The pre-selection clarifications may occur before, during or after the merit review evaluation process. Information provided by an applicant that is not necessary to address the pre-selection clarification question will not be reviewed or considered. Typically, a pre-selection clarification will be carried out through either written response to DOE's written clarification questions or video or conference calls with DOE representatives.

The information provided by applicants to DOE through pre-selection clarifications is incorporated in their applications and contributes to the merit review evaluation and DOE's selection decisions. If DOE contacts an applicant for pre-selection clarification purposes, it does not signify that the applicant has been selected for negotiation of award or that the applicant is among the top-ranked Applications.

DOE will not reimburse applicants for expenses relating to the pre-selection clarifications, nor will these costs be eligible for reimbursement as pre-award costs.

## Recipient Integrity and Performance Matters

DOE, prior to making a Federal award with a total amount of Federal share greater than the simplified acquisition threshold, is required to review and consider any information about the applicant that is in the designated integrity and performance system accessible through SAM (see 41 U.S.C. § 2313).

## Selection

The Selection Official may consider the technical merit, the Federal Merit Review Board's recommendations, program policy factors, risk reviews, and the amount of funds available in arriving at selections for this NOFO.

# Risk review

Pursuant to [2 CFR 200.206](#), DOE will conduct an additional review of the risk posed by applications submitted under this NOFO.

Such risk assessment will consider:

1. Financial stability,
2. Quality of management systems and ability to meet the management standards prescribed in [2 CFR Part 200](#) as adopted and supplemented by [2 CFR Part 910](#),
3. History of performance,
4. Audit reports and findings, and
5. The applicant's ability to effectively implement statutory, regulatory, or other requirements imposed on non-Federal entities.

DOE may make use of other publicly available information and the history of an applicant's performance under DOE or other Federal agency awards. Depending on the severity of the findings and whether the findings were resolved, DOE may elect not to fund the applicant.

In addition to this review, DOE must comply with the guidelines on government-wide suspension and debarment in [2 CFR Part 180](#) and must require non-Federal entities to comply with these provisions. These provisions restrict Federal awards, subawards and contracts with certain parties that are debarred, suspended or otherwise excluded from or ineligible for participation in Federal programs or activities.

Further, as DOE invests in critical infrastructure and funds critical and emerging technology areas, DOE also considers possible vectors of undue foreign influence in evaluating risk. If high risks are identified and cannot be sufficiently mitigated, DOE may elect to not fund the award.

Before making a Federal award, DOE will review and consider any information about the applicant that is in the responsibility/qualification records available in [SAM.gov](#) (see [41 U.S.C. 2313](#)). The applicant can review and comment on any information in the responsibility/qualification records available in SAM.gov. Before making decisions in the risk review required by [2 CFR § 200.206](#), DOE will consider any comments by the applicant, along with information available in the responsibility/qualification records in SAM.gov.

# Award Notices

## Notice of Selection and Award Negotiation Dates

DOE will notify applicants that are selected for award negotiation, and selected applicants will be notified of their award negotiation dates.

## Concept Paper Notifications

DOE will notify applicants of its determination to encourage or discourage the submission of an application. DOE will post these notifications to OCED eXCHANGE. DOE may include general comments provided from reviewers on an applicant's Concept Paper in the encourage/discourage notifications.

Applicants may submit an application even if they receive a notification discouraging them from doing so. By discouraging the submission of an application, DOE intends to convey its lack of programmatic interest in the proposed project. Such assessments do not necessarily reflect judgments on the merits of the proposed project. The purpose of the Concept Paper phase is to save applicants the considerable time and expense of preparing an application that is unlikely to be selected for award negotiations.

## Application Notifications

DOE may stagger its selection determinations. As a result, some applicants may receive their notification letter in advance of other Applicants. DOE will notify applicants of its determination via a notification letter by email to the technical and administrative points of contact designated by the applicant in OCED eXCHANGE. The notification letter will inform the applicant whether or not its application was selected for award negotiations. Alternatively, DOE may notify one or more applicants that a final selection determination on particular Applications will be made at a later date, subject to the availability of funds or other factors.

## Successful Applicants

Receipt of a notification letter selecting an application for award negotiations does not authorize the applicant to commence performance of the project. If an application is selected for award negotiations, it is not a commitment by DOE to issue an award. Applicants do not receive an award until award negotiations are complete, and the Grants and Agreements Officer executes the funding agreement, accessible by the recipient in FedConnect.

The award negotiation process may take several months. Applicants must designate a primary and a backup point-of-contact in OCED eXCHANGE with whom DOE will communicate to conduct award negotiations. The applicant must be responsive during award negotiations by providing requested documentation, including Post-Selection Information Requests (see Step 5) and meet the negotiation deadlines. If the applicant fails to do so or if award negotiations are otherwise unsuccessful, DOE will terminate the award negotiations and rescind the Selection. DOE reserves the right to terminate award negotiations at any time for any reason.

## Alternate Selection Determinations

In some instances, an applicant may receive a notification that its application was not selected for award and DOE designated the Application to be an alternate. As an alternate, DOE may consider the Application for Federal funding in the future. A notification letter stating the Application is designated as an alternate does not authorize the applicant to commence performance of the project. DOE may ultimately determine to select or not select the Application for award negotiations.

## Unsuccessful Applicants

DOE shall promptly notify in writing each applicant whose Application has not been selected for award or whose Application cannot be funded because of the unavailability of appropriated funds.

## Award Conditions and Reporting

Recipients of an award made under this NOFO must comply with requirements of all applicable Federal, state, and local laws, regulations, DOE policy and instructions in this NOFO, and the award terms and conditions. Recipients must require all subrecipients' to comply with all applicable requirements. Reporting requirements are identified on the Federal Assistance Reporting Checklist, attached to the award agreement.

# STEP 5: LEARN ABOUT POST-SELECTION AND POST-AWARD REQUIREMENTS

## IN THIS STEP

[Post-Selection Information Requests and Submissions](#)

[Post-Award Requirements and Administration](#)

[Terms and Conditions](#)

[Reporting](#)

## Post-Selection Information Requests and Submissions

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To reduce burden in the application process required under [Memorandum M-24-11 Reducing Burden in the Administration of Federal Financial Assistance](#), DOE has instituted Post-Selection Information Requests and Submissions procedures. These procedures allow certain information to be submitted later in the application and selection process.

Applicants will be notified (primarily by e-mail) when Post-Selection Information is needed. This notification is not a Notice of Award, nor should it be construed to be an indicator of possible funding. Applicants should only submit this information when requested. The applicant will be notified on what documents and materials to submit, the format required and where and when to submit.

The Post-Selection Information Requests and Submissions are detailed in the *NOFO Supplemental Requirements* document located on the [Funding Opportunities](#) page. Please review this document prior to applying.

NOTE: These requirements are not requested during the initial application process.

## Post-Award Requirements and Administration

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If applicants are selected for funding DOE will require all award recipients to follow and accept requirements governed by laws and policies – both Federal government-wide and DOE or program specific. These post-award requirements include all national policy requirements; financial assistance general Certifications and Representations; Build America, Buy America requirements; Davis-Bacon Act requirements; Foreign National Participation; Performance of Work in the United States (Foreign Work Waiver); Bipartisan Infrastructure Law-Specific Requirements; Fraud, Waste and Abuse requirements; Safety, Security, and Regulatory requirements; and Environmental Review in Accordance with National Environmental Policy Act requirements.

These Post-award Requirements and Administration are detailed in the *NOFO Supplemental Requirements* document located on the [Funding Opportunities](#) page. Please review this document prior to applying.

## Terms and Conditions

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The OCED award terms and conditions are determined by statutory, regulatory, and policy requirements, as well as the circumstances of each individual award. If selected for funding, the applicant must apply the terms and conditions of the award to all subrecipients (and contractors, as appropriate). The award terms will consist of the three distinct documents, the Cooperative Agreement Standard Terms and Conditions, Cooperative Agreement Program and Award-Specific Terms and Conditions, and Cooperative Agreement Intellectual Property Terms and Conditions.

The *Cooperative Agreement Standard Award Terms and Conditions*, located on the [Award Terms and Conditions](#) page, apply to all OCED awards.

The Program and Award-Specific and the Intellectual Property Terms and Conditions will be negotiated for each award.

## Reporting

DOE must measure the performance to show achievement of program goals and objectives, share lessons learned, improve program outcomes, and foster the adoption of promising practices. DOE will establish program goals and objectives during negotiations and incorporate it into the award terms. Projects awarded may be required to negotiate agreements with DOE National Lab(s) to ensure quality data can be collected from demonstration projects and proprietary information is sufficiently protected.

To clearly communicate the specific reporting requirements to meet the program goals and objectives in the Federal award, DOE combined all reporting into one document, the Federal Assistance Reporting Checklist. This document provides any expected outcomes, indicators, targets, baseline data, or data collections that the applicant will be responsible for measuring and reporting. The Federal Assistance Reporting Checklist (FARC) is part of the award agreement.

Additional reporting requirements apply to BIL-funded projects. DOE may require specific data collection to track progress toward key departmental goals: ensuring justice and equity, investing in quality jobs, boosting domestic manufacturing, reducing greenhouse gas emissions, and advancing a pathway to private sector deployment. Examples of data that may be collected include:

- New manufacturing production or recycling capacity
- Jobs data, including:
  - Number and types of jobs provided, wages and benefits paid
  - Workforce demographics, including local hires
- Efforts to minimize risks of labor disputes and disruptions
- Dollar value of contributions to worker training; number of new employee certificates and training credentials; ratio of apprentice- to journey-level workers employed
- Number of individuals trained, number of trainees placed in new full-time employment, number of trainings partnering with community-based organizations or labor unions
- Justice and Equity data, including:
  - Underrepresented businesses acting as vendors and subcontractors for bids on supplies, services, and equipment
  - Value, number, and type of partnerships with MSIs
  - Stakeholder engagement events, community engagement process
  - Other relevant indicators from the Community Benefits Plan
- Number and type of energy efficient and clean energy equipment installed

See the *NOFO Supplemental Requirements* document located on the [Funding Opportunities](#) page for more information.



1. REVIEW

2. GET READY

3. SUBMIT

4. SELECTION

5. REQUIREMENTS

6. CONTACTS

# STEP 6: CONTACTS AND SUPPORT

## IN THIS STEP

[Agency Contacts](#)

[Helpful Websites](#)

## Program and solicitation questions

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### OCED Long Duration Energy Storage Program

Project Management Division

U.S. Department of Energy, Office of Clean Energy Demonstrations

Email: [LDESFOA@hq.doe.gov](mailto:LDESFOA@hq.doe.gov)

## OCED eXCHANGE

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If you need help with the eXCHANGE system, please contact [OCED-ExchangeSupport@hq.doe.gov](mailto:OCED-ExchangeSupport@hq.doe.gov).

## Grants.gov

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Grants.gov provides 24/7 support. You can call 1-800-518-4726 or email [support@grants.gov](mailto:support@grants.gov). Hold on to your ticket number.

## SAM.gov

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If you need help, you can call 866-606-8220 or live chat with the [Federal Service Desk](#).

## Helpful Websites

- [Office of Clean Energy Demonstrations | Department of Energy](#)
- [OCED Application Process](#)
- [Apply for Funding Opportunities](#)
- [Award Negotiations](#)

