

Fiscal Year 2022 National Environmental Information Exchange Network Grant Program Solicitation Notice

Overview Information

Agency Name and Office:

U.S. Environmental Protection Agency
Office of Mission Support – Environmental Information

Funding Opportunity Title:

FY 2022 National Environmental Information Exchange Network Grant Program

Announcement Type:

Initial Request for Applications

Funding Opportunity Number:

EPA-OMS-22-01

CFDA Number:

66.608

Key Information Dates:

Sunday, May 1, 2022 – Deadline for submitting applications to EPA

Saturday, October 1, 2022 – Period of performance (project) start date for successful applicants

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Note: A User's Guide to the Appendices

- **Appendices A – C:** In the context of the Exchange Network Grant Program, the phrase ‘EN project opportunities’ refers to specific project write-ups that provide potential applicants with the information needed to design a proposal for a particular data exchange, data service, or project type. These write-ups contain essential descriptions and background information, suggested project activities and estimated costs, and helpful links and resources. Applicants can apply under one or multiple EN project opportunities or propose projects that do not have a specific EN project opportunity write-up (see [I-B. EN Assistance Activities and Funding Areas](#)).
- **Appendix D:** Applicants should review the resources listed in this appendix to identify tools and resources available for reuse which can be incorporated into their proposed project, per the requirements of the Exchange Network Interoperability Policy (see [VI-B. Administration and National Policy Requirements](#)). Applicants should also review the EEDS guidance and ‘How to Create a Project Budget’ guidance in this appendix.
- **Appendix E:** Also known as the ‘applicant guidance appendix’, this appendix provides extensive details on the required components of an EN assistance agreement application package, including the mandatory ten-page project narrative (aka ‘work plan’), and instructions for submitting applications through Grants.gov.
- **Appendix F:** This appendix provides an optional tool for applicants to check their drafted applications for common errors before submission.
- **Appendix G:** This appendix provides the definitions of words and phrases as included throughout this Solicitation Notice; words and phrases are also hyperlinked to the glossary definitions for improved document usability.

I. Funding Opportunity Description

The EPA Exchange Network Grant Program is soliciting project applications using the Environmental Information Exchange Network (EN) to:

- Facilitate sharing of environmental data, especially through shared and reusable services.
- Reduce burden and avoid costs for co-regulators and the regulated community.
- Streamline data collection and exchanges to improve its timeliness for decision making.
- Increase the quality and access to environmental data through discovery, publishing, outbound and analytical services so it is more useful to environmental managers.
- Increase data and IT management capabilities needed to fully participate in the EN.

[Section I-B](#) summarizes the Fiscal Year (FY) 2022 EN Funding Areas and provides links to activities (as detailed in Appendices [A](#), [B](#), and [C](#)) which are eligible for funding.

FY 2022 is the twenty-first year EPA will award competitive funding to eligible recipients for projects through the Exchange Network Grant Program. Between FY 2002 and FY 2021, EPA provided approximately \$252 million for state, tribal, and territorial awards and associated program support through the grant program. As of October 1, 2021, all 50 states and the District of Columbia, 86 tribes, and 5 territories have received EN assistance agreements. For descriptions of previously awarded EN assistance agreements, please see: <https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects>.

I-A. Background

The Exchange Network (EN) was launched in 2002 as an inter-governmental, collaborative partnership of EPA, states, territories, and tribes to foster better environmental management and decision-making through increased access to timely, high quality environmental information. This was achieved through a standards-based approach to facilitate environmental data sharing among EPA, states, tribes and territories. The framework adopted allows organizations to exchange data over the Internet regardless of the specific information technology used. For more information on the EN, see <https://www.epa.gov/exchangenetwork> and <http://www.exchangenetwork.net/>.

Over the last 20 years, the EN has adapted approaches to reflect evolving technologies and programmatic needs. The E-Enterprise Digital Strategy (EEDS), released in April 2020, is a high-level framework for environmental enterprise that reflects this evolution and, as a living document, will continue to be updated in future years. The most current version of the EEDS is available at: <https://e-enterprisefortheenvironment.net/wp-content/uploads/2019/08/Interim-E-Enterprise-Digital-Strategy-V-2.0.pdf>.

More information on the E-Enterprise Digital Strategy and how it relates to the Exchange Network Grant Program is available in [Appendix D](#). Applicants also should note the Evaluation Criteria ([Section V-A](#)) include a criterion which scores an application's adherence to the principles of EEDS.

I-B. EN Assistance Activities and Funding Areas

This EN Grant Program Solicitation Notice requests states, tribes, inter-tribal consortia, and territories submit applications with [goal\(s\)](#) supporting the three EN funding areas. EN assistance agreement applicants can apply under one, or multiple, of the three FY22 EN funding areas listed below within a single application. Applicants should note that all three EN funding areas are of equal priority and that there is no preference given for applications which support more than one.

Please note that the phrase ‘EN project opportunities’ in the context of the EN Grant Program refers to the specific EPA data flow/project write-ups in Appendices A-C that fall under one of the three EN Funding Areas below. These project opportunity write-ups (which are listed and hyperlinked below) include a project description, relevant program status and plans, suggested project activities and estimated costs, and additional links and resources. Applicants are encouraged to use the suggested potential activities as project goals or objectives, as applicable.

The FY22 EN Funding Areas and associated EN project opportunities include:

➤ ***Funding Area 1: Increased Data Access and Innovative Business Processes.***

- EN project opportunities under EN Funding Area 1 are detailed in [Appendix A](#) and include:
 - **EN Services**
 - [Virtual Exchange Service \(VES\)](#)..... A2
 - [Shared CROMERR Services \(SCS\)](#)..... A3
 - [Substance Registry Services \(SRS\)](#)..... A5
 - **Innovative Business Processes**
 - [Continuous Water Quality Monitoring](#)..... A7
 - [Open Data, Data Modern., & Digital Transform. Projects incl. Geospatial Data](#) A9
- EN project opportunities under EN Funding Area 1 are open to both individual applicants (up to \$200,000) and [eligible EN partnerships](#) (up to \$400,000).

➤ ***Funding Area 2: Eliminate paper submittals and expand e-reporting.***

- EN project opportunities under EN Funding Area 2 are detailed in [Appendix B](#) and include:
 - **Air**
 - [Air Quality System \(AQS\)](#) B2
 - [Emission Inventory System \(EIS\)](#) B3
 - [E-Enterprise Combined Air Emissions Reporting \(CAER\)](#) B4
 - **Enforcement and Compliance**
 - [Integrated Compliance Information System \(ICIS\) Digital Services](#)..... B6
 - [Electronic Reporting of Nat. Pollutant Discharge Elimin. System \(NPDES\) Data](#) B8
 - **Waste**
 - [Resource Conservation and Recovery Act Information System \(RCRA Info\)](#)B10
 - **Water**
 - [eBeaches](#)B11
 - [Safe Drinking Water Information System \(SDWIS\)](#)B12
 - [Water Quality Exchange \(WQX\)](#).....B14
 - [Assessment TMDL Tracking And ImplementatioN System \(ATTAINS\)](#)B16
 - [Drinking Water State Revolving Fund & Clean Water State Revolving Fund](#)B18
 - [Underground Injection Control \(UIC\) Data Availability Projects](#)B19
 - **Other Data Exchanges**
 - [Facility Registry Service \(FRS\)](#)B20
- EN project opportunities under EN Funding Area 2 are open to both individual applicants (up to \$200,000) and [eligible EN partnerships](#) (up to \$400,000).

➤ ***Funding Area 3: Augment the information management capacity of EN partners.***

- *Note:* The “EN project opportunities” found within [Appendix C](#) are only available to U.S. Territories, federally recognized Indian tribes and Alaska Native Villages, and inter-tribal consortia of federally recognized tribes (e.g. the Northwest Indian Fisheries Commission).

- State applicants or applicants who are instrumentalities of the state (see [Section III-A](#)) are not eligible for projects under Funding Area 3.
- EN project opportunities under EN Funding Area 3 are detailed in [Appendix C](#) and include:
 - [Individual Capacity Building](#) C2
 - Individual applicant opportunity (up to \$200,000)
 - [Individual Capacity Building with Mentorship](#) C3
 - Individual applicant opportunity with mentorship support and optional mentor funding (up to \$215,000)
 - [Collaborative Capacity Building](#) C5
 - [EN Partnership opportunity](#) (up to \$400,000)

Applicants should specifically state which EN funding area(s) and EN project opportunities they are applying under within the [‘Project Description’](#) section of their project narrative. For example, an applicant who proposes a project incorporating both the EN project opportunities [‘Water Quality Exchange \(WQX\)’](#) and [‘Individual Capacity Building’](#) should explicitly name both of these EN project opportunities and state that these opportunities support EN Funding Area 2 (WQX) and EN Funding Area 3 (Individual Capacity Building).

Applicants may also propose projects that include activities other than the options listed in Appendices [A](#), [B](#), and [C](#), provided they conform to EN technologies, services, and specifications. If an applicant is proposing a project which does not respond to a specific EN [project opportunity](#), this should be clearly stated in the project narrative within the [‘Project Description’](#) section. The applicant should also note which EN Funding Area(s) would be supported by the proposed project. For example, a Toxic Release Inventory (TRI) data exchange project (which doesn’t address an EN project opportunity described in this RFA) supports the elimination of industry paper reporting and expansion of e-reporting. Therefore, this proposed project would fall under [Funding Area 2: Eliminate paper submittals and expand e-reporting](#).

EPA will determine the eligibility of each applicant (see [Section III-A](#)). EPA will then evaluate applications from eligible applicants based on the evaluation criteria in [Section V-A](#).

Applicants are responsible for reading and complying with the instructions and criteria described in this solicitation.

Before naming any entity as an [“EN partner”](#) or otherwise identifying any entity that will receive EPA funding through [subaward](#) (aka “subgrants”), procurement [contracts](#), or any other financial transaction, **EPA strongly recommends that applicants carefully review the ‘Contracts and Subawards’ clause in the [EPA Solicitation Clauses](#)**, as well as other information in this Notice regarding financial relationships. See [Section II-B](#) for further information on subawards and contracts.

I-C. Environmental Results Supported by Assistance Activities

This program is authorized by the Consolidated Appropriation Act of 2021 (P.L. 116-260) and FY 2022 Continuing Resolution Appropriations Acts to date (PL 117-43: FY 2022 Extending Funding and Emergency Assistance Act through December 3, 2021; PL 117-70: FY 2022 Further Extending Government Funding Act through February 18, 2022; PL 117-86: Further Additional Extending Government Funding Act through March 11, 2022). This program is expected be reauthorized, subject to appropriations, in a full year FY 2022 appropriations act in later FY 2022.

The activities to be funded under this announcement support multiple goals and objectives under **EPA's Draft FY 2022-2026 Strategic Plan (Draft Plan)**. Applicants are encouraged to read the full text at: <https://www.epa.gov/system/files/documents/2021-10/fy-2022-2026-epa-draft-strategic-plan.pdf>.

Applicants must identify in the '[project description](#)' section of their project narrative which goal(s) and objective(s) from the Draft Plan are supported by their proposed project. Include both the number and title of each supported goal and objective (e.g., 'Goal 1: Tackle the Climate Crisis, Objective 1.2 Accelerate Resilience and Adaptation to Climate Change Impacts'), and briefly describe for each how they will be supported by the proposed project.

Proposed projects may support more than one strategic goal and objective, so applicants should list and describe all that apply from the following list:

- **Goal 1: Tackle the Climate Crisis**
 - Objective 1.1 - Reduce Emissions that Cause Climate Change
 - Objective 1.2 - Accelerate Resilience and Adaptation to Climate Change Impacts
 - Objective 1.3 - Advance International and Subnational Climate Efforts
- **Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights**
 - Objective 2.1 - Promote Environmental Justice and Civil Rights at the Federal, Tribal, State and Local Levels
- **Goal 3: Enforce Environmental Laws and Ensure Compliance**
 - Objective 3.2 - Detect Violations and Promote Compliance
- **Goal 4: Ensure Clean and Healthy Air for All Communities**
 - Objective 4.1 - Improve Air Quality and Reduce Localized Pollution and Health Impacts
 - Objective 4.2 - Reduce Exposure to Radiation and Improve Indoor Air
- **Goal 5: Ensure Clean and Safe Water for All Communities**
 - Objective 5.1 - Ensure Safe Drinking Water and Reliable Water Infrastructure
 - Objective 5.2 - Protect and Restore Waterbodies and Watersheds
- **Goal 6: Safeguard and Revitalize Communities**
 - Objective 6.1 - Clean Up and Restore Land for Productive Uses and Healthy Communities
 - Objective 6.2 - Reduce Waste and Prevent Environmental Contamination
 - Objective 6.3 - Prepare for and Respond to Environmental Emergencies
- **Goal 7: Ensure Safety of Chemicals for People and the Environment**
 - Objective 7.1 - Ensure Chemical and Pesticide Safety
 - Objective 7.2 - Promote Pollution Prevention

Applicants should also identify which EPA strategic goal and objective from the list above is most supported by each project goal as identified in the '[Project Goals, Outputs, and Outcomes](#)' section of the project narrative. Applicants should only list one strategic goal and objective per project goal; if there are multiple options, applicants should choose the best fit. Please note that the same strategic goal and objective may be listed for multiple project goals.

Additionally, an applicant's project narrative should include specific statements describing the environmental results of the proposed project. EPA requires that assistance agreement applicants adequately describe environmental outputs and outcomes to be achieved under assistance agreements (see [EPA Order 5700.7A1](#)) which clearly demonstrates how the project will contribute to the EPA strategic goals and objectives above.

An example of how an applicant might capture supported strategic goals, objectives, and environmental results is available in the [optional project narrative template](#).

I-D. Additional Provisions For Applicants Incorporated Into The Solicitation

Additional provisions that apply to sections [III](#), [IV](#), [V](#), and [VI](#) of this solicitation and/or awards made under this solicitation, can be found at [EPA Solicitation Clauses](#). These provisions are important for applying to this solicitation and applicants must review them when preparing applications for this solicitation. If you are unable to access these provisions electronically at the website above, please contact the EPA point of contact listed in this solicitation (see [Section VII](#)) to obtain the provisions.

II. Award Information

II-A. General Information

In FY22, EPA expects to award approximately \$8,000,000 in 20-30 assistance agreements of up to \$400,000 each, depending on Agency funding levels, the quality of applications received, agency priorities, and other applicable considerations.

Most awards are expected to be in the \$50,000 to \$200,000 range. Applicants applying under **an individual opportunity may request up to \$200,000** in funding. Applicants applying **under a partnership opportunity may request funds up to \$400,000**, if the partnership eligibility criteria outlined in [Section III-D](#) is met. An eligible applicant specifically applying under the [Individual Capacity Building with Mentorship opportunity](#) may request up to \$215,000 if all requirements are met. Please see [Section I-B](#) for additional details about funding ranges.

The expected period of performance for each assistance agreement is three years.

EPA remains committed to awarding tribal assistance agreements equal to at least 10 percent of the appropriated funds. The actual award amounts and number of tribal assistance agreements awarded under the set-aside described in Section I may differ from the estimated amounts for many reasons including the number of meritorious applications received, agency priorities, and funding availability. In addition, EPA reserves the right to increase or decrease (including decreasing to zero) the total number and amount of awards under this set-aside, or change the ratio of assistance agreements awarded.

Additional Awards: EPA reserves the right to make additional awards under this solicitation, consistent with Agency policy and guidance, if additional funding becomes available after the original selections are made. Any additional selections for awards will be made no later than 6 months after the original selection decisions.

Partial Funding: In appropriate circumstances, EPA reserves the right to partially fund applications by funding discrete portions or phases of proposed projects. If EPA decides to partially fund an application, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the application, or portion thereof, was evaluated and selected for award, and therefore maintains the integrity of the competition and selection process.

Performance Partnership Grants (PPGs) and Consolidated Grants (CGs): In 1996, Congress authorized EPA to award Performance Partnership Grants (PPGs). As a result, states, certain interstate agencies, and tribes can now choose to combine two or more environmental program grants

into a single PPG. Territories may also consolidate their various grants through a single Consolidated Grant. An applicant whose organization has an existing Performance Partnership Grant (PPG) with EPA may request that any new grant recommended for funding be incorporated into the PPG. Similarly, a territorial applicant whose territory has a Consolidated Grant (CG) with EPA may request new awards be incorporated into the CG. An applicant should include the PPG number or CG number in both their cover letter and project narrative. An applicant may also request to create a new PPG that includes the project proposed under this solicitation. Absent a request from the recipient for inclusion in or creation of a PPG or CG, EPA will award the grant in a stand-alone vehicle. See [Section III-F](#) for additional information on PPGs.

In-Kind Services:

EPA will consider grantee requests to use all or a portion of awarded grant funds to provide [in-kind services](#) to the recipient through an EPA contract vehicle. Applicants should request and justify project efficiencies they expect from this approach. EPA reserves the right to decide whether in-kind services will be provided. The recipient may not direct the work provided through in-kind services. These services are managed by EPA.

Subawards and Contracts: EPA will consider applications where all or a portion of awarded assistance agreement funds will be distributed as a subaward or procurement contract. EPA strongly recommends that applicants interested in these funding mechanisms carefully review EPA's [Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements](#). Applicants that intend to distribute all their EPA funding for subaward(s) and/or procurement contracts must explain how they will manage these transactions in compliance with applicable Federal requirements without EPA funding for personnel. EPA also reminds applicants that they remain accountable to EPA for proper expenditures of EPA funding, even in cases where they pass-through all funding to third parties. Applicants should not identify contractors, subrecipients or program participants unless they demonstrate that applicable requirements have been met.

- **Subawards:** Under [2 CFR 200.1](#), a subaward is an award provided by a pass-through entity to a subrecipient for the subrecipient to carry out part of a Federal award received by the pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a Federal program. A subaward may be provided through any form of legal agreement, including an agreement that the pass-through entity considers a contract. Appendix A of EPA's Subaward Policy (see link below) provides detailed guidance on distinguishing between subawards and procurement contracts.
 - Like grant recipients, subrecipients measure performance against program objectives, comply with award requirements, use funds to carry out program activities, and make programmatic decisions.
 - Partnering organizations in [EN partnership awards](#) often receive subawards to carry out assistance agreement activities for, and in coordination with, the lead applicant.
 - Note that for-profit firms and individual consultants are not eligible for subawards without prior EPA approval, which is rarely provided. For profit firms and individual consultants are procurement contractors subject to state or Federal competitive procurement requirements.
 - The EPA subaward policy is available at: <https://www.epa.gov/grants/grants-policy-issuance-gpi-16-01-epa-subaward-policy-epa-assistance-agreement-recipients>.

- Note: Subaward costs should be captured under the budget category ‘other’; see [Appendix D](#) for more guidance on composing application budgets.
- **Contracts:** A contractor operates in a competitive environment, with contractors providing goods and services to the assistance agreement recipient that are ancillary to program operations. Contractors are not subject to compliance requirements of the assistance agreement and must be selected in compliance with competition requirements specified in [2 CFR Part 200](#) as interpreted in EPA’s [Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements](#).
 - Note: Contractor/vendor costs should be captured under the budget category ‘contractual’; see [Appendix D](#) for more guidance on composing application budgets.
 - Note that as provided in [2 CFR 200.317](#), state agency applicants follow their own laws and policies with regard to competition requirements for procurement contracts, but other applicants are subject to the Procurement Standards in [2 CFR Part 200](#).

II-B. Types of Assistance

EPA may award assistance agreements funded through the EN Grant Program as grants or [cooperative agreements](#). Applicants should identify their preferred assistance agreement type (grant or cooperative agreement) in both their [cover letter](#) and [project narrative](#). EPA will consider an applicant’s preferences when the Agency decides what type of assistance to award.

- **Grant:** [Grants](#) represent [direct funding](#) to a recipient to support an identified project with defined environmental results. If the recipient does not identify a preference, EPA’s default award will be a grant.
- **Cooperative Agreement:** A [cooperative agreement](#) is an assistance agreement that is used when there is substantial federal involvement with the recipient during the performance of an activity or project. EPA awards cooperative agreements for those projects in which it expects to have substantial interaction with the recipient throughout the recipient’s performance of the project. EPA will negotiate the precise terms and conditions of “substantial involvement” as part of the award process. Federal involvement may include close monitoring of the recipient’s performance; collaboration during the performance of the scope of work; in accordance with [2 CFR 200.317](#) and [2 CFR 200.318](#), as appropriate, review of proposed procurements, reviewing qualifications of key personnel, and/or review and comment on the content of printed or electronic publications prepared. EPA does not have the authority to select employees or contractors employed by the recipient. The final decision on the content of reports rests with the recipient.

III. Eligibility Information

Note: Additional provisions that apply to this section can be found at [EPA Solicitation Clauses](#).

III-A. Eligible Applicants

Consistent with the Assistance Listing for 66.608, eligible applicants for the Exchange Network Grant Program include states, U.S. Territories (i.e., American Samoa, the Commonwealth of the Northern Mariana Islands, the District of Columbia, Guam, Palau, Puerto Rico, the U.S. Virgin Islands), federally recognized Indian tribes and Alaska Native Villages and inter-tribal consortia of federally recognized tribes (e.g., the Northwest Indian Fisheries Commission).

Other entities, such as regional air pollution control districts and some public universities may apply for assistance if they are agencies or instrumentalities of a state or tribe under applicable laws. Entities asserting they are agencies or instrumentalities of a state must provide a letter from the appropriate state Attorney General certifying the applicant is an agency or [instrumentality of the state](#). Entities asserting they are instrumentalities of a tribe must provide a certification and supporting documentation from the tribal council or other appropriate tribal government official certifying they are an instrumentality of the tribe. EPA will not accept or review an application which does not include the required documentation.

The EPA recognizes that environmental programs and associated reporting obligations are sometimes delegated to local governments. Local governments are eligible to apply for EN assistance agreements if they can demonstrate that they are an instrumentality of the state by providing the documentation described in the preceding paragraph. However, most local governments implementing EPA programs are not agencies or instrumentalities of the state and therefore not eligible to apply. EPA encourages such entities to partner with an eligible lead applicant (e.g., a state applicant) to allow for their data to be reported and shared through the EN (see [Section III-D](#) for more information on EN partnership applications). Interstate commissions and other interstate entities, likewise, are not eligible to apply and are encouraged to partner with a state applicant.

EPA will only evaluate applications from eligible entities. Interested parties not meeting the eligibility criteria should consider partnering with eligible applicants (see examples below).

Examples of Eligible Applicants:

- State Department of Environmental Quality
- Territorial Environment Division
- Tribal Council on behalf of two or more tribal environmental and/or health agencies
- Tribal Water Quality Administration
- State university formally designated as an [instrumentality of the state](#)

Applicants deemed ineligible for funding consideration as a result of the threshold eligibility review will be notified within 15 calendar days of the ineligibility determination. Applicants can direct eligibility questions to ENGrantProgram@epa.gov.

III-B. Threshold Eligibility Criteria for Applications

Applications from eligible applicants (see [Section III-A](#)) are only eligible to be evaluated for Exchange Network funding if they meet the requirements listed below.

- a. An application must include [goal\(s\)](#) leading to completion of activities listed in Appendix [A](#), [B](#), or [C](#), or others consistent with the EN funding areas. Applicants must also clearly state the anticipated [outputs](#) and [outcomes](#) which will result from the completion of their goals and objectives. Examples include but are not limited to: any data flow(s) brought into production, any [API](#) service(s) brought into production, and the creation of any new API documentation, data management plan(s), data standards or schema, open data portals, web applications, etc.
- b. Application must substantially comply with the application submission instructions and requirements set forth in [Section IV](#) of this announcement or else they will be rejected. However, where a page limit is expressed in Section IV with respect to the application, or parts thereof, pages in excess of the page limitation will not be reviewed.

- c. In addition, initial applications must be submitted through [Grants.gov](#) as stated in [Section IV](#) and [Appendix E](#) of this announcement (except in the limited circumstances where another mode of submission is specifically allowed for as explained in Section IV) on or before the application submission deadline published in Section IV of this announcement. Applicants are responsible for following the submission instructions in [Section IV](#) and [Appendix E: Detailed Instructions for Submitting Applications through Grants.gov](#) of this announcement to ensure their application is timely submitted.
- d. Applications submitted after the submission deadline will be considered late and deemed ineligible without further consideration unless the applicant can clearly demonstrate it was late due to EPA mishandling or because of technical problems associated with [Grants.gov](#) or relevant [SAM.gov](#) system issues. An applicant's failure to submit their application on time through Grants.gov because they did not allow enough time to properly register in SAM.gov or Grants.gov will not be considered an acceptable reason to consider a late submission.

Applicants should confirm receipt of their application by emailing ENGrantProgram@epa.gov as soon as possible after the submission deadline. Failure to do so may result in your application not being reviewed.

- e. An application must not have:
- Budgets greater than \$200,000 for single applicant applications (except eligible applicants under the [Individual Capacity Building with Mentorship opportunity](#), which can request up to \$215,000.)
 - Budgets greater than \$400,000 for [partnership applications](#).

Note: Applicants may submit more than one application; however, applicants are not eligible to receive more than one award under this Solicitation.

- f. Applicants must not have more than four active Exchange Network assistance agreements with the Agency as of **as of December 31, 2021**. EPA considers an assistance agreement active if the Agency has not yet approved the final technical report. EPA will consider an agreement inactive if the Regional Project Officer approves the applicant's final technical report on or before this date.

Note: Applicants that are applying under an [EN partnership](#) but are not the lead recipient will not be considered as having an active assistance agreement. Also, agencies within a state are treated as separate applicants. For example, Alabama Department of Environmental Quality and Alabama Department of Public Health are separate applicants.

- g. Applications must not request funds for activities or deliverables for which the applicant has previously received funds. If a proposed goal is similar to one previously funded, the application must describe how previously funded activities differ from those currently proposed or how the current application will complement past or ongoing work.

III-C. Funding Restrictions

Applicants may propose EN project funding for costs associated with personnel salaries and fringe benefits, Intergovernmental Personnel Act Agreements (IPAs) travel, travel related to EN activities, [equipment](#), [supplies](#), [contractual](#) costs, [in-kind services](#) provided by EPA and [indirect costs](#). Applicants may propose EN project funding for development, modernization, and enhancement activities. All proposed project costs must be necessary and reasonable and in accordance with Federal guidelines. Determinations of allowable costs will be made in accordance with [2 CFR 200 Subpart E](#) - Cost Principles found in the Office of Management and Budget's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards.

Applicants must not use EN funding for the following functions:

- **Construction costs**
- **Operations and maintenance** including previously developed or implemented EN projects
- **Workshops and Conferences** not initiated, advertised and conducted for the benefit of the recipient and other state, tribal, territorial or local representatives or public participants or are conducted primarily for EPA's benefit
- **Pre-Award Costs** not previously requested to cover pre-award costs incurred 90 days or less before the award date
- **Management Fees** more than the direct costs and indirect costs at the rate approved by the applicant's cognizant audit agency or at the rate provided for by the terms of the agreement negotiated with EPA. See Section IV.C. of [EPA Solicitation Clauses](#) for additional information.
- **Development and deployment of physical nodes** implementing the Exchange Network protocol and specification
- **Operations and maintenance of flows**, including minor schema updates for existing flows

If an application includes any ineligible tasks or activities (e.g., does not fall within the [EN Funding Areas](#), has been previously funded, falls under the above funding restrictions), that portion of the application will be ineligible for funding and may, depending on the extent to which it affects the application, render the entire application ineligible for funding.

III-D. Eligibility Criteria for Exchange Network Partnership Applications

EPA will consider the higher funding limit (\$400,000) for projects including one or more qualifying Exchange Network partners. The lead applicant, or prime recipient, of a partnership application must demonstrate how the proposed project supports the identified EN priorities and explain how the partnership components justify additional funding. Partnership applications that do not demonstrate this will be deemed ineligible.

EPA will not consider partnerships formed from within a single state, territorial, or tribal government as eligible. Eligible partners are separate units of government (e.g., a state partnering with another state, a state partnering with a non-federally recognized tribe, a federally recognized tribe partnering with a state university, or a territory partnering with a non-profit). Examples of ineligible partnerships include an eligible lead applicant partnering with a local government as defined by [2 CFR 200.1](#) within the same state jurisdiction (e.g., a state and a city within the state's boundaries), an eligible lead applicant partnering with a university (public or private) within the state's boundaries, or an eligible lead applicant partnering with a for-profit firm or individual consultant. The lead applicant must meet eligibility requirements under the EN Grant Program (see [Section III-A](#)). Lead applicants may provide subawards to eligible partners (more information on subawards is available in [Section II-A](#) and more information on EN partnerships is available in [Section III-D](#)).

EPA will limit funding for intrastate projects to \$200,000, the maximum funding for a single applicant for EN awards in FY22. Intrastate projects that request more than \$200,000 may be deemed ineligible.

EPA will only consider applications for partnership projects if the project's work is intended to be nationally scalable, to give these projects the best opportunity to succeed on the national/regional scale. Partnership applications that are not scalable will be deemed ineligible. Please note that applicants without partners should apply for the individual opportunities, which may result in scalable products, but are usually focused on activities supporting their own organizations' business goals to integrate their business into the EN.

III-E. Cost Sharing or Matching

Assistance agreements for Exchange Network projects do not require applicants to share cost or match funds. Applicants may elect to offer voluntary cost shares in their project budgets. Please note that voluntary cost shares are binding as provided in *voluntary committed cost sharing* at 2 CFR 200.1. Voluntary cost shares offered by applicants for competitive assistance agreements must be included in an applicant's SF-424A Budget Information for Non-Construction Programs form (see [Appendix E](#)). Additionally, the distinction between Federal and Non-Federal funds in an applicant's budget must be clearly expressed in both the SF-424A form and [budget narrative attachment form](#).

III-F. Performance Partnership Grants (PPG)

Funds for assistance agreements awarded under this solicitation may be included in a PPG/CG. Applicants should indicate in their application submission if they anticipate incorporating the proposed project, if selected for funding, into an already existing PPG/CG or if they intend to create a new PPG/CG that would include the project proposed under this solicitation. The PPG/CG should be in place before the time of award or created concurrently with the award of the assistance agreement funds. The proposed project under this grant solicitation must have a project period that is within the PPG/CG project period. It cannot be longer than the PPG/CG project period. A PPG/CG enables entities to combine funds from more than one environmental program assistance agreement into a single assistance agreement with a single budget. Under this competition, state and interstate agency applications must first be selected under the competitive grant process described in this solicitation and, in accordance with 40 CFR 35.138, the work-plan commitments that would have been included in the work-plan must be included in the PPG work-plan. After the funds have been included in the PPG, the recipient does not need to account for these funds in accordance with the funds' original program source.

Similarly, tribal and [intertribal consortia](#) applications must first be selected under this competitive grant process in accordance with 40 CFR 35.535. If a proposed PPG work-plan differs significantly from the work-plan approved for funding under this competition, the Regional Administrator must consult the National Program Office (see 40 CFR 35.535). The purpose of this consultation requirement is to address the issue of ensuring that a project which is awarded funding under this competition is implemented as proposed once combined with other grant programs in a PPG.

For further information, see the final rules on Environmental Program Grants for state and interstate agencies at 40 CFR Part 35, Subpart A and tribes and [intertribal consortia](#) at 40 CFR Part 35, Subpart B. The rules are also available on the EPA's website at: ([state](#)) and ([tribal](#)).

Territories should apply for Consolidated Grants (CGs). Local governments are not eligible for PPGs.

IV. Application and Submission Information

Note: Additional provisions that apply to this section can be found at [EPA Solicitation Clauses](#).

Applicants for the FY22 Exchange Network Grant program must submit an application package to EPA through the [Grants.gov](#) (or by an alternative method for those applicants with an approved Grants.gov Exception) on or before **May 1, 2022, 11:59 PM Eastern**. Detailed instructions for application package submittal through grants.gov can be found in Appendix E on [page E13](#).

Applicants must review [Appendix E](#) for detailed information about application package requirements, as well as required attachments and detailed Grants.gov submission instructions:

- **Cover Letter** [Mandatory; use 'Other Attachments Form' to submit] [E2](#)
- **Project Narrative** [Mandatory; use 'Project Narrative Attachment Form' to submit] [E2](#)
- **Additional Mandatory Documents** [E10](#)
 - Budget Narrative Attachment Form
 - SF 424 Application for Federal Assistance
 - SF 424A Budget Information for Non-Construction Programs
 - EPA Form 5700-54 Key Contacts Form
 - EPA Form 4700-4 Pre-Award Compliance Review Report
- **Additional Attachments** [use 'Other Attachments Form' to submit, mandatory if applicable] [E11](#)
 - Personnel Attachments, including staff resumes
 - Negotiated [Indirect Cost Rate Agreement](#)
 - Additional Information for Inter-Tribal Consortium
 - Formal [Project Partners](#):
 - Support Letter(s)
 - Roles and Responsibilities
 - Distribution of Funds
 - Formal [Project Mentor\(s\)](#):
 - Support Letter(s)
 - Roles and Responsibilities
 - Distribution of Funds
 - List of Prior Exchange Network Assistance Agreements
 - Documentation Certifying Applicant Status as an [Instrumentality of the State or Tribe](#)
- **Detailed Instructions for Submitting Applications** [E13](#)

Additional guidance tools are available to applicants:

- [Appendix D](#) provides guidance on how to identify tools/resources available for reuse, additional guidance on the EEDS, and a helpful guide to composing a budget.
- [Appendix F](#) provides a pre-submission checklist tool to help applicants avoid common application errors and to ensure a complete application package.
- Optional templates for an applicant's cover letter, project narrative, and budget narrative attachment form is available on the EN website at www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources.

IV-A. Submission Date and Time

Completed application packages as described in [Appendix E: Detailed Instructions for Submitting Applications through Grants.gov](#) must be sent electronically via [Grants.gov](#) (or by an alternative method for those applicants with an approved Grants.gov Exception) no later than **Sunday, May 1, 2022, 11:59 PM Eastern**.

IV-B. Partnership Agreements

Groups of two or more eligible applicants may choose to form a coalition and submit a single application under this Notice; however, one entity must be responsible for the grant. Coalitions must identify which eligible organization will be the recipient of the grant and which eligible organization(s) will be subrecipients of the recipient (the “pass-through entity”). *Subawards* must be consistent with the definition of that term in [2 CFR 200.1](#) and comply with [EPA’s Subaward Policy](#). The pass-through entity that administers the grant and subawards will be accountable to EPA for proper expenditure of the funds and reporting and will be the point of contact for the coalition. As provided in 2 CFR 200.332, subrecipients are accountable to the pass-through entity for proper use of EPA funding.

For-profit organizations are not eligible for subawards under this grant program, but may receive procurement contracts. Any contracts for services or products funded with EPA financial assistance must be awarded under the competitive procurement procedures of [2 CFR Part 200](#) and/or [2 CFR Part 1500](#), as applicable. The regulations at 2 CFR 1500.10 contain limitations on the extent to which EPA funds may be used to compensate individual consultants. Refer to the [Best Practice Guide for Procuring Services, Supplies, and Equipment Under EPA Assistance Agreements](#) for guidance on competitive procurement requirements and consultant compensation. Do not name a procurement contractor (including a consultant) as a “partner” or otherwise in your application unless the contractor has been selected in compliance with competitive procurement requirements.

EPA panels will review applicants’ qualifications, past performance and reporting history and will consider, as appropriate and relevant, the qualifications, expertise and experience of formal partners. [Section V](#) describes in detail the evaluation criteria and process EPA will use to make selections under this Notice. More information about Partnership Agreements can be found in [Section III-D](#).

IV-C. Statutory Prohibition on Certain Telecommunications and Video Surveillance Equipment Services

Unless an exception or waiver applies, Section 889 of the National Defense Authorization Act for Fiscal Year 2019, Public Law 115-232 (section 889), prohibits the use of Federal funds by recipients and subrecipients to procure (enter into, extend, or renew contracts) or obtain equipment, systems, or services that use “covered telecommunications equipment or services” as a substantial or essential component of any system, or as critical technology as part of any system. Section 889 also prohibits the use of Federal funds by recipients and subrecipients to enter into a contract with an entity that “uses any equipment, system, or service that uses covered telecommunications equipment or services” as a substantial or essential component of any system, or as critical technology as part of any system. The Office of Management and Budget’s implementing regulations at [2 CFR 200.216](#) provide additional information on the prohibitions in section 889. These regulations state, among other things, that “[A]s described in Public Law 115-232, section 889 covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).” Other prohibitions may also apply. Certain prohibited equipment, systems, or services, including equipment, systems, or services produced or provided by entities identified in section 889, are recorded in the [System for Award Management](#) exclusion list.

V. Application Review Information

Note: Additional provisions that apply to this section can be found at [EPA Solicitation Clauses](#).

V-A Evaluation Criteria

EPA will only review applications, submitted by eligible entities, which meet the threshold eligibility criteria in [Section III](#), according to evaluation criteria below. The EPA Selection Official makes final funding decisions based on an applicant's score and other factors detailed in [Section V-B](#).

EPA scores and ranks applications, with a highest possible score of 100. The possible point totals for the five major evaluation criteria are listed in the "Points" column in the table below. Point values for each sub-component within the five criteria are listed in bold text before the relevant criterion. Applicants should explicitly address all these criteria in their [project narrative](#) as part of their application package submittal. **The Review Panel will not review any page over the 10-page limit of the project narrative.**

Examples of how an applicant might address the evaluation criteria within their project narrative is available in the optional, fillable project narrative template on [the EN website](#).

Criteria	Points
1. Project Outputs and Outcomes Leading to Environmental Results	
A. Supporting EPA Strategic Goals/Environmental Results (5 Points) Applicants will be evaluated based on the quality and extent to which their application demonstrates support of strategic goals and objectives from EPA’s (Draft) FY 2022-2026 Strategic Plan (see Section I-C) by the proposed project and, for each goal and objective, provides a sufficiently detailed description of this support. Applicants will also be evaluated based on the quality and extent to which their application adequately describes anticipated environmental results.	10
B. Tracking, Evaluating, and Measuring Progress (5 points) Applicants will be evaluated based on the quality and extent to which their approach, procedures, and controls for ensuring that awarded grant funds will be expended in a timely and efficient manner. Applicants will also be evaluated on their plan for tracking, evaluating and measuring progress over the project’s period of performance, and on how the associated output scheduled completion dates were selected/deemed appropriate to accomplish the proposed work.	
2. Project Feasibility and Approach	
A. Project Roles and Responsibilities (5 points) Applicants will be evaluated on the extent and quality to which their application identifies applicable project roles <u>and</u> provides the name, current job title, current organization, and anticipated project role(s) and responsibilit(ies) as described in Appendix E , for the following roles: <ul style="list-style-type: none">- the project manager;- at least one programmatic contact (if applicable);- at least one formal partner (if applicable); and- at least one mentor (if applicable). If the contact in any of these roles is not yet known (e.g., a portion of this assistance agreement will be used to hire key personnel), the applicant will be evaluated on the statement of skills, knowledge, abilities, and qualifications from the position’s recruitment package, and future project role(s) and responsibilit(ies).	

Applicants utilizing a contractor/vendor should explicitly state this and detail the anticipated project role(s) and responsibility(ies) of said contractor/vendor.	
<p><i>B. Programmatic Involvement (5 points)</i></p> <p>For applications that involve the management of, transport of or access to programmatic data, applicants will be evaluated based on the extent and quality to which their application states and explains if their project will include programmatic involvement (planning and implementation input from the program owning the data).</p> <p>For applications that include programmatic involvement, applicants should detail the programmatic office’s relation to the applicant organization and how they will be involved in the planning and implementation of the proposed project to ensure programmatic requirements are met.</p> <p>For applications that do not include programmatic involvement, applicants will be evaluated based on how well their application explicitly states and explains why programmatic involvement is not applicable.</p>	12
<p><i>C. Commitment to Registering ² New and/or Reused Resources (2 points)</i></p> <p>Applicants will be evaluated based on the extent to which their application explicitly states their commitment to register any new resource they develop <u>and</u> explicitly states their commitment to register the reuse of any existing EN resource(s) in their project.</p>	
3. Alignment with Exchange Network Funding Areas	
<p><i>A. Defining Project Goals, Outputs, and Outcomes (5 points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application clearly states project goals and associated outputs and outcomes in sufficiently detailed language and provides at least one output and at least one outcome for each goal.</p>	
<p><i>B. Project Alignment with EN Program Funding Areas (5 points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application names the EN Grant Program Funding Areas (Section I-B) and specific EN project opportunity(ies) (if applicable) they are applying under in their proposed project.</p>	
<p><i>C. Connecting Goals to Business and Administrative Needs (5 points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application identifies business and/or administrative needs which will be met by proposed project <u>and</u> clearly connects at least one of these needs to <u>each</u> project goal.</p>	48
<p><i>D. Demonstrating Technical Understanding (10 points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application names/identifies each of the project’s proposed solution(s), describes why each of the proposed solution(s) are necessary and appropriate to complete the project’s scope of work, identifies the business and/or administrative need(s) met by the proposed solution(s), and describes why the applicant feels confident in their ability to successfully implement and maintain the proposed solution(s).</p> <p>If specific solutions and/or technological aspects of the project are not yet known (e.g., a contractor will be used), applicants will be evaluated based on the extent and quality to which they clearly state who will make the project’s technical decisions, describe why they are the qualified/the appropriate party, and identify which business/administrative needs the selected technology or solutions will need to address.</p>	

<p><i>E. Enhancing Data Sharing and Availability (8 points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application explains how the knowledge, data, or technology outputs developed during the proposed project will enhance data sharing and data availability in the applicant’s own organization, for any formal partners (if applicable), and for other organizations across the Exchange Network.</p>	
<p><i>F. Supporting the E-Enterprise Digital Strategy (EEDS) (7 Points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application explains how the project’s proposed technology solution(s) support and align <u>each</u> of the three principles of the E-Enterprise Digital Strategy (EEDS) ¹, how the proposed solution(s) reflect the EEDS’s API-first approach, and how the proposed solution(s) enhance data sharing and availability for the applicant’s organization specifically in the context of the first principle of EEDS and/or an API-first approach.</p>	
<p><i>G. Commitment to Reuse Existing Resources (8 points)</i></p> <p>Applicants will be evaluated based on the extent and quality to which their application demonstrates a commitment to reuse existing resources by naming and describing project-appropriate EN tools, resources, services, widgets or applications developed by other EN partners which will be incorporated in the project.</p> <p>If none will be incorporated, applicants will be evaluated on the extent and quality to which their application clearly states this <u>and</u> justifies why no tools, resources, services, widgets, or applications have been identified for reuse in the proposed project.</p>	
<p>4. Budget, Resources and Key Personnel</p>	
<p><i>A. Clearly Outlining a Detailed Budget (6 points)</i></p> <p>Applicants will be evaluated on the extent to which their application budget is clearly stated in sufficient detail within the project narrative, including budget amounts for each proposed goal and output and a sufficiently detailed overview of other project costs.</p>	
<p><i>B. Appropriate Budgeting (6 points)</i></p> <p>Applicants will be evaluated based on the extent to which the goals and outputs costs in the application budget are appropriate to accomplish the proposed project.</p> <p>If an applicant’s goal and/or output cost(s) exceed the cost estimates provided in the appendices, applicants should provide a clear and detailed rationale for how they estimated this cost and why these funds are necessary to accomplish the work.</p> <p>Similarly, a detailed cost rationale should also be included for any project goals or outputs which are not included in the appendices’ cost estimates, explaining how the costs were estimated and deemed appropriate for the work.</p> <p><i>Reviewers will evaluate appropriateness using the cost estimates provided within the EN project opportunity write-ups in Appendices A, B, and C and in consultation with Subject Matter Experts.</i></p>	<p>18</p>

<p>C. Qualifications of the Project Manager/Contractors/Vendors (6 points)</p> <p>Applicants will be evaluated on how well their application demonstrates that the qualifications of the project manager and contractors/vendors (if applicable) are sufficient to complete the proposed work.</p> <p>Applicants should include an overview of the project manager’s past experiences working in project and financial management (e.g., working with a set budget). If the project manager is not yet hired, applicants should include a statement of project/financial management experience from the position’s recruitment package.</p> <p>Applicants utilizing contractors or vendors for their proposed project should indicate the planned method of acquisition and the planned vetting method to ensure they are qualified to complete work as assigned.</p>	
<p>5. Past Performance</p>	
<p>EPA will evaluate the past performance of an applicant with previous Exchange Network Grant Program assistance agreements as a prime recipient based on:</p> <ul style="list-style-type: none"> ➤ The overall percentage of progress reports <u>submitted by their due date</u> as required in the terms and conditions of prior assistance agreements (6 Points). ➤ Whether progress reports as submitted under prior assistance agreements <u>historically demonstrate</u> sufficient progress toward achieving expected project results <u>and</u> alignment with project schedules (2 points). ➤ Whether recipients with past assistance agreements <u>funded since 2011 have registered</u> tools, resources, services, data flows and/or the reuse of existing resources, in RCS/ENDS/SSRC², per the terms and conditions of EN assistance agreements (4 Points). <p>Please note in evaluating applicants under the Past Performance criteria, the Agency will consider the information provided by the applicant in the ‘Past Performance’ section of the project narrative (see page E9) as well as semi-annual and technical report submissions. The Agency may also consider relevant information from other sources including agency files and prior or current grantors (to verify or supplement the information supplied by the applicant).</p> <p>If an applicant does not have any previous EN Grant Program assistance agreements and <u>the application explicitly states this</u>, they will receive a neutral score of 6 points.</p> <p>If an applicant has no past performance with the EN Grant Program and <u>does not explicitly state that this is their first EN assistance agreement</u>, they will receive a score of 0 points.</p>	<p>12</p>
<p>Total:</p>	<p>100</p>
<p>¹ The first principle of EEDS is the ‘Information Centric Approach’, the second principle of EEDS is the ‘Shared Platform Approach’, and the third principle is the ‘Customer Centric Approach’; see Appendix D for more details.</p> <p>² As of October 2019, all new component registrations should be captured in Shared Services Resource Catalog (SSRC); at the time of grant close-out, grantees should work with their RENCs to complete the necessary IT Component Registration Form (see VI-B. Administration and National Policy Requirements). This form will be used by EPA to create a new SSRC record.</p>	

V-B. Review and Selection Process

EPA will first evaluate all applications against the threshold eligibility criteria listed in [Section III](#) of this announcement. EPA review panels will then evaluate and rank eligible applications based on the criteria listed in [Section V-A](#).

EPA review panels will have the opportunity to consult with [Subject Matter Experts \(SME\)](#) to inform their evaluations. **The Subject Matter Experts are not reviewers and will not score applications.** The EPA review panels will submit comments and rankings and make selection recommendations to the selection official, the Principal Deputy Assistant Administrator of the Office of Mission Support (OMS) or his or her designee, who will make the final funding decisions.

Applicants may submit more than one application; however, applicants are not eligible to receive more than one award under this Solicitation.

Other Evaluation Factors:

The EPA selection Official will make final funding decisions based on the rankings and preliminary recommendations of the EPA review panel as discussed above. In making the final funding decisions, the EPA selection official may also consider one or more of the following factors:

- Geographic distribution of funding.
- Selection of priority activities over other assistance activities.
- Ensuring participation in the Exchange Network by federally recognized Indian tribes, [inter-tribal consortia](#) and Alaska Native Villages.
- EPA's capacity to provide any requested [in-kind](#) services.
- Excessive unliquidated obligations ([ULO](#)s).
- Previous funds awarded to the applicant through the EN Grant Program for similar project goals and/or outputs
 - Note: Guidance on proposing goals and outputs similar to one(s) previously funded through an EN assistance agreement can be found in the '[Project Goals, Outputs, and Outcomes](#)' section of the project narrative overview.

Criteria for Identifying Excessive ULOs

EPA may include consideration of unliquidated obligations (ULO) in making final funding decisions. ULOs, also known as unspent balances, are not a perfect indicator of assistant agreement progress, but they can serve as a useful proxy to indicate if there are performance problems. EPA may use the appropriate criterion below to determine if an applicant has excessive ULOs. For applicants with excessive ULOs, EPA will provide an opportunity to explain the excessively high ULO and EPA will take into account whether the ULO is due to action or inaction on the part of the applicant (such as interruptions in the assistant agreement's project schedule resulting from delays on the part of EPA or other unforeseen circumstances out of the applicant's control.)

Period of Performance Milestone	Criteria – Unspent Balance as % of Awarded Funds
End of year two	Greater than or equal to 95 percent
End of year three	Greater than or equal to 70 percent
End of year four	Greater than or equal to 40 percent
End of year five	Greater than or equal to 10 percent

V-C. Anticipated Award Dates

EPA anticipates it will announce selection decisions in or around July 2022. EPA tentatively plans to issue the awards by September 30, 2022.

VI. Award Administration Information

Note: Additional provisions that apply to this section can be found at [EPA Solicitation Clauses](#).

VI-A. Award Notification

EPA anticipates notification to successful applicants will be made via telephone or electronic or postal mail by July 2022. The notification will be sent to the original signer of the application or the project contact listed in the application. This notification, which informs the applicant its application has been selected and is being recommended for award, is not an authorization to begin work. The official notification of an award will be made by the Grants and Interagency Agreement Management Division (GIAMD). Applicants are cautioned only a grants officer is authorized to bind the Government to the expenditure of funds; selection does not guarantee an award will be made. For example, statutory authorization, funding or other issues discovered during the award process may affect the ability of EPA to make an award to an applicant. The award notice, signed by an EPA grants officer, is the authorizing document and will be provided through electronic or postal mail. The successful applicant may need to prepare and submit additional documents and forms (e.g., work plan), which must be approved by EPA, before the assistance agreement can officially be awarded. The time between notification of selection and award of an assistance agreement can take 90 days or longer.

EPA may require applicants to submit missing or updated documents to complete the funding package of an application selected for award. Key contacts for a submitted application are requested to check their email inboxes and voicemail frequently in the months of May – August, as EPA may reach out with further instructions for the submittal of updated or additional documents.

VI-B. Administration and National Policy Requirements

Each assistance agreement will include a set of Administrative Terms and Programmatic Conditions, such as requirements for electronic funding transfers, additional financial status reporting, limitations on payments to consultants and application of indirect cost rates. These terms and conditions form the basis for the final award of Exchange Network assistance agreement funding. Failure to concur with the included terms and conditions will invalidate the award.

In accordance with the Exchange Network Interoperability Policy, applicants must commit, in writing within their application's project narrative, to reuse existing data flows, EN services, and other IT resources such as [widgets](#) and [RESTful web services](#). Please see [Appendix D](#) for further information on reuse and links to helpful resources. Applicants must also commit to register any newly developed resources and the reuse of existing resources.

At the time of grant close-out, EN grantees must work with the Regional Exchange Network Coordinator (RENC) in the region that their organization is located to complete this registration. A current list of RENCs can be found on the EN website on the 'contact us' page (<https://www.epa.gov/exchangenetwork/forms/contact-us-about-environmental-information-exchange-network>). EPA requires all assistance agreement recipients issued under this solicitation notice to meet these terms and conditions.

EPA will include a grant condition requiring the recipient to submit the Exchange Network Quality Assurance Reporting Form (QARF) to the EPA Regional Project Officer within 90 days of the award issuance date. The QARF is a tailored Quality Assurance Project Plan ([QAPP](#)) tailored specifically to satisfy the unique Quality Assurance needs of the EN Grant Program.

The [QARF](#) must describe for each goal and output:

- the relevant task-specific Quality Assurance (QA) criteria.
- how the recipient will ensure adherence with the QA criteria.
- how the recipient will confirm and document the project deliverables meet the QA criteria.

The QA criteria information specified above must be documented for each goal and task under the Quality Assurance Measures section of the Exchange Network QARF. The template for the Exchange Network QARF can be found at: <https://www.epa.gov/exchangenetwork/exchange-network-grant-program#QAP>. Please note that if an EN grantee's project includes data collection and/or data monitoring, they should work with their [RENCs](#) to determine if a QAPP is also required.

VI-C. Reporting

Semi-Annual Performance Progress Reports:

Reporting is an important obligation award recipients agree to undertake when they sign an assistance agreement. Both EPA and recipients are accountable to Congress and to the public for the proper and effective use of Exchange Network assistance funds. All grantees, regardless of the funding vehicle, are expected to submit semi-annual progress reports in a timely fashion. Award recipients will submit semi-annual and final technical reports electronically through EPA's Central Data Exchange (CDX). EPA will provide successful applicants with detailed instructions for registering with and reporting through CDX at the time of award.

Applicants should note that the timely submission of semi-annual progress reports, as well as the adherence of the reported progress in alignment with project schedules, contributes to an applicant's past performance score in future assistance agreement applications (see [Section V-A](#)).

VII. Agency Contact

The primary EPA Headquarters point of contact is:

Erin McGown

Office of Information Management

Information Exchange Partnership Branch

Phone: (202) 564-6381

Fax: (202) 566-1684

Email: ENGrantProgram@epa.gov**

Mailing Address: Erin McGown U.S. Environmental Protection Agency 1200 Pennsylvania Ave., NW (2824T) Washington, DC 20460	Physical Address <i>(for overnight or courier deliveries):</i> Erin McGown U.S. Environmental Protection Agency 1301 Constitution Avenue, NW (Rm 6408J) Washington, DC 20004
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** Preferred method of communication due to workplace changes associated with COVID-19.

Appendix A

EN Project Opportunities Under EN Funding Area 1

Increased Data Access and Innovative Business Processes.

Environmental agencies increasingly face pressure to meet their missions while reducing costs, increasing transparency, and delivering faster outcomes. These challenges require process innovation, modern technology solutions, and improved access to information. The opportunities under [Funding Area 1](#) are designed to help agencies adopt innovative business processes and modernize the critical data services that power their systems and workflows.

The E-Enterprise Digital Strategy ([EEDS](#)) prioritizes building a modern environmental protection enterprise that is information-centric and based on shared platforms. As part of this strategy, the Exchange Network will evolve to keep pace with new business requirements and technologies (see [Appendix D](#)). The EN data flows contained in the next appendix ([Appendix B](#)) will continue to serve as critical mechanisms for sharing large volumes of programmatic data among states, tribes, and EPA. As programs and systems modernize, agencies can take advantage of new technological capabilities and new patterns of data exchange. Large, infrequent data payloads may be replaced by smaller, real-time exchanges of data.

The next generation of the Exchange Network will make use of REST-based Application Programming Interfaces ([APIs](#)) to help make this transition possible. The opportunities in Appendix A are intended to help agencies transition to a next generation of the Exchange Network and take advantage of available EN Services.

Please note that applicants are encouraged to use existing [data standards](#) wherever possible; see: <https://www.exchangenetwork.net/data-standards/> and <https://www.epa.gov/data-standards>.

The cost estimates that appear in the following appendix were developed by the [Subject Matter Experts \(SMEs\)](#) who manage the featured service. Acknowledging that each state, tribe, and territory has different IT configurations and solutions for the programs they manage, it is permissible for application cost estimates associated with any individual suggested activity to differ from the estimates included in this appendix. If your estimate exceeds the estimate in this notice, you must provide an appropriate justification for the variation in costs (see [Evaluation Criteria](#) 4B and the ‘[Overview of Project Budget](#)’ section of the project narrative). Similarly, a detailed cost rationale should also be included for any project goals which are not included in the cost estimates, explaining how the costs were estimated and deemed appropriate for the work.

Each of the EN project opportunities found within this appendix can be applied for as an individual assistance agreement or a [partnership assistance agreement](#).

EN Services

Virtual Exchange Service (VES)	A2
Shared CROMERR Services (SCS)	A3
Substance Registry Services (SRS)	A5

Innovative Business Processes

Continuous Water Quality Monitoring	A7
Open Data, Data Modernization, and Digital Transformation Projects incl. Geospatial Data	A9

Virtual Exchange Service (VES)

Description:

A cloud-based service for creating data exchanges on the Exchange Network. VES provides comparable capabilities as the traditional Exchange Network node but eliminates the need for partners to create and maintain a node server. EPA developed this new model in response to requests from EN partners needing more cost- efficient ways to manage and maintain their nodes.

The VES approach simplifies development and maintenance of data exchanges using inheritance features and plug-in support. It reduces software licensing costs, server costs and much of the administration costs for partners, while providing a simplified development model and greater economies of scale. State, tribal or territorial administrators retain control of aspects of their VES, their data flows and access to their staging tables or databases.

The [VES/Exchange Network Services Center Decision Tree](#) helps partners decide whether or not the VES option is right for their organization. VES can be used for some or all of an organization's data flows as appropriate.

Potential Activities (Flows) Under This Opportunity:

Project Activity (Flow)	Cost Range
AQS 3.0	\$20,000 - 30,000
ICIS-AIR	\$40,000 - 80,000
EIS	\$20,000 - 30,000
ICIS-NPDES	\$40,000 - 80,000
ICIS-DA	\$20,000 - 30,000
WQX v2.1	\$20,000 - 30,000
<i>Note: Partners are encouraged to consult with their security team to determine if the security team can approve ASB for their VES implementation.</i>	
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

More Information:

- <http://www.exchangenetwork.net/virtual-exchange-service/>
- VES Exchange Network Services Center Decision Tree:
<https://www.exchangenetwork.net/VES/VES%20ENSC%20Decision%20Flow%20Chart%20v1.pdf>

Shared CROMERR Services (SCS)

Description:

EPA's Cross Media Electronic Reporting Rule (CROMERR) sets technology-neutral and performance-based standards for systems used by states, tribes and local governments to receive electronic reports and documents from entities regulated under EPA-authorized programs. These standards cover a variety of system functions (e.g., user identification, data integrity, security) designed to make electronic reports as legally defensible as paper submittals. EPA has implemented a suite of services supporting CROMERR requirements.

States and tribes can select the range of services they need and implement them to meet their organizational and system needs. Categories of the SCS services available include:

- **Online Registration and Help Desk** – Centralized web/mobile platform services for shared user registration building upon shared CROMERR [web services](#) for user management and identity- proofing to offer administrative tools for credential management, role-based access and CROMERR sponsorship.
- **Identity Management** – Identity-proofing individuals to meet CROMERR minimum criteria and at minimal cost to co-regulators.
- **User Management** – Creating, validating and maintaining accounts of reporting entities.
- **Electronic Signature** – Validating user credentials, verifying user intent and electronically signing submissions from regulated entities equivalent to being legally defensible as a paper-based approach.
- **Copy of Record (COR) Management** – Storing, maintaining and retrieving data submissions at the level of legal integrity required by CROMERR.
- **Advanced CROMERR Services** – Single sign-on authentication and web user redirects between regulated entity websites and <https://encromerr.epa.gov/> to support navigation to advanced CROMERR registration, e-signature functions, administration and record-keeping.
- **Organization Management Services** – Creating and updating Organization profiles for Advanced CROMERR Registration.

SCS is made available to EPA co-regulators to reduce their cost to develop and maintain many aspects of an E-Reporting solution, leverage expertise across the SCS partner community, streamline their CROMERR review and approval process and integrate all services while maintaining the look and feel of their own agency web site presence.

Many co-regulators have established plans for implementing the necessary business processes and technical environments to consume these services.

- More information is available on the status of the services at the [EN website](#).
- Detailed information on SCS may be located at <https://www.exchangenetwork.net/shared-cromerr-services-ipt/> and <https://encromerrdev.epacdnode.net/about>

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Integrate a single set of service functions (e.g., user registration)	\$10,000 - 25,000
Integrate the entire suite of service functions	\$25,000 - 40,000
Document technical and security requirements associated with SCS (based on using all services)	\$10,000
Testing and deployment of SCS	\$10,000
Project planning and management	\$10,000
Administrative process to coordinate procurement of third-party vendor identity-proofing	\$5,000
<i>Note: If the EN applicant proposes to implement the third-party identity-proofing service, the applicant will enter into agreement directly with the service vendor prior to production release and be responsible for fees associated with the ongoing identity-proofing of users. EPA will provide the necessary information for completing this process.</i>	
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

More Information:

- <https://encromerr.epa.gov/about>
- <https://www.exchangenetwork.net/shared-cromerr-services-ipt/>
- <https://encromerrdev.epacdxnode.net/about>

Substance Registry Services (SRS)

Description:

SRS is EPA's centralized service for sharing basic information about chemicals, biological organisms and other substances EPA and/or other organizations (e.g., state agencies, tribal agencies, other federal agencies) track or regulate. SRS:

- Enables data integration by substances (chemicals and biological organisms).
- Increases data quality of substance names and other identifiers in systems and online forms.
- Helps manage information about substances and regulatory substance lists.
- Helps users discover which systems and programs have data for a substance and under which substance name.

This opportunity is to improve the quality of chemical and biological identification data across the EN and shared among states, tribes, territories, and other organizations, and to increase its discoverability by the public.

Status and Plans:

There are several services available for use by partner systems. To improve management of chemical identification, SRS can register state and tribal programmatic lists. Organizations can use multiple lists to manage how certain substances are applicable to various reporting requirements for specific reporting years. This relieves state and tribal organizations from having to manage specific business rules per chemical in their own systems. SRS also stores unique names for substances used by states or tribes. SRS contains additional synonym properties and identifier types and values that can be added to a substance synonym that can be stored in SRS, rather than managed in a partner system. States and tribes also can improve public access to health and safety information by creating links from their websites to individual SRS records. SRS also has a search widget that partners can incorporate into their web pages.

By integrating SRS REST services, other organizations can enable substance (chemical or biological) lookup by multiple identifiers or synonyms, utilize autocomplete features and reduce redundant data storage for substance-specific data. By managing substance data in SRS, organizations can facilitate data-driven business logic within their applications.

Web services are available for use in partner systems to pull information from SRS for integration into online reporting forms or other tools or for displaying substance lists on their websites. The Toxics Release Inventory and the Chemical Data Reporting (CDR) are two examples of programs having incorporated SRS web services into their online reporting forms. When entering chemical names on the reporting forms, a submitter searches for a chemical using a synonym or other identifier. The submitter then selects the appropriate chemical, which the service retrieves from SRS. Integration of SRS web services into the online reporting form saved the CDR program hundreds of thousands of dollars in reduced data quality errors. SRS can be accessed at: https://ofmpub.epa.gov/sor_internet/registry/substreg/LandingPage.do

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Add SRS identifiers to state or tribal systems to promote the ability to link across datasets by substance, regardless of which synonyms are used.	\$5,000
Integrate SRS web services into the online reporting form of a state or tribal system or other tool to improve the data quality and/or help submitters report correct substance information.	\$15,000 - 20,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

The SRS REST Services allow the use of web services to access data from SRS. Single substance queries pull standardized information about a substance, as well as the environmental statutes and data systems tracking or regulating the substance and the synonym(s) used by those lists. Multi-substance queries are also available, as well as services facilitating auto-complete functionality for substance names.

Find them at: https://ofmpub.epa.gov/sor_internet/registry/substreg/automatedservices/index.jsp

More Information:

- https://ofmpub.epa.gov/sor_internet/registry/substreg/LandingPage.do

Continuous Water Quality Monitoring

Description:

Continuous water quality monitoring (monitoring performed with a sensor measuring a particular parameter or suite of parameters automatically at set intervals) is becoming more common. This project takes advantage of current thinking on the publishing approaches defined in the [E-Enterprise Digital Strategy](#). Applicants should consider approaches to make water quality sensor data available via a publishing service and make it searchable from a central portal operated by EPA or by a project partner.

The EPA Office of Water (OW) completed a pilot to enable this type of data exchange (outcomes from the pilot are available here: https://www.epa.gov/sites/production/files/2017-01/documents/iwn_lessonslearned_final_201612.pdf).

The pilot project developed a demonstration portal integrating data from 8 different partners. Adding additional partners is straight forward but does require partners to be able to publish data using the approved [Open Geospatial Consortium \(OGC\) WaterML 2.0](#) standard and the Sensor Observation Service. In 2018, the E-Enterprise Advanced Monitoring team developed a recommendation report on the [data standards](#) used for publishing sensor data. This report is available at: <https://e-enterprisefortheenvironment.net/our-projects/data-standards-for-continuous-monitoring-data/>.

In 2018, EPA completed a reusable component for publishing data using these standards. This component allows a partner to register their sensors and publish the data using the OGC standards. This ‘[Data Appliance](#)’ can be deployed as a containerized Docker implementation using open-source software.

Status and Plans:

In 2021, EPA made enhancements to the data publishing component to improve usability and to improve documentation. Since EPA sees this component as open-source, reusable code, we invite partners to enhance this tool to meet their specific needs and to share that code back with the community. EPA is also working with other partners to evaluate data cataloging options and central portals for collating these data together for public consumption. New data publishing standards are also becoming available that may be worth consideration, including the SensorThings API. More information on SensorThings is available at: <https://www.ogc.org/standards/sensorthings>.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Modify Data Publishing Component & Begin Publishing Data Modify the reusable data publishing component to meet your specific organization’s needs and leverage this component to begin publishing sensor data in the open formats specified above. Applicants should register any enhancements to the code at the time of grant close-out in accordance with EN Terms and Conditions (see Section VI-B), to ensure that these enhancements are available to stakeholders across the Exchange Network.	\$30,000 - 60,000
Use COTS or Modify Existing Tools to Publish Data in Open Formats Use Consumer Off the Shelf (COTS) products or modify your own existing tools to publish data using the open formats specified above.	\$50,000 - 80,000

Develop Approaches for Capturing and Sharing Sensor Metadata Develop approaches for capturing and sharing metadata relevant to water sensors and share those methods back with the community.	\$50,000 - 100,000
Develop Cataloging Approaches for Integrating and Communicating Sensor Data from Multiple Sources to the Public Develop cataloging approaches for integrating sensor data from multiple partners and public dissemination tools for communicating these integrated data to the public.	(Individual Applicant) \$25,000 - 50,000
	(Partner Applications) \$100,000 - \$300,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

- EPA Interoperable Watersheds Network data publishing component is available on EPA's GitHub at: <https://github.com/USEPA/Interoperable-Watersheds-Network-Data-Appliance>.
 - Partners are invited to make enhancements to this component and would be encouraged to share any of those enhancements back with EPA and the rest of the community. This component can be deployed in an agency's environment or in a cloud environment.
 - Two branches of this component are available:
 - The first branch does not contain a user security layer, and any partner would need to add their own organization-specific user-security before making broad use of this component. EPA chose to implement this tool in this way since each organization may have different user security/authentication protocols.
 - The second branch includes an EPA-centric security layer that uses EPA authentication protocols for access.

More Information:

- Open Geospatial Consortium Data Standards: <https://www.ogc.org/standards/sos>
- Continuous Monitoring Strategy: <https://www.epa.gov/waterdata/continuous-monitoring-data-sharing-strategy>

Open Data, Data Modernization, and Digital Transformation Projects including Geospatial Data

Description:

Environmental protection agencies rely on data for every aspect of their work — from environmental monitoring to permitting and enforcement. Nearly every mission-critical workflow and management decision depends on ready access to quality information. Agencies also face increasing demand for data from the public, the regulated community, co-regulators, and other stakeholders. Meeting these demands requires new investments in interoperable technology platforms and services to promote collaboration and facilitate the integration of data needed to improve environmental management among partner agencies and organizations. This EN project opportunity promotes applications for projects that will improve environmental decisions by making data more open, interoperable, and readily usable. Projects should support 1) the development of environmental data catalogs to serve as the foundation for the larger development of environmental data hubs and 2) the promotion of sustainable data integration practices by working with external partners to cultivate modern environmental data infrastructure and address the difficult and universal challenge of legacy data.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Identifying and prioritizing environmental data to be held and/or served <ol style="list-style-type: none"> 1. Conduct an environmental data inventory. The purpose of a data inventory is to determine the fragmentation of environmental data, identify areas for improved accessibility and discoverability, and determine data for improved usability. 2. Develop criteria to identify the most important of these datasets, and rank and prioritize them for inclusion in data and data exchange standardization processes. 	(Individual Applicant) \$25,000 - 50,000 (Partner Applications) \$50,000 - 300,000
Designing the technical framework for the creation of accessible environmental data collections <ol style="list-style-type: none"> 1. Define the system for publishing and sharing data collections including usability, data discovery, data access, security, and scalability requirements. Data delivery will comply with open data standards to maximize interoperability. 2. Develop or adopt data standards for each data type to be represented in the data collection, such as those published by the Open Geospatial Consortium (e.g., TimeSeriesML for time series sensor data, groundwaterML for groundwater observations, WQX for water quality samples, etc.). Data content standards, where possible, should reference controlled vocabularies to be developed and published by the agency or referenced to existing ones. 3. Develop a conceptual framework for ingesting or integrating data from each contributing data source into systems capable of sharing data in standard formats and APIs. This could involve establishing systems for automated uptake of data, where appropriate (e.g., data preparation and development of intrastate exchanges and Centers for Disease Control (CDC) upload for radon). 	(Individual Applicant) \$25,000 - 50,000 (Partner Applications) \$50,000 - 100,000
Developing an environmental data catalog platform <ol style="list-style-type: none"> 1. Acquire and/or develop software for data storage, cataloging, and dissemination through APIs. 2. Develop the data ingestion process conceptualized pilot it with 2-5 identified data streams. 	(Individual Applicant) \$25,000 - 50,000 (Partner Application) \$50,000-300,000

Developing use cases to demonstrate the utility of the standardized data and data exchange	(Individual Applicant) \$15,000 - 25,000
1. Convene stakeholders to identify and develop personas and use cases of value to environmental policy and planning.	
2. Select and develop conceptual frameworks for use cases based on stakeholder feedback.	(Partner Application) \$25,000 - 50,000
3. Identify potential data visualizations and tools for selected use cases and develop wireframes for data visualizations.	
4. Develop pilot data tools and visualizations	
Promote sustainable data modernization and integration within and across state agencies	(Individual Applicant) \$25,000 - 50,000
1. Compile and disseminate best practices for data management.	
2. Create supporting and educational materials to build knowledge about and capacity for integrated data management.	(Partner Application) \$50,000 - 200,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

More Information:

Projects should maximize the use of REST-based web application programming interfaces (APIs) as the foundation for creating interoperability and openness. All applications or platforms, whether desktop, mobile, web app, or dashboards, should follow an API- first design methodology. Project deliverables could include, but are not limited to:

- APIs, microservices and platforms for data access that include accessing records, querying, filtering, aggregating, and analyzing data and other [data access services](#). Example platforms may include API-driven commercial Software as a Service/ low code/ no code platforms (e.g., ArcGIS Online, Microsoft Powerapps, QlikSense, Tableau), open source platforms, or applicant-developed platforms.
- Geospatial or remote sensing technology (including Unmanned Aircraft Systems), tools and data services to address environmental problems (including use of geocoding and field methods to improve locational accuracy of environmental interests).
- Desktop, laptop and tablet/smartphone applications enabling access, analysis, and display of environmental data.
- Dashboards or other analytical tools providing real-time program status and decision support information to program managers and executives. Wherever possible dashboards should be built upon open APIs to connect directly to source data rather than one time/one off data collections.
- Sharing of documentation and project lessons learned with exchange network partners.

Grantees should publish data in open machine-readable formats through standards-compliant data services that are accessible through [REST APIs](#). Data should be available in:

- JavaScript Object Notation ([JSON](#)); eXtensible Markup Language ([XML](#)) format; Comma Separated Values (CSV or flat file); or
- As business needs or data complexity dictate, another machine-readable format (e.g., [GeoJSON](#) for vector spatial data, [GeoPackage](#) for vector or raster data, [COGTIFF](#) for imagery, [NetCDF](#) for multidimensional data).

Grantee's REST APIs should strongly consider using established, open API, or industry supported standards appropriate for data types rather than building completely custom APIs if practicable. Examples of such standards include:

- Geospatial vector data: OGC API - Features ([OAF](#)), Web Feature Service ([WFS](#)).
- Geospatial raster data: OGC API - [Coverages](#) components are available to use with this opportunity.

Appendix B

EN Project Opportunities Under EN Funding Area 2

Eliminate paper submittals and expand e-reporting

States, Territories, Tribes, and the EPA exchange large quantities of environmental data to analyze problems, make policy and tactical decisions, implement programs and comply with statutory and regulatory requirements. Traditionally these reports have been submitted by regulated entities and states in paper form. Over the last twenty years, EPA and its partners have increasingly opted to eliminate paper submittals and move towards standardized electronic reporting approaches based on EN data standards and technology. This evolution has included streamlining and modernizing multiple data collection processes through the web-based applications and portals, shared platforms and the use of EN services/APIs to enable interoperable exchange and access to data.

The opportunities under [Funding Area 2](#) are designed by EPA National Program Offices to help their stakeholders submit and share programmatic data for fourteen EPA programs. Each EN [project opportunity](#) within this appendix contains a table of suggested activities and their associated costs. These cost estimates were made by the [Subject Matter Experts \(SMEs\)](#) who manage the featured data flow. Acknowledging that each state, tribe, and territory has different IT configurations and solutions for the programs they manage, it is permissible for application cost estimates associated with any individual suggested activity to exceed the estimates included in this appendix. If your estimate exceeds the estimate in this notice, you must provide an appropriate justification for the variation in costs (see [Evaluation Criteria](#) 4B and the ‘[Overview of Project Budget](#)’ section of the project narrative). A detailed cost rationale should also be included for any project goals which are not included in the cost estimates, explaining how the costs were estimated and deemed appropriate for the proposed work. Please note that applicants are encouraged to use existing [data standards](#) wherever possible; see: <https://www.exchangenetwork.net/data-standards/> and <https://www.epa.gov/data-standards>.

Each of the EN project opportunities found within this appendix can be applied for as an individual assistance agreement or a [partnership assistance agreement](#).

Air

Air Quality System (AQS)	B2
Emission Inventory System (EIS)	B3
E-Enterprise Combined Air Emissions Reporting (CAER)	B4

Enforcement and Compliance

ICIS (Integrated Compliance Information System) Digital Services	B6
Electronic Reporting of National Pollutant Discharge Elimination System (NPDES) Data	B8

Waste

Resource Conservation and Recovery Act Information System (RCRA Info)	B10
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Water

eBeaches	B11
Safe Drinking Water Information System (SDWIS)	B12
Water Quality Exchange (WQX)	B14
Assessment TMDL Tracking And Implementation System (ATTAINS)	B16
Drinking Water State Revolving Fund & Clean Water State Revolving Fund	B18
Underground Injection Control (UIC) Data Availability Projects	B19

Other Data Exchanges

Facility Registry Service (FRS)	B19
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Air Quality System (AQS)

Description:

AQS is the official EPA repository of ambient air quality monitoring data and related location and measurement [metadata](#), collected by state, tribal, territorial and local governments. It is used for regulatory purposes to determine compliance with the Clean Air Act and for scientific and health effects research.

Presently state, local and tribal agencies are submitting data to AQS using version 3.0 of the AQS flow. This flow was updated in 2014 to add new quality assurance [data elements](#) to the schema.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Implement the AQS Data Exchange For applicant organizations who are new to air monitoring and need to flow data to AQS using the Exchange Network (EN). <ul style="list-style-type: none">Of particular interest are consortia of groups that might not otherwise be able to accomplish the data flow on their own.	\$50,000 - 150,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

- The EPA AQS team does not maintain any shared services or reusable components. Some services have been developed by previous grantees, such as the Air Quality Data Exchange (AQDE) and MassAir; these are described at the EN site for Air flows: <https://www.exchangenetwork.net/communities-of-interest/air/>.
- AQS uses, as should all AQS related flows, the cross-program services of EPA Tribal Identification, Facility Identification, and Substance Registry Services at: <https://www.exchangenetwork.net/communities-of-interest/cross-program/>.

More Information:

- The AQS home page is here: <https://www.epa.gov/aqs>.
- The EPA Ambient Monitoring Technology Information Center page is here: (This is the site for technical information about the monitoring program that AQS is a part of. It includes information about regulations, quality assurance, monitors and methods, networks, and policy): <https://www.epa.gov/amtic>.

Emissions Inventory System (EIS)

Description:

The Emissions Inventory System (EIS) is the system for storing all current and historical emissions inventory data. EPA uses it to receive and store emissions data and generate annual and triennial National Emissions Inventory.

The [National Emissions Inventory \(NEI\)](#) is EPA's compilation of estimates of air pollutants discharged on an annual basis and their sources. EPA uses the NEI to track emissions trends over time, develop regional pollutant reduction strategies, set and analyze regulations, perform air toxics risk assessments including inhalation risks and multi-pathway exposure, model air pollutant dispersion and deposition and measure environmental performance as required by the Government Performance and Results Act.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Develop Services that Facilitate Online Collection of Emissions Inventory Data	\$50,000 - 100,000
Support the transition to CERS v2 schema, including control path definition	\$20,000 - 100,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

More Information:

- [Environmental Information Exchange Network - Emissions Inventory System](#)

Combined Air Emissions Reporting (CAER)

Description:

The Combined Air Emissions Reporting System (CAERS) system seeks to streamline multiple point source air emissions reporting processes whereby regulated entities can report shared data once, and have that data made available to other programs and systems where that shared data is also required to be reported. Currently, air emissions information is collected by EPA and state/local or tribal air agencies (SLTs) through numerous separate regulations, in a variety of formats per different reporting schedules and using multiple routes of data transfer. In the proposed future state, the CAERS is expected to reduce the cost to industry and government for providing and managing important environmental data, and to improve decision-making capacity for SLT partners through more timely availability of data. Currently CAERS seeks to address electronic reporting of both facility and emissions data, which includes the National Emissions Inventory (NEI), and Toxics Release Inventory (TRI), and over the long-term plans to include data reported to the Compliance and Emissions Data Reporting Interface (CEDRI), and the Greenhouse Gas Reporting Program (GHGRP) and potentially others. CAERS is the reporting system that was created towards shared data reporting for industry and SLTs. More information can be found at: <https://www.epa.gov/e-enterprise/e-enterprise-combined-air-emissions-reporting-caer>. In addition, a suite of webservices have been or are being created for use with CAERS as part of a broader CAER effort. These include SCC searches, emission factor searches, and eventually, QA and QC checks and potentially others, that will be available to support SLTs to use with their own systems, should they choose to do so.

Status and Plans:

EPA builds the backbone of features needed by EPA or multiple SLT agencies, and SLT agencies can use this “base” CAERS if they do not need custom features. While EPA has built CAERS to accommodate customizations for SLTs and can build those, the CAER team is investigating options for SLTs to develop workflows and custom modules on their own in the future.

Potential Activities Under This Opportunity:

Project Activity	Funding Range
Collect SLT Data Program Requirements: The CAERS design ensures that all participating <i>federal</i> air program requirements will be met through CAERS. In addition, SLTs may have requirements of their own that must be gathered so that they can also be implemented in their own data system or to allow their data to be reported to CAERS. This activity funds SLTs to obtain support for gathering requirements such as how an existing data system will interact with CAERS, additional QA checks and additional required or optional data fields.	\$25,000 - 55,000
Define SLT IT Requirements: This activity would be needed for any SLT that intends for their existing emissions data system to interact directly with CAERS or with a module within CAERS. This activity funds SLTs to obtain support to define the IT design and requirements to implement in the SLT data system or to develop a module to allow their data to be reported to CAERS, depending on the nature of the SLT program requirements.	\$40,000 - 80,000

<p>Upgrade, Customize and/or Test SLT System to Work with CAERS: This activity would be needed for any SLT that intends for their existing emissions data system to interact directly with CAERS. The activity funds SLTs to update and test an existing data system based on program requirements, IT requirements, and CAERS design for connection to CAERS. Cost estimates for this activity outside of the range provided might suggest SLTs should consider a different integration approach with CAERS.</p>	<p>\$40,000 - 100,000</p>
<p>Train Users and Deploy CAERS to the SLT: This activity includes time and effort in the development and delivering of SLT-specific training materials for SLT system or process updates (such as user guides, training materials, video webinars, and or video tutorials) to allow facilities that use CAERS to report data to SLTs. SLTs will have access to EPA-developed training about the base CAERS software to build custom training.</p>	<p>\$15,000 - 25,000</p>
<p><i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i></p>	

Shared Services/Reusable Components Available:

- **SCC searches:** <https://epa.gov/scc>
- **SCC webseivices:** <https://ofmpub.epa.gov/sccwebservices/>
- **Emission factors searches:** <https://cfpub.epa.gov/webfire/>
- **Emission factors webservices:**
<https://cfpub.epa.gov/webfire/efwebservices/efwebservice.html>

More Information:

EPA will be flexible in working with SLTs and their specific timelines. Interested states should consider discussing a potential timeline of work with EPA even if funds are not yet available. It may be possible to begin some aspects of the work even if the SLT has not been fully funded.

ICIS (Integrated Compliance Information System) Digital Services

Description:

State and tribal partners send data to the Integrated Compliance Information System (ICIS) to meet reporting requirements. The data are used to support Clean Water Act National Pollutant Discharge Elimination System ([CWA](#) NPDES) wastewater discharge program functions (e.g., permitting, compliance monitoring, enforcement, and special regulatory programs), as well as compliance and enforcement programs related to Clean Air Act ([CAA](#)) [stationary sources](#). State and tribal partners provide data to ICIS for which they have authority via [node](#) and [node client](#) technology. This includes XML formatted submissions of CWA NPDES and CAA data via physical nodes on the Exchange Network, and Virtual Exchange Services, which is a cloud-based platform for creating data exchanges on the Exchange Network.

Status and Plans:

The Agency has initiated the development of a concept of operations (CONOPS) to inform the long-term modernization of how compliance and enforcement data are managed at EPA. This will be used to identify system requirements. This is the first step to ensure business requirements for the national CWA NPDES and [CAA stationary source](#) programs are supported now and in the future. Through the CONOPS initiative, the Agency is exploring ways with states, local agencies, tribes, and territories to expand data sharing capabilities and advance digital strategies to reduce operation costs. The Agency will continue to work with stakeholders to complete the transition to digital services on which a modernization of ICIS will be based. _

States and tribes can contribute to advancing digital strategies by considering shared platforms that allow regulators to work together using consistent [data standards](#) for information related to facility, permit, compliance and enforcement data. The Agency will continue to grow its efforts to establish support for shared services. However, recognizing the investment to transition to digital services, activities to operate and maintain existing nodes on the Exchange Network will continue to be supported.

Potential Activities Under This Opportunity:

Project Activity	Service	Cost Estimate
Upgrades to meet NPDES Electronic Reporting Rule Activities might include support for states to modify their NPDES systems to ensure that they can capture, store, and transmit to EPA any necessary data elements that are required or in support of the NPDES eReporting Rule as described in 40 CFR part 127.	ICIS-NPDES	\$35,000 - 200,000
Develop Application Programming Interfaces (APIs) Develop the capability to exchange structured and unstructured information through APIs. Develop APIs that send, receive and process notifications and data related to CWA NPDES or CAA-stationary source programs, such as: list of forms, documents, user registration information and functionality, confirmation codes from user registration, email availability, email notifications to regulated entities, and account confirmation emails. Expose data and content that describes the data to other computers in a machine-readable format (i.e., provide web APIs).	ICIS-NPDES or ICIS-Air	\$25,000 - 200,000

Modify System to Provide or Consume Shared Services Develop, modify or consume shared services that support environmental business processes, including but not limited to: user registration process, user authorization and authentication, enable entering data and viewing human readable data, facilitate search functions, and create, maintain, and archive a copy of record. Develop and implement a framework that results in reference table shared services for data and data standards related to, for example: states, counties, permit types, permit status, chemicals, pollutants, form status, form types, titles, and roles/user types.	ICIS-NPDES or ICIS-Air	\$25,000 - 200,000
Enhance Compliance and Enforcement Dataflow Extract and convert the data from State NPDES and air systems into the XML format needed to submit data to ICIS electronically; modify state/tribal/territorial systems to accommodate the data requirements for ICIS-NPDES and ICIS-Air and related e-reported compliance data; and install and configure ICIS-NPDES and ICIS-Air plug-ins available on the Exchange Network.	ICIS-NPDES or ICIS-Air	\$35,000 - 200,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>		

Shared Services/Reusable Components Available:

Identified below is a list of shared services or reusable components available to applicants as they implement the opportunities:

- [Shared CROMERR Services](#), including for two-factor authentication, signature service, identity proofing. See Appendix A – Shared CROMERR Services.
- Copy of Record (COR) captured in [CDX](#) CROMERR Repository - The Copy of Record (COR) category of services addresses all activities and functions for storing, maintaining, and retrieving the COR and associated notifications.
- Common reference tables and codes
- Impaired Waters and [TMDLs](#) (ATTAINS) – Exchange Network Service
- Pollutant/Parameter Lists (reference tables)
- NPDES ID Lookup/creation services
- ICIS Data Access (“ICISDA”) dataflow - provides the ability for any participating Exchange Network partner or node (e.g., a state agency node, EPA Regional node, etc.) to request and receive ICIS data in XML format. The Integrated Compliance Information System (ICIS) currently holds data from various EPA programs such as NPDES (National Pollutant Discharge Elimination System), FE&C (Federal Enforcement and Compliance), and RCRA (Resource Conservation and Recovery Act).
- Share Services Resource Catalog - <https://sscatalog.epa.gov/sharedservicecatalog/>

More Information:

- Integrated Compliance Information System (ICIS) Support Portal <https://icis.zendesk.com/hc/en-us>
- NPDES eReporting Tool Help Center <https://epanet.zendesk.com/hc/en-us>
- [CWA-NPDES Electronic Reporting website](#) <https://www.epa.gov/compliance/npdes-e-reporting>
- More information on ICISDA can be found at the ICIS Customer Support Portal: <https://icis.zendesk.com/hc/en-us/articles/207374636-Download-XMLs-From-ICISDA-Dataflow-to-Correct-ICIS-Data->

Electronic Reporting of National Pollutant Discharge Elimination System (NPDES)

Description:

Electronic reporting of Clean Water Act National Pollutant Discharge Elimination System (NPDES) general permit forms, program reports, and [Discharge Monitoring Reports \(DMRs\)](#) lowers burden for permittees and regulators; improves data quality, availability, and timeliness; and ultimately improves compliance. In support of these goals, EPA published the National Pollutant Discharge Elimination System (NPDES) Electronic Reporting Rule (“NPDES eRule”) on 22 October 2015. The 2015 rule required EPA and states to modernize Clean Water Act ([CWA](#)) reporting for municipalities, industries and other facilities. The rule divided implementation into two “Phases.” The deadline for Phase 1 implementation passed on December 21, 2016. Most states and permittees have successfully implemented Phase 1 of the NPDES eRule, which includes electronic submission of DMRs and the Federal Biosolids Annual Report where EPA is the Regulatory Authority. On November 2, 2020, EPA published its [NPDES eRule Phase 2 Extension rule](#), which provides states and EPA additional time to implement electronic reporting for certain Clean Water Act discharge permitting requirements, notably general permit information and program reports other than the Federal Biosolids Annual Report. [85 FR 69189]. In this final rule, EPA extended the compliance deadline for implementation of Phase 2 of the eRule by five years to December 21, 2025.

EPA currently has two tools to accomplish NPDES electronic reporting and implement the NPDES eRule: NetDMR for DMRs and the NPDES eReporting Tool (NeT) for general permits and program reports.

Status and Plans:

NeT is available to states as a multi-tenant platform that uses PaaS. This cloud approach manages the infrastructure, operating system, run time and middleware allowing EPA to focus on developing, deploying, and using applications rather than managing infrastructure.

Current deployments of NeT include the following sectors:

- Construction Stormwater
- Industrial Stormwater
- Oil and Gas Extraction (EPA Region 4 and 6’s Outer Continental Shelf general permits)
- Aquaculture
- Biosolids Annual Program Report

EPA is expanding use of the NeT platform over the next few years to include the following sectors:

- Urban Stormwater – MS4 (general permit and program report)
- Pesticide Application (general permit and permit-specific annual report)
- Groundwater Remediation and Dewatering (general permit)
- Sewer Overflow/Bypass Report (program report)

Deployments of NeT for general permits and program reports are documented on the “[NPDES eRule Phase 2 Implementation Dashboard](#).”

Potential Activities Under This Opportunity:

Project Activity	Cost Range
State Use EPA's NeT Solution Where needed and appropriate, new web services and application program interfaces (APIs) will be developed and made available to states, tribes, and territories to support electronic reporting of NPDES permits and program reports. States that elect to use the EPA's NeT platform may need to use APIs or develop shared services that can be invoked by EPA applications in order to integrate with the NeT platform. For example, states may consider how they might access or collect the data or information provided by permittees through the NeT application.	\$25,000 - 50,000
States Develop Own NPDES eReporting Solution Development, testing, and implementation of a CROMERR compliant system for reporting electronic NPDES permit forms (e.g., Notices of Intent (NOI)) for individual or general permit coverage or program reports. The solution should leverage shared services, APIs, and contribute to the establishment of consistent data standards for the NPDES permit, compliance and enforcement program.	\$35,000 - 200,000
States Develop eDMR System Development, testing and implementation of an eDMR system within the state computing environment that is fully CROMERR compliant.	\$35,000 - 200,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

Please see Appendix A ICIS Digital Services and Appendix B for Shared CROMERR Services for services for a list of shared services or reusable components available to states, including, but not limited to:

- [Shared CROMERR Services](#): User Management, Identity Management, Signature Device, Signature, Sign and Store Copy of Record
- [CDX](#) Registration
- Common reference tables and codes (e.g., Pollutant/Parameter Lists)
- Federated Identity Management
- Impaired Waters and [TMDLs](#) (ATTAINS) – Exchange Network Service
- NPDES ID Lookup / creation service
- ICIS Data Access (“ICISDA”) dataflow - provides the ability for any participating Exchange Network partner or node (e.g., a state agency node, EPA Regional node, etc.) to request and receive ICIS data in [XML](#) format.
- Share Services Resource Catalogue - <https://sscatalog.epa.gov/sharedservicecatalog/>

More Information:

- Integrated Compliance Information System (ICIS) Support Portal <https://icis.zendesk.com/hc/en-us>
- NPDES eReporting Tool Help Center <https://epanet.zendesk.com/hc/en-us>
- [CWA-NPDES Electronic Reporting website](#)
<https://www.epa.gov/compliance/npdes-ereporting>
- More information on ICISDA can be found at the ICIS Customer Support Portal:
<https://icis.zendesk.com/hc/en-us/articles/207374636-Download-XMLs-From-ICISDA-Dataflow-to-Correct-ICIS-Data->

Resource Conservation and Recovery Act Information (RCRAInfo)

Description:

RCRAInfo is a national, web-based system which provides data entry, data management and data reporting functions used to support the implementation and oversight of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 as administered by EPA (through its regions) and authorized states. RCRAInfo identifies and categorizes hazardous waste handlers and includes high quality information about regulated activities, permit/closure status, compliance with federal and state regulations and cleanup activities. It also tracks the shipments and receipts of hazardous waste data through the e-manifest module pursuant to the Hazardous Waste Electronic Manifest Establishment Act, enacted into law on October 5, 2012. Only those with a delegated authority under RCRA Subtitle C can submit data to RCRAInfo, however, non-delegated states or tribes can receive data from RCRAInfo via RCRAInfo outbound services.

Status and Plans:

RCRAInfo Financial Assurance redesign is in development and will be fully released in next year. The upgrade may include service schema changes both inbound and outbound.

Exchange Network Program Office Activities	
Milestone	Target Date
RCRAInfo Financial Assurance redesign implementation	FY22 – 2 nd quarter

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Financial Assurance Module Changes	\$50,000 - 100,000
<p>Migrate to either RCRAInfo inbound or outbound services to eliminate double data entry</p> <ul style="list-style-type: none"> Inbound services: Handler, Compliance Monitoring and Enforcement, Permitting, Corrective Action, Financial Assurance and GIS. APIs: e-Manifest. Outbound services: Handler, Compliance Monitoring and Enforcement, Permitting, Corrective Action, Financial Assurance, GIS, eManifest, Biennial Report. <p>Note: EPA encourages recipients to evaluate and explore the use of outbound web services and to partner with EPA to identify outbound service needs and requirements.</p> <ul style="list-style-type: none"> Outbound services could include just the current data on a specific handler or pulling back all the Biennial Report data for a given cycle. <p>Additionally, states currently performing double-data entry should seek to use either RCRAInfo inbound or outbound services to eliminate double-data entry.</p> <p><i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i></p>	\$50,000 - 100,000

More Information:

- RCRAInfo Exchange Network Resources:
<http://www.exchangenetwork.net/data-exchange/rcrainfo/>
- E-Enterprise – E-Manifest for Hazardous Waste (<https://www.epa.gov/e-manifest>)
- GitHub Information – (<https://github.com/USEPA/e-manifest>)
- E-Manifest Developers ListServ – join-e-manifestdev@lists.epa.gov

eBeaches

Description:

eBeaches is the electronic data transmission system that allows EPA to securely receive and display jurisdiction (state, tribe, territory) beach water quality and swimming advisory data two hours after state and local agencies send the data. eBeaches supports the Beaches Environmental Assessment and Coastal Health (BEACH) Act requirement to collect, store, and display beach public right-to-know pollution occurrence data. Jurisdictions should consider submitting spatial representations of the beaches reported in the Beach Notification (PRAWN) and monitoring stations in Beach Monitoring (WQX) submissions using the NHDEvent data flow.

Status and Plans:

For both Beach Notification and Beach Monitoring the Version Status is “Supported” and the Data Exchange Status is “Flowing”. There are no plans to modify the Beach Notification schema, however the Beach Monitoring flow uses the WQX schema which has been revised to version 3.0.

Potential Activities Under This Opportunity:

Project Activity	Cost Estimate
Read all support documentation at: https://www.epa.gov/beach-tech/submitting-data-epa .	This activity not eligible for funding
Check with other internal jurisdiction offices for existing VES access & Node capability before developing Node capability for each beach data flow.	This activity not eligible for funding
Implement eBeaches data exchange	\$40,000 - 80,000
Publish Beach closure data in real time , even though the EPA currently updates data on a two-hour cycle.	\$10,000 - 20,000
Map systems to the approved national XML schemas: http://www.exchangenetwork.net/communities-of-interest/water/ .	\$10,000 - 30,000
Implement NHDEvent data flow for BEACON beach locations to be geo-referenced to the NHD. Link beach locations consistent with the NHD and the Geospatial One Stop Hydrography Standard.	\$10,000 - 20,000
Validate XML instance documents prior to submission via CDX (node or ENSC)	\$10,000 - 20,000
Verify in WQX/WQP (formerly STORET) organization name (org_id) to sample station (station_id) to beach name (project_id aka beach_id and national project id (EPABEACH) relationship/links to ensure correct stations are linked to corresponding beach.	\$20,000 - 40,000
Participate in biweekly/monthly Beach conference calls	This activity not eligible for funding
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

More Information:

- See the following Beach Program websites for Data-related information:
<https://www.epa.gov/beach-tech/submitting-beach-data-epa>
- See general Beach Program information including BEACH Act Grants:
<https://www.epa.gov/beaches> and <https://www.epa.gov/beach-tech/beach-grants>
- Also see: <http://www.exchangenetwork.net/communities-of-interest/water/>

Safe Drinking Water Information System (SDWIS)

Description:

SDWIS State is an EPA-provided system designed to assist primacy agencies (states, tribes, and US territories with primacy over their drinking water programs; and EPA Regions) in managing their Public Water System Supervision (PWSS) programs under the Safe Drinking Water Act (SDWA). Currently, primacy agencies use [XML](#) files (SDWA Schema v3.6) to submit drinking water data to EPA for quarterly reporting. EPA is in the process of adding support for the Lead and Copper Rule Revisions (LCRR) to SDWIS State, which would update the software to version 3.5. EPA also provides a centralized, [CROMERR](#)-compliant web-based application, the Compliance Monitoring Data Portal (CMDP) for electronic reporting of water samples data, compliance, and non-compliance data from laboratories and water systems to primacy agencies.

Status and Plans:

CMDP has been operating since October 2016. To date, nineteen (19) primacy agencies have adopted CMDP. SDWIS State's 3.5 update is currently in development and will be available to drinking water primacy agencies within 1 to 2 years after the finalization of the LCRR (a more refined schedule will be available after the LCRR effective date, which has been extended to December 16, 2021). Primacy agencies receiving [in-kind](#) funding can use the DWPD IT Mission Support contract to complete actions.

Assistance agreement applicants should consider:

- Participating in monthly All Things SDWIS calls (send an email to dorsey.towana@epa.gov if not already on the contact list.)
- Joining the SDWIS User Community Discussion Forums managed by the Association of State Drinking Water Administrators (ASDWA): <https://www.asdwa.org/data-management/>

Potential Activities Under This Opportunity:

Project Activity	Cost Estimate
Primacy agencies: Adopting and deploying CMDP – including but not limited to developing a transition plan, data cleanup, data migration and training to move a drinking water primacy agency to CMDP.	
Eligible activities also include, but are not limited to, training of agency, public water system and laboratory personnel in system usage and system testing, transitioning labs to CMDP, and migrating data into CMDP.	
1. Developing primacy agency specific transition plan for CMDP	1. \$5,000 - 15,000
2. Developing primacy agency specific user training for CMDP	2. \$5,000 - 10,000
3. Mapping non-SDWIS State compliance system to CMDP	3. \$30,000 - 50,000
4. Migrate all necessary data into the CMDP and conduct necessary administrative set-up to enable future use by laboratories	4. \$5,000 - 20,000
5. Primacy Agency implementation of CMDP transition plan activities – for example, Primacy Agency support activities associated with transitioning use of CMDP by labs and water systems	5. \$8,000 - 15,000
Primacy agencies: Improving data quality of existing primacy agency drinking water compliance databases.	\$50,000 - 100,000

Primacy agencies: For non-SDWIS states, implementing SDWIS State, including but not limited to developing a transition plan, data cleanup, data migration and training to move a drinking water primacy agency to SDWIS State.	
<ol style="list-style-type: none"> 1. Developing primacy agency specific transition plan for non-SDWIS primacy agency to implement SDWIS State 2. Data migration and training to move a non-SDWIS drinking water primacy agency to SDWIS State 3. Mapping of non-SDWIS State compliance system to SDWIS State v3.4 (or later version) data structure – if a later version SDWIS State is available at the time of project activity execution, EPA may recommend mapping to a later version, as applicable 	<ol style="list-style-type: none"> 1. \$5,000 - 15,000 2. \$100,000 - 200,000 3. \$75,000 - 100,000
Primacy agencies: Developing primacy agency specific user training for SDWIS State.	\$5,000 - 10,000
<p>Tribal Utilities: Implementing data systems to manage water systems to enable electronic reporting of Tribal water system data to CMDP, SDWIS State (via Lab-to-State), or Direct Implementation Management Environment (DIME) or similarly updating of existing data systems to enable electronic reporting. Tribal applicants without primacy status should confirm compliance system requirements with their respective EPA region prior to applying for this opportunity to ensure that the proposed solution can successfully flow information between the tribal drinking water system and applicable Regional Tribal Direct Implementation (DI) drinking water compliance system(s).</p> <ol style="list-style-type: none"> 1. Tribal Utility implementation of new data system for managing and reporting to EPA information on Tribal drinking water systems 2. Tribal Utility improvement of existing data systems to facilitate drinking water system data sharing with EPA (or NNPWSSP in the case of Navajo Nation) 	<ol style="list-style-type: none"> 1. \$15,000 - 50,000 2. \$5,000 - \$15,000
Tribal Utilities: Improving data quality of existing systems that are used to facilitate drinking water system data sharing with EPA (or NNPWSSP in the case of Navajo Nation) by reporting data to CMDP SDWIS State, or DIME.	\$25,000 - 50,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

- CMDP ReST APIs: <https://cmdp.zendesk.com/hc/en-us/articles/231732608-CMDP-LIMS-Interface-Control-Document>

More Information:

- Public Water System Supervision (PWSS) program overview: <https://www.epa.gov/tribaldrinkingwater/tribal-public-water-system-supervision-program>
- Current list of Regional PWSS Tribal DI Coordinators: <https://www.epa.gov/tribaldrinkingwater/regional-tribal-drinking-water-coordinators>

Water Quality eXchange (WQX)

Description:

The Water Quality eXchange (WQX) defines the framework by which EPA accepts and compiles water quality monitoring data (physical, chemical, biological, habitat, metrics and index). Network Partners collect water quality monitoring data and submit it to EPA utilizing the WQX format and a [node](#) or [node client](#). (<http://www.exchangenetwork.net/data-exchange/wqx/>)

All partner data submitted to EPA is made publicly available and can be queried using the Water Quality Portal (WQP), a cooperative service by EPA and USGS under the National Water Quality Monitoring Council. The Water Quality Portal provides standard REST services, allowing interoperable access to water quality monitoring data. These services provide data to the user in tab, comma separated, Excel and WQX formats. More information on the WQP and WQX can be found at: <https://www.epa.gov/waterdata/water-quality-data-wqx>.

Status and Plans:

The WQX team is currently developing and evaluating a submission quality checks service for the WQX schema results and locations to promote data consistency and quality. Once these QAQC service are available, data submitters will have additional submission processing reports to align data consistent with guidance documents. WQX Web is traditionally a way to submit excel, text, or xml files manually. Now, WQX Web can also be used to automate data submission via REST (API) web services from a local database or application.

EPA continues to explore approaches for sharing continuous monitoring data. Demonstration projects and internal agency reviews of data sharing standards are underway. For more information on this effort, see example data for recommendations and best practices using the WQX Web [templates](#) on the WQX website.

Exchange Network Program Office Activities	
Milestone	Target Completion Date
Develop QA/QC shared web services for utilization for inbound WQX.	September 2021
System readiness to support full WQX 3.0 schema via WQX Web Tool and WQP outbound services. Developing a new Portal web site re-design and data download reports.	June 2022
Performance Tuning of the WQP in the AWS cloud for enhanced data publishing, efficient access to web services, scalability, and increased computing efficiency.	December 2022
Develop QA/QC shared web services for utilization for outbound Water Quality Portal (WQP).	September 2023

Potential Activities Under This Opportunity:

Project Activity	Cost Range
WQX data submission Mapping state/tribal/territorial data system to WQX Schema and/or collaborate with eligible entities collecting monitoring data.	\$40,000 - 80,000
Water Quality Portal (WQP) application services <ul style="list-style-type: none"> Integrating data from Water Quality Portal using outbound REST Services (attribute and/or spatial) for data integration and analysis. This could include collaborating with EPA on the development of open- source tools for discovering data and performing water quality analyses (e.g., establish links to water impairment, water permit facilities, watershed resource planning). 	\$40,000 - 80,000
WQX automated data submission services Utilize recently developed inbound RESTful web services for WQX to publish data collected using a mobile application.	\$40,000 - 80,000
Quality Assurance and Quality Check reports Development of shared services such as QA/QC checks & reports and assessment services to improve data consistency.	\$40,000 - 80,000
Partner with eligible entities collecting monitoring data (e.g., local governments, watershed groups) to assist them in putting the WQX data flow into production.	\$40,000 - 80,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

- WQX exchange network data flow: <https://www.epa.gov/waterdata/wqx-flow-configuration-30>
- Water Quality Portal Web Services Guide: https://www.waterqualitydata.us/webservices_documentation/
- WQX Web RESTful web services: <https://www.epa.gov/waterdata/wqx-web-application-programming-interface>

More Information:

- WQX schema and documentation: <http://www.exchangenetwork.net/data-exchange/wqx/> (WQX last released March 2019)
- About WQX and more information: <https://www.epa.gov/waterdata/water-quality-data-wqx>
- Water Quality Portal Homepage: <https://www.waterqualitydata.us/>
- WQX Web RESTful web services: <https://www.epa.gov/waterdata/user-guide-version-30-water-quality-exchange-web>

Assessment TMDL Tracking And Implementation System (ATTAINS) (Integrated Reporting (303(d)/305(b)))

Description:

The Assessment, Total Maximum Daily Load (TMDL) Tracking and Implementation System (ATTAINS) is an online system for accessing information about the conditions in the Nation's surface waters. ATTAINS transitioned [Integrated Reporting \(IR\)](#)—the integration of Clean Water Act ([CWA](#)) Sections 303(d) and 305(b)—to a paperless process as envisioned by EPA's E-Enterprise initiative. The data available in ATTAINS reside in a web-based application that states, territories, tribes¹ and EPA can use to track water quality assessment decisions, TMDLs, and priority areas, as well as report on performance measures. ATTAINS also includes the capability to publish IR data via [web services](#), which can be used by other data systems.

The ATTAINS data exchange allows Exchange Network (EN) Partners to submit CWA Sections 303(d)/305(b)/ Integrated Reporting (IR) water quality decision data as well as TMDL information and supports program goals aligned with both submission processes. The ATTAINS data flow allows states/territories/tribes to:

- Identify and describe [Assessment Units](#) (portions of waterbodies used for tracking water quality), including size and extent
- Report water quality assessment information (including use support, causes of impairment, and probable sources of impairment)
- Provide and receive TMDL information
- Provide references to water quality monitoring location data relevant to the water quality Assessments (submitted via the Water Quality Exchange [WQX])
- Identify activities that states/territories/tribes are performing leading to water quality restoration

States, territories, and tribes can use either the Exchange Network ATTAINS data flow or the web-based ATTAINS data system (or some combination of the two). Organizations may begin as a web-based ATTAINS user and transition to an Exchange Network flow for future cycles as they build out capability and are seeking to gain efficiencies. As states/territories/tribes implement the ATTAINS flow, they should consider reusing existing components where appropriate (i.e., ATTAINS node plug-ins or Virtual Exchange services).

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Implement ATTAINS data flow for Assessment Units, Assessments or Actions. Partners can flow data to ATTAINS for one or more ATTAINS modules, including Assessment Unit definitions, Assessment decisions or Actions (such as TMDLs).	\$40,000 - 100,000
Build capability to retrieve data from ATTAINS outbound web services. Partners can use the Exchange Network Query and Solicit services to retrieve Assessment Units, Assessments or Actions from ATTAINS.	\$40,000 - 60,000
Develop capability for integrating WQX and ATTAINS workflows and making use of monitoring data for automated water quality analyses. Identify, develop and implement innovative, reusable water quality assessment services and screening tools (e.g., web-based services and applications comparing monitoring data with standards or thresholds to automate an initial water quality assessment recommendation--the initial recommendation could then be reviewed and edited by the state, territory or tribal organization before final decisions are made).	\$40,000 - 80,000

Build capability to consume outbound RESTful services from ATTAINS to incorporate data into state, tribal or territorial websites or applications. ATTAINS publishes public data with outbound RESTful services, which can be consumed by other applications. Partners can incorporate data from those outbound RESTful services, which do not require user logins, into customized websites or applications.	\$40,000 - 80,000
Develop tools or services to integrate monitoring and nonpoint source data with water quality assessments. Identify, develop and implement innovative services integrating monitoring and nonpoint source data with water quality assessments (e.g., web-based services accessing monitoring data or nonpoint source data from another system and relate them to water quality assessments in a useful way).	\$40,000 - 60,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

- ATTAINS uses Authentication Services to authenticate user's credentials via the Central Data Exchange ([CDX](#)).
- ATTAINS publishes data using services. The ATTAINS Flow Configuration Document (FCD) contains information about some ATTAINS REST-based query services. Additional ATTAINS [JSON](#) formatted REST-based services are documented on the ATTAINS website (<https://www.epa.gov/waterdata/attains>). More services are being developed, providing additional functionality.
- In addition, reusable components have been registered and are searchable from EPA's Shared Services Resource Catalog, by searching for ATTAINS or Assessment Total Maximum Daily Load Tracking and Implementation System (ATTAINS):
<https://sscatalog.epa.gov/sharedservicecatalog/>

More Information:

- Information about ATTAINS can be found on the ATTAINS website:
<https://www.epa.gov/waterdata/attains>
- Information about the ATTAINS data flow can be found on this website:
<https://www.exchangenetwork.net/data-exchange/assessment-tmdl-tracking-and-implementation-system/>

Drinking Water State Revolving Fund and Clean Water State Revolving Fund

Description:

The Drinking Water State Revolving Fund (DWSRF) program and Clean Water State Revolving Fund (CWSRF) program are federal-state partnership to provide communities a permanent, independent source of low-cost financing for a wide range of drinking water and wastewater infrastructure and other water quality projects. The State Revolving Fund (SRF) database will capture the range of activities that states pursue with their DWSRF and CWSRF funds. These funds are provided as assistance agreements to states to establish and capitalize (fund) infrastructure banks. The states primarily make loans to drinking water and wastewater systems from these state infrastructure banks. The new SRF system will capture project level data from each state's bank (what was the funding for, how much, etc.), as well as financial data about the flow of funds between the state bank and other entities, including but not limited to: disbursements of funds, repayment of funds, funds borrowed.

Most states already have state systems to track a subset of this data. Some of those states currently push data electronically to the present EPA system. States should be able streamline reporting to EPA by enabling a data bridge to maintain and expand the flow of data from those states. The new SRF system will use REST APIs and other opportunities to connect to existing state databases to import data. The new SRF system will also allow a user to upload an excel file and map data fields to batch upload to the New SRF system. The new SRF System will be developing an excel sheet model/template as a guide for states interested in that method of batch uploads. All imported data will include checks to ensure it meets Quality Assurance Requirements and it should allow users to edit or modify fields within the new SRF system after import.

Status and Plans:

The new SRF system was launched on 5/27/21.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Mapping state SRF system to New SRF system	\$75,000 - 100,000
Mapping state data files to upload to New SRF templates	\$30,000 – 50,000
Modifying state applications to interact with New SRF system using REST API calls	\$40,000 - 60,000
Develop checks of the data being downloaded from New SRF system to the state applications to ensure it meets state system needs.	\$75,000 - 100,000

Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.

Shared Services/Reusable Components Available:

- EPA furnished mappings of the new SRF database and templates available August 2021.
- New SRF system REST APIs for data access and uploading data available Spring 2022.
- VES set up to allow states to configure/use VES for replicating their data in SRF to a state hosted set of data tables.
- VES set up to allow states to configure/use VES for to allow batch upload to the new SRF system.

More Information:

- Drinking Water State Revolving Fund: <https://www.epa.gov/dwsrf>
- Clean Water State Revolving Fund: <https://www.epa.gov/cwsrf>

Underground Injection Control (UIC) Data Availability Projects

Description:

In 2018, the national Underground Injection Control (UIC) program streamlined and modernized multiple data collection processes into the web-based UIC Data Application. The Application is the sole reporting mechanism for primacy programs and EPA to electronically report required injection well inventory, permitting, enforcement and compliance, inspections, and mechanical integrity testing data. Online reporting replaced the previous reporting system of submitting hardcopy 7520 forms.

EPA learned during UIC Data Application development and outreach that some UIC programs are faced with outdated, inefficient data management systems or no electronic data management system. These create a challenge for programs to meet regulatory reporting requirements. In the case of states, tribes, or territories in the process of requesting primary UIC enforcement authority, the potential program is particularly challenged because they are seeking approval to transfer the UIC program, including all the current and historical data collected on existing injection wells, from the EPA Regional office as well as developing a new data management system.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Map data collected by the primacy or potential primacy program to data collected nationally in the UIC Data Application. Ensures that the program can collect and report all data fields found in the UIC Data Application. This may involve an assessment of the primacy program data system's ability to meet the regulatory reporting obligations and format required by the UIC Data Application.	\$20,000 - 55,000
Streamline and modernize reporting of UIC program data for submission to the UIC Data Application. Develop and/or deploy technology that improves the efficiency of exporting data from the UIC primacy program data system to the UIC data application and increases quality control. This may involve the transfer of historical data to current data management systems, as well as the maintenance of and upgrades to UIC data management systems.	\$30,000 - 175,000
Staff training on UIC data reporting requirements. Provide training to program staff on assessing UIC data quality, using the UIC primacy program data system, and preparing data for federal reporting in the UIC Data Application.	\$3,000 - 9,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

More Information:

- The target activity data for the Underground Injection Control program is available on the 7520 forms, please see: <https://www.epa.gov/uic/underground-injection-control-reporting-forms-state-summary-information>
- Applicants and reviewers can find a concise summary of the UIC regulations here: <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100ETDA.PDF?Dockey=P100ETDA.PDF>
- The instructions on the Form 7520 also provide clarification on the data collected by EPA from primacy programs: <https://www.epa.gov/uic/compliance-reporting-requirements-injection-well-owners-and-operators-and-state-regulatory>

Facility Registry Service (FRS)

Description:

The Facility Registry Service (FRS) is EPA's centrally managed database integrating facility data across over 90 EPA and other federal systems, as well as numerous state, tribal, territorial and local databases. FRS provides access to information about facilities subject to environmental regulations and for other sites of environmental interest, including the names, locations, associated program IDs, industrial classification, corporate and contact affiliation and other data.

These integrated facility identification records allow EPA, its state and tribal partners, web application owners and the public to access environmental information reported from and about facilities and sites. FRS data is available as [web services](#), prepackaged downloads, and custom downloads. Applicants wishing to take advantage of FRS web services can find a listing of data resources here:

<https://www.epa.gov/frs/frs-data-resources>.

FRS has two sets of [RESTful web services](#) available for EN projects. The FRS Submit web services enable a partner to submit facility information to FRS in real-time. The FRS Query web services can be leveraged to get FRS facility information in real-time and enables partners to integrate facility data into their systems. This can be used to provide a more comprehensive view of facility data in public or non-public facility applications. Assistance agreement applicants can obtain information about FRS Submit and Query web services at: <https://www.epa.gov/frs/frs-exchange-network>.

Status and Plans:

EPA is in the process of evaluating regulated facility business needs and facility data workflows. This assessment may impact future plans regarding the development of FRS's facility model and facility data collection processes. EPA intends to minimize the impact of future web service deployments to existing data exchanges leveraging the RESTFUL FRS web services in a production environment.

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Use FRS RESTful Web Services to add value Applicants can use this service to develop tools for retrieving value-added data fields into their facility records, including geocoded addresses, NAICS codes, applicable census information, hydrologic unit codes (HUC), and congressional boundary information.	\$25,000 - 50,000
Use FRS Query Web Services to support facility data management Applicants can use this service to support data collection by state, tribal, territory and local entities, curation of facility data in facility data management systems, and display of integrated facility data on public-facing web applications. Partners integrating their facility information can also use this service to develop tools to retrieve FRS data for comparative analysis, in support of scientific objectives.	\$50,000 - 75,000
Use FRS Submit Web Services to integrate data by FRS ID Applicants can use this service to submit their data to FRS. This activity can include integrating other state, tribe, territory and local programs to incorporate additional environmental interests (e.g., air, water, waste, etc.) or sub-facility information for applicant use.	\$50,000 - 75,000
<i>Note: Applicants can propose budgets which exceed the estimates above (if within their funding threshold); however, a detailed cost justification explaining how the costs were estimated and deemed appropriate must be provided.</i>	

Shared Services/Reusable Components Available:

- Assistance agreement applicants can obtain information about FRS Submit and Query web services at: <https://www.epa.gov/frs/frs-exchange-network>

More Information:

- Facility Registry Service: <http://www.epa.gov/frs>
- FRS Data Resources: <https://www.epa.gov/frs/frs-data-resources>
- Facility on the Exchange Network: <https://www.epa.gov/frs/frs-exchange-network>

Appendix C

EN Project Opportunities Under EN Funding Area 3

Augment the Information Management Capacity of EN Partners.

The Exchange Network encompasses a diverse set of partners with a wide array of IT and data management capabilities. Being able to take advantage of the full range of the EN services depends on a partner's ability to create and maintain network data flows, to enable the discovery and publication of their information, and to take advantage of services and APIs that enable organizations to obtain, analyze and share data. Some existing and potential EN partners have limited experience with managing data, facilitating electronic reporting, and sharing those via services. They also often do not have an operational knowledge of the EN or the relevance it may have to their environmental management programs. This hinders them from taking advantage of the many EN features useful to their environmental program planning and decision making in more cost-effective ways.

Opportunities in this appendix are designed to enable applicants to build the IT and data management capacity necessary to effectively manage their environmental programs and to identify the most valuable ways for their programs to participate in the EN.

Please note that applicants are encouraged to use existing [data standards](https://www.exchangenetwork.net/data-standards/) wherever possible; see: <https://www.exchangenetwork.net/data-standards/> and <https://www.epa.gov/data-standards>.

Note: The opportunities found within Appendix C are only available to U.S. Territories, federally recognized Indian tribes and Alaska Native Villages, and [inter-tribal consortia](#) of federally recognized tribes (e.g. the Northwest Indian Fisheries Commission).

The cost estimates that appear in this appendix's EN project opportunities do not include specific cost estimates per fundable activity. Applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project (see [Evaluation Criteria](#) 4B and the '[Overview of Project Budget](#)' section of the project narrative).

Interested applicants should apply for only one of the three Exchange Network (EN) project opportunities found within this appendix. However, these capacity building opportunities may be applied for in conjunction with opportunit(ies) listed in Appendices [A](#) and/or [B](#).

Other resources for capacity building applicants include:

- An FAQ document for tribal applicants is available on the EN website at: <https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources>
- Prior capacity building assistance agreements can be found on the 'Previous Exchange Network Grant Projects' section of the EN Website: <https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects>
- The Tribes and the Exchange Network Website provides information for tribes on the EN and other innovative approaches for managing and sharing environmental data using modern technology tools and solutions: <http://www.tribalexchangenetwork.org/>

EN Capacity Building:

Individual Capacity Building	C2
Individual Capacity Building with Mentorship	C3
Collaborative Capacity Building	C5

Individual Capacity Building

Description:

Territories, tribes and [inter-tribal consortia](#) are eligible to apply for capacity building assistance agreements enhancing the applicant's environmental program by increasing their ability to manage and share environmental data electronically across their organization, with EN partners and tribal citizens.

Applications must identify [outputs](#) which will increase the applicant's ability to share environmental information electronically with EPA and other EN partners and tribal citizens. Examples of a priority data system include the development of a backend database and tools for entering/moving/checking the included data or implementing an intra-tribal data exchange. Applications may include developing a data management plan, but the plan must lead to the development of a test or prototype system.

This opportunity is designed to provide applicants the flexibility to determine which project activities are key to building their organization's capacity for data collection, management, and reporting, as well as increased participation in the EN.

Please note that applicants are not limited to the potential project activities listed in the table below. For all activities, applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project in their project narrative (see [Evaluation Criteria](#) 4B and the '[Overview of Project Budget](#)' section of the project narrative).

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Develop a strategic plan for collecting, managing, and assessing data and making the best use of available technology to support the business needs of the applicant's organization.	Up To A Combined Total of \$200,000
Assessment of current systems and available tools/updates and comparing them against the business processes requirements for desired system updates/assessment tools.	
Preparing an Organization's Existing Systems and Tools for Participation in EPA National Program Data Flow(s) (see Appendix B).	
Planning and Implementation of Improved Database and Management Systems and Associated Tools.	
Develop website and user tool development to inform the public of critical environmental projects undertaken or issues monitored by the applicant organization.	
Develop and implement geospatial tools and technologies to improve monitoring, reporting, data visualization, analysis of environmental and public health problems and decision support (see Open Data).	
Increasing participation in the Exchange Network through trainings, webinars, and technical assistance activities.	
Building reporting capacity for the applicant's organization through other activities.	

Individual Capacity Building with Mentorship

Description:

Please reference the description under '[Individual Capacity Building](#)' on the prior page (page C2).

Individual applicants who have never been awarded an Exchange Network (EN) assistant agreement may identify a mentor to help them with their capacity building project. This EN project opportunity allows up to \$15,000 for mentorship support costs on top of the \$200,000 threshold for individual capacity building assistant agreements (for a possible total of up to \$215,000).

The identified mentor should be an EN tribe, state, or territory that has successfully completed an EN assistance agreement and that currently reports or publishes data for one or more environmental programs using an EN [node](#), [Virtual Exchange Services \(VES\)](#), or [APIs](#).

An applicant applying under this opportunity should include a commitment letter from the mentoring organization in their application package. Applicants must also identify their mentor within the project narrative (see [project narrative section 'Identifying Key Personnel and Associated Roles, Responsibilities, and Qualifications'](#)) and outline their anticipated role, key contact name(s), and the affiliated budget. Mentors will also be required to submit a mentor report during semi-annual reporting periods.

Potential Activities Under This Opportunity:

Project Activity (for Applicant Organization)	Cost Range
**Please see potential project activities in the table under ' Individual Capacity Building ' on page C2.	Up To A Combined Total of \$200,000

Potential Support Activities for Mentoring Organization	Cost Range
Demonstrating the Mentor’s Implemented System	Up To A Combined Total of \$15,000
Fine-Tuning/Providing Feedback on the Project Workplan Please note that this activity <u>must</u> follow assistance agreement award, as providing this feedback prior to application submission is not allowable in a competitive grant program.	
Providing Technical Assistance to Set Up Data Exchange(s)	
Providing Training on Data Entry, Data Analysis, and Report Generation	
Giving Ongoing Support after Installation This may include addressing questions on data and the Exchange Network and/or providing guidance on submitting reports and completing close-out activities.	
Providing Guidance on EN and TXG Participation Offering guidance on how to actively participate in the Exchange Network, as well as Tribal Exchange Network Group (TXG) trainings and assistance.	
NOTE: Mentoring activities may take place by phone, over web conferencing, or in person, as needed.	

**An applicant may request funding (up to \$15,000) for following mentorship activities:

- Personnel costs to compensate mentoring organization for staff support in carrying out mentorship activities;
- Travel costs for mentoring organization employees authorized by [2 CFR 200.475](#) to include, but not limited to, lodging, [per diem](#) and incidentals, rental car, [mileage](#), airfare, etc.

The ‘up to \$15,000’ for mentoring is only available for [subawards](#) to the mentoring tribes (including [intertribal consortia](#) meeting the requirements of 40 CFR 35.504), states or territories and the total amount of subaward funding must be placed in the “Other” budget category in the Standard Form 424 budget table. The project budget narrative for the application should provide detailed information on anticipated subrecipient costs (e.g., amounts for personnel compensation and travel) for mentoring by budget category. Additionally, mentoring subrecipients should provide the successful applicants with assurances that controls are in place to ensure that the costs charged to subawards are not borne by other funding sources including grants from EPA and other Federal agencies.

Subawards must comply with Federal requirements specified in 2 CFR 200.331 and 2 CFR 200.332 as well as [EPA’s Subaward Policy](#). The EPA Subaward Policy includes an optional template in Appendix D for agreements with subrecipients that successful applicants may, but are not required to, use. Additional information and resources on subawards are available in [Section II-A](#).

Successful applicants may not use the mentoring funding to hire consultants or other contractors.

NOTE: To prevent unfair competitive advantages, no funds awarded under an Exchange Network (EN) assistance agreement may go towards reimbursing a mentor for assistance with writing an EN assistance agreement application.

More Information:

- For assistance in finding an appropriate mentor, applicants may consider contacting the:
 - Environmental Council of the States (ECOS)
 - For suggestions on potential state or territorial mentors:
 - Contact Kurt Rakouskas, Program Manager, at krakouskas@ecos.org
 - Institute for Tribal Environmental Professionals (ITEP)
 - For suggestions on potential tribal mentors:
 - Contact Lydia Scheer, Project Manager, at lydia.scheer@nau.edu
 - Applicants may also find the following websites helpful for identifying potential mentors:
 - E-Enterprise Community Inventory Platform ([EECIP](#))
 - Previous Projects Page of the EN Website:
<https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects>

Collaborative Capacity Building

Description:

Territories, tribes and [inter-tribal consortia](#) are eligible to apply for capacity building assistance agreements enhancing the applicant's environmental programs and the applicant's ability to manage and share environmental data electronically with EN partners and tribal citizens. Applications must identify [outputs](#) which will increase the applicant's ability to share environmental information electronically with EPA and other EN partners and tribal citizens. Examples of a priority data system include the development of a backend database and tools for entering/moving/checking the included data or implementing an intra-tribal data exchange. Applications may include developing a data management plan, but the plan must lead to the development of a test or prototype system.

Territories, tribes and inter-tribal consortia are eligible to apply for partnership assistance agreements which include one or more partners. Eligibility requirements for partnership assistance agreements can be found in [Section III-D](#).

This opportunity is designed to provide applicants and their partners the flexibility to determine which project activities are key to building organizational capacity for data collection, management, and reporting, as well as increased participation in the EN. Please note that applicants are not limited to the potential project activities listed in the table below.

For all activities, applicants must provide a detailed cost rationale explaining how costs were estimated and deemed appropriate for the proposed project in their project narrative (see [Evaluation Criteria](#) 4B and the '[Overview of Project Budget](#)' section of the project narrative).

Potential Activities Under This Opportunity:

Project Activity	Cost Range
Develop a strategic plan for collecting, managing, and assessing data and making the best use of available technology to support the business needs of the applicant's organization.	Up To A Combined Total of \$400,000
Assessment of current systems and available tools/updates and comparing them against the business processes requirements for desired system updates/assessment tools.	
Preparing an Organization's Existing Systems and Tools for Participation in EPA National Program Data Flow(s) (see Appendix B).	
Planning and Implementation of Improved Database and Management Systems and Associated Tools.	
Develop website and user tool development to inform the public of critical environmental projects undertaken or issues monitored by the applicant organization.	
Develop and implement geospatial tools and technologies to improve monitoring, reporting, data visualization, analysis of environmental and public health. problems and decision support (see Open Data).	
Increasing participation in the Exchange Network through trainings, webinars, and technical assistance activities.	
Building reporting capacity for lead applicant and partners through other activities.	

Appendix D: Project Planning Guidance and Resources

Identifying Items for Reuse - Exchange Network Partner Products

The Exchange Network Community strives to improve the efficiency and effectiveness of environmental management by collectively learning about successful business processes, data management and technology approaches used by EN partners. As outlined in [Section VI-B](#), the EPA EN Grant Program continues to require assistance agreement applicants to explicitly identify which EN data and technology management resources developed by EN partners will be reused or repurposed in the text of their project proposals within the [‘Commitment to Reuse’ section of their project narrative](#).

To ensure that products and services are available for EN partner use and/or collaboration, Exchange Network grant applicants must [commit to register](#) any newly developed resources (required since 2011) and [commit to register](#) the reuse of existing resources (required since 2018). Applicants should include these explicit commitment statements within the [‘Commitment to Reuse’ section of their project narrative](#).

Applicants may use several tools to discover opportunities to reuse or build on the work of other partners:

- **Search past EN grant projects on the EPA Exchange Network Grants website**
Past project records on the EN Grants website now contain information, where available, on reusable components that were developed as part of the project. To find any registered reusable components follow these steps:
 - Visit <https://www.epa.gov/exchangenetwork/previous-exchange-network-grant-projects> and select a link for the fiscal year you would like to search.
 - In the PDF file, examine the column marked “Registered Components”. Projects that have components registered in EPA’s Shared Services Resource Catalog ([SSRC](#)) will include a hyperlink in that column.
 - Click the hyperlink to view the project record in the SSRC that describes registered components associated with the project.
- **Search EECIP to find project ideas, project partners, and reuse opportunities**
The E-Enterprise Community Inventory Platform or EECIP (<https://www.eecip.net>) is an online community and living project inventory for employees of federal, tribal, territorial and state environmental agencies to enter information about agency projects, technical environment and their own professional interests. Projects and expertise can be tagged to make connections to peers. Users can learn from and collaborate with colleagues and experts and discover, reuse or repurpose the work of others. The site search includes projects, agencies, discussion topics and staff. Please note that a simple registration process is required for first-time users of EECIP; returning users must log-in with their username and password.
 - Projects in all parts of the development cycle can be added to the EECIP – even projects just under consideration – to help users connect with each other in the initial stages of a project and identify organizations for potential EN assistant agreement partnerships.
- **Search the SSRC to find potentially reusable code, services, software, and other tools**
The Shared Services Resource Catalog (SSRC) is part of EPA’s System of Registries (<https://sscatalog.epa.gov/sharedservicecatalog/search>). It is both a catalog of EPA, state, tribal and territory services and a registry of [XML schema](#), [widgets](#), plug-ins, [web services](#) and many other resources all of which can be reused by others. SSRC has a searchable interface which allows users to search for existing data and IT assets, grouped by resource types of similar assets. Anyone can search these resources by going to [the SSRC public website](#), which hosts all publicly viewable resources without requiring registration or a password.

Alignment with the E-Enterprise Digital Strategy (EEDS)

The EN Grant Program awards points through its evaluation criteria to projects that align with the principles of the E-Enterprise Digital Strategy (EEDS) (see criterion 3F in [Section V-A ‘Evaluation Criteria’](#)). The EEDS is a shared vision to unlock the power of digital information, better coordinate IT systems and services, and deliver more responsive environmental protection. Applicants should provide specific information in the ‘Project Alignment with the E-Enterprise Digital Strategy (EEDS)’ section of their project narrative that addresses how their proposed project supports the following EEDS principles according to the EEDS evaluation criteria.

1. Build with an Information-Centric Approach: Environmental protection depends on access to quality information. The EEDS calls on state and tribal environmental agencies to invest in their data as a mission-critical asset that is accurate, available, and secure. Projects with an information-centric approach strive to make data FAIR: Findable, Accessible, Interoperable, and Reusable. Data that are FAIR can be more easily integrated across agencies and programs and can be adapted to meet a variety of business needs. Information-centric projects treat data as a discrete product that can be accessed and reused in different contexts and for different purposes. Information-centric projects should embrace **an API-first approach** whenever possible. [APIs](#) or Application Programming Interfaces are powerful connectors that make data available in machine-readable formats. When data are made openly and securely available through APIs, they can be tagged, shared, secured, mashed up and presented to data consumers in an unlimited number of ways. Well-designed APIs can deliver the information needed to support a range of agency business needs including programmatic workflows, management and policy decisions, and public data access. An **API-first approach** seeks to follow these industry best-practices: (1) the API is the first user interface of an application; (2) the API comes first, followed by implementation; and (3) the API is described in usable documentation, enhancing searchability and functionality.

Example activity: With this principle’s broad emphasis on data access and availability, there are many ways in which it may be reflected in a proposed EN project. As one example, an applicant may adopt an existing API (e.g., a federal API, an industry API) and adapt it to meet organizational business needs. Another example would be an applicant developing a set of APIs that provide access to environmental information in one or more program areas.

2. Adopt Shared Platforms: Agencies that share platforms and adopt a “build once, use many times approach” can reduce costs, accelerate innovation, eliminate wasteful duplication, and more easily share information. Taking a shared platform approach may include using common standards and practices, implementing collaborative technology solutions, reusing existing services and contracts, building for multiple use cases, participating in open-source communities, and leveraging public crowd-sourcing. Cloud-based platforms in particular create transformative opportunities to more seamlessly share data, collaborate on interactive modeling initiatives, and match computing resources with workloads.

Example activity: An applicant could align with this EEDS principle by developing or implementing a tool or service used by multiple organizations.

3. Adopt Customer-Centric Approaches: Customer voices should always drive the design of technology projects and process streamlining activities. Projects that use a customer-centric approach take the time at the outset to fully understand and document the customers’ business needs. Customer-centric projects make content, data, and services more broadly available, accurate, accessible, and usable.

How to Develop a Budget – Direct and Indirect Costs

Applicants are required to submit the Non-Construction Programs Form (SF-424A) and a supplementary budget narrative ([Budget Narrative Attachment Form](#)) to justify the amounts entered for each budget category (see [Appendix E](#)). The SF-424A form and the ‘budget narrative attachment form’ should include both direct costs and indirect costs (if applicable) which have been calculated using the below guidance in conjunction with [EPA’s Interim General Budget Development Guidance for Applicants and Recipients of EPA Financial Assistance](#).

Applicable Direct Cost Categories:

- **Personnel:** when incorporating personnel salaries into the ‘budget narrative attachment form’, include the following
 - o staff position
 - o staff name or number of personnel proposed for each position
 - o annual salary or hourly rate
 - o time each employee will devote to the EPA funded project

To calculate: multiply the annual salary and the percentage of time for each staff member. Add the personnel costs for all staff to get the total personnel cost.

Staff Position (Project Role)	Staff Name	Annual Salary	% of Time	Personnel Cost
Project Manager	Neal XXX	\$125,000	10%	\$12,500
IT Specialist	Diana XXX	\$75,000	15%	\$11,250
Environmental Specialist	Karen XXX	\$50,000	30%	\$15,000
Total Personnel Costs				\$38,750

- **Fringe Benefits:** these are allowances and services that you provide to your employees as compensation in addition to regular salaries and wages. They include, but are not limited to, cost of leave, employee insurance, pensions and unemployment, and holiday benefits.
 - o Only include fringe benefits for the percentage of time devoted to the project.

To calculate (expressed as a percentage): multiply the personnel cost by the organization’s fringe benefit rate to calculate the fringe benefit cost for each employee. Add up all fringe benefit costs for all employees to calculate the total fringe benefit cost

Staff Position	Staff Name	Personnel Cost	Fringe Benefit Rate	Total Fringe Benefits
Project Manager	Neal XXX	\$12,500	22%	\$2,750
IT Specialist	Diana XXX	\$11,250	22%	\$2,475
Env. Specialist	Karen XXX	\$15,000	22%	\$3,300
Total Fringe Costs				\$8,525

- **Travel:** when incorporating travel costs, please include the following:
 - o trip item (e.g., ‘airfare’, [mileage](#), etc.)
 - o estimated cost per trip item
 - o duration
 - o number of travelers
 - o destination
 - o purpose of travel

To calculate: for each project trip, multiply the estimated cost of each applicable trip item by the duration and number of travelers. Add up the total costs from each trip to calculate the total travel cost.

Trip	Trip Item	Estimated Cost	Duration	# of Travelers	Total Cost
1	Airfare	\$550	N/A	2	\$1,100
	Per Diem	\$22 meals (x3 daily) + \$124 lodging = \$190	3 Nights	2	\$1,140
	Rental Car	\$60	4 Days	2	\$480
	Mileage	80 miles x \$0.50 per mile = \$40	4 Days	2	\$320

Appendix D
Project Planning Guidance and Resources

Trip Destination	San Francisco, California (EPA R9)
Travel Purpose	Participation in Annual Regional Exchange Network Meeting
Trip One Cost	\$4,132
Total Travel Costs	\$4,132

- **Equipment:** these costs are defined as tangible, non-expendable, personal property with a useful life of more than one year and a cost of more than \$5,000 per unit unless the applicant has a lower threshold amount for equipment classification purposes.

To calculate: identify equipment items, the estimated costs for each item (price per unit) and the number of units you expect to purchase (quantity). Multiply each equipment item's price per unit cost by the quantity; then add up the costs to calculate the total.

Item	Quantity	Price Per Unit	Est. Cost
Pix4Dmapper, Perpetual License	1	\$4,000	\$4,000
SLEIS Software Upgrade and License/Support	1	\$15,000 + \$40,000 = \$55,000	\$55,000
Total Equipment Costs			\$59,000

- **Supplies:** these costs are defined as tangible personal property with a per item acquisition cost of less than \$5,000.

To calculate: identify supply items, quantity, and price per unit for your project. Multiply each supply item's quantity by its price per unit to find the supply cost. Then add up all supply costs to calculate the total.

Supply Category	Item	Quantity	Price Per Unit	Estimated Cost
Monitoring Supplies	Pressure Transducer	2	\$500	\$1,000
Computing Device	Laptop Computer	2	\$800	\$1,600
Testing Supplies	PVC Gloves, pack of 1,000	1	\$250	\$250
Light Refreshments ¹ at Conference	Coffee Packets	400	\$0.29	\$116
Total Supply Costs				\$2,966

¹ Under 2 CFR 200.432, the costs of meals and light refreshments for [conferences](#) are allowable if the work continues during the meal, unless expressly restricted. Additional restrictions on the allowability of the costs for meals and light refreshments are available at: [EPA's General Terms and Conditions](#).

- **Contractual:** costs derived from those services to be carried out by an individual or for-profit firm; see [Section II-A](#) for further guidance and resources on contracts. For each contractual cost, be sure your budget narrative includes the following:
 - o [contract](#) description
 - o duration (hours)
 - o rate
 - o description of the scope of work (contract purpose)
 - o procurement method (sealed bid, proposal, or non-competitive procurement)

To calculate contractual cost: identify all contracts that your project will require. Then, add up the contract costs you calculated to find the total

Item	Hours	Rate	Contract Purpose	Procurement Method	Estimated Cost
Gold Systems, Inc.	450	\$185	Gold Systems, Inc will provide system access, outreach, training, and support to the consortium members.	Competitive Proposals	\$83,250
Total Contractual Costs					\$83,250

- **Other:** includes only those types of direct costs that do not fit in any of the other specific budget categories within direct costs (as listed above, e.g., personnel, fringe, travel, etc.). These costs may include [subawards](#) (see [Section II-A](#)), [participant support costs](#), and the rental/lease of [equipment](#), office space, and meeting or [conference](#) facilities.

To calculate: identify items, quantity, and price per unit for your project. Multiply each item's quantity by its price per unit to find the 'other' item cost. Then add up all supply costs to calculate total other direct costs.

Category	Item	Quantity	Price Per Unit	Est. Cost
Rental and Least Cost	Suction Dredge Equipment Rental	1	\$2,500	\$2,500
Participant Support Cost	Training Fee for Community Members	3	\$250	\$750
Subaward	Subaward to (EN Partner Organization Name)	1	\$20,000	\$20,000
Total Other Costs				\$23,250

Including Indirect Costs in your Budget:

- **Indirect Costs:** these are costs incurred to facilitate the general operations of your organization. They include, but are not limited to space costs, utilities, accounting services, and services associated with human resources that are included in an applicant's indirect cost rate.
 - o Your indirect cost rate can be found on your organization's current [Negotiated Indirect Cost Rate Agreement](#). For more details on receiving your indirect cost rate and verifying that it will be valid for a FY22 EN assistance agreement, please see the negotiated indirect cost rate agreement section under ['additional attachments' in Appendix E](#).

To find your base amount: guidance for calculating your base amount can be found on your indirect cost rate agreement and will include a summary of what costs can and cannot be included your calculation.

To calculate indirect cost: identify your organization's approved indirect cost rate and calculate the base amount. Multiple the base amount by the approved indirect cost rate.

An example of calculating indirect costs:

- o An applicant's rate, according to their Negotiated Indirect Cost Rate (IDC) agreement, is 19.6% and expires on 6/30/2023, making it valid through the period of performance start date of 10/1/2022.
- o Their IDC agreement states that the base amount is comprised of: total direct costs *excluding* capital expenditures (buildings, individual items of equipment, and alterations and renovations) and [subawards](#).
- o Their budget reads as follows: Personnel: \$15,072; Fringe: \$6,782; Travel: \$4,500; Contractual Services: \$118,035; and Other (a subaward): \$20,804.
 - Their total direct cost amount is \$165,193; there are no capital expenditures, but there is a subaward which cannot be included in the base.
 - Therefore, the base amount is \$144,389 (\$165,193 - \$20,804).
- o To calculate their indirect costs, the applicant multiplies the rate by the base amount:
 - 19.6% can be expressed as a decimal by dividing it by 100: $19.6/100 = 0.196$
 - $0.196 \text{ (rate)} \times 144389 \text{ (base amount)} = \$28,300.244$
 - The applicant rounds this to the nearest whole dollar amount: \$28,300.

Effective Period	IDC Rate	Description of Base	Base Amount	Total
07/01/2022 – 06/30/2023	19.6%	Total direct costs excluding capital expenditures	\$144,389	\$28,300
Total Indirect Costs				\$28,300

Appendix E: Detailed Instructions for Preparing and Submitting Applications

Applicants for the FY22 Exchange Network Grant program must submit an application package to EPA by **11:59 PM Eastern on Sunday, May 1, 2022**. Except as noted on [Page E13: 'Detailed Instructions for Submitting Applications'](#), applicants must apply electronically through [Grants.gov](#) under this EN project opportunity based on the grants.gov instructions in this announcement.

The following forms and documents are required under this announcement (fillable forms can be obtained from <https://www.epa.gov/grants/epa-grantee-forms>.) All packages must contain a cover letter, project narrative, and the applicable forms and attachments listed below in the 'overview of application materials.'

Overview of Mandatory Application Materials:

- | | |
|---|---|
| (1) Cover Letter (use 'Other Attachments Form' to submit) | (see optional template here) |
| (2) Project Narrative Attachment Form | (see optional template here) |
| (3) Budget Narrative Attachment Form | (See optional template here) |
| (4) Application for Federal Assistance | (Standard Form (SF-424)) |
| (5) Budget Information for Non-Construction Programs | (SF-424A) |
| (6) Key Contacts Form | (EPA Form 5700-54) |
| (7) Pre-award Compliance Review Report | (EPA Form 4700-4) |

Additional Attachments (Mandatory if Applicable to the Applicant/Proposed Project):

Note: Use 'Other Attachment Form' to submit applicable attachments in this category

- (A) Personnel attachments, including staff resumes
- (B) [Negotiated Indirect Cost Rate Agreement](#)
- (C) Additional Information for Inter-Tribal Consortium
- (D) Formal [Project Partners](#):
 - Support Letter(s)
 - Roles & Responsibilities
 - Distribution of Funds
- (E) Formal [Project Mentor\(s\)](#):
 - Support Letter(s)
 - Roles & Responsibilities
 - Distribution of Funds
- (F) List of Prior Exchange Network Assistance Agreements
- (G) Documentation Certifying Applicant Status as an [Instrumentality of the State or Tribe](#)

NOTE: Successful applicants requesting over \$100,000 are required to submit the 'EPA Lobbying Form 6600-06' to ENGrantProgram@epa.gov upon notification of award selection. Applicants do not need to submit this form with their initial application. Key contacts are requested to check their email inboxes frequently in the months of May – August, as EPA may need to contact you about this form and/or other aspects of your submitted application.

Additional guidance tools have been posted to the [Exchange Network website](#):

- An optional, fillable Cover Letter Template is available at:
<https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources>
- An optional, fillable Project Narrative Template is available at:
<https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources>
- An optional, fillable Budget Narrative Attachment Form Template is available at:
<https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources>

Though applicants are not required to follow these templates, they have been provided as a tool to help ensure that all required information is appropriately captured within each of these documents.

Cover Letter

The application must include a cover letter signed by an authorized organizational representative ([AOR](#)) who, by virtue of their position, is able to obligate staff time on the proposed project, which includes:

- Applicant information
- Project title
- [Type of assistance](#) requested (grant/cooperative agreement/ Performance Partnership Grant)
 - If a [Performance Partnership Grant](#) is preferred, state this clearly in the cover letter and include the relevant grant number if possible
- Proposed amount of grant (broken down into [direct funding](#) and [in-kind](#) assistance if relevant)
- Partners on the assistance agreement (if [applicable](#))
- Mentors on the assistance agreement (if [applicable](#))
- Brief project summary including a statement of project [goal\(s\)](#)
- Contact information for the project lead
- Signature of executive level Authorized Organizational Representative ([AOR](#)).

An optional cover letter template is available on the EN website at:

<https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources>

Project Narrative

Applicants must include a project narrative or work plan which describes their proposed project in detail and clearly addresses each scoring criterion as outlined on [Section V-A Evaluation Criteria](#). Review panels will score applications based on how well they meet these criteria.

Please note **the project narrative cannot exceed ten single-spaced pages in length**. Number each page of your workplan and note EPA application reviewers will not review any work plan elements appearing after the tenth page.

Tips for Writing a Successful Project Narrative:

➤ Strive for clear and succinct language-

Applicants should address each section of the project narrative in detail using clear and concise language to ensure the best comprehension and scoring by EPA program staff and application reviewers.

➤ Include headers for each of the eight project narrative sections-

To help the review panel easily navigate through the project narrative, applicants are requested to include the section header in bold font above the section text in size 11 or 12 font.

➤ Use standard margins and fonts-

Applications should use 11-point fonts, apart from section headers and the proposal title, which may be increased to size 12. Please use 1-inch margins and single line spacing.

➤ Limit the Terminology to “Goals, Outputs and Outcomes”-

For improved clarity and consistency, applicants are requested to use the terms “goals”, “outputs”, and “outcomes” in their project narratives. The use of synonyms such as “objectives”, “targets”, “tasks” or “milestones” is often confusing for reviewers and makes it more difficult to properly score applications.

The Project Narrative must include the following sections, in this order:

1. Project Description

The purpose of this section is to help reviewers better understand what is being proposed. Include a brief description of the applicant's organization, describe its scope of work, and identify the general organizational business and/or administrative need(s) which will be supported by the proposed project. In addition, name the specific EN Funding Area(s) and EN project opportunity(ies), if applicable, that they are applying under. 'EN project opportunities' in this context refers to specific project write-ups that provide the information needed to design a proposal for a particular data exchange, data service, or project type (as listed in Appendices [A](#), [B](#), and [C](#)).

In this section, establish project alignment with the [EPA's Draft FY 2022-2026 Strategic Plan](#) by stating which specific strategic goals and objectives as listed in [Section 1-C](#) are supported by the proposed project. Include both the number and title of each supported goal and objective (e.g., 'Goal 1: Tackle the Climate Crisis, Objective 1.1 Reduce Emissions that Cause Climate Change'), and briefly describe for each how they will be supported. In addition, list specific anticipated environmental [outputs](#) and [outcomes](#) as associated with the supported EPA strategic goals and objectives.

We recommend applicants provide details on **EPA Draft FY 2022-2026 Strategic Plan** alignment in the following table format, but it is not required.

Table. 1 Supported EPA Strategic Goals and Objectives			
Strategic Goal	Strategic Objective	Description of Project Support	Associated Environmental Output(s) and/or Outcome(s)
[Strategic Goal Number and Title] <i>E.g., 'Goal 1: Tackle the Climate Crisis'</i>	[Strategic Objective Number and Title] <i>E.g., 'Objective 1.1 Reduce Emissions that Cause Climate Change'</i>	[Enter brief description of how this strategic goal and objective will be supported by the proposed project]	[List the associated anticipated environmental output(s) and/or outcome(s)]

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

2. Project Goals, Outputs, and Outcomes

The purpose of this section is to provide a detailed project plan for tracking, evaluating, and measuring progress over the proposed project's period of performance. Within the project plan, break down:

- each project [goal](#) and its cost;
- all [output\(s\)](#) associated with that project goal;
- a scheduled completion date for each listed output;
- a brief rationale for how each output date was selected and deemed appropriate;
- output cost(s);
- anticipated [outcome\(s\)](#) affiliated with each project goal;
- the business and/or administrative need(s) which will be supported by each project goal; and
- the (one) EPA strategic goal and objective which is most supported by each project goal.

NOTE: Applicants must only list one strategic goal and objective per project goal; if there are multiple options, applicants should choose the best fit. Please note that the same strategic goal and objective may be listed for multiple project goals.

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NOTE: If a proposed goal and/or output is similar to one(s) previously funded, the applicant should describe in detail how the previously funded activities differ from those currently proposed or how the current application will complement past or ongoing work.

We recommend applicants provide their detailed project plan in the following table format, but it is not required. When using this optional format, expand the table to include more goals as needed.

Table. 2 Goals, Outputs, and Outcomes				
Goal	Output	Scheduled Completion Date	Rationale for Scheduled Completion Date	Output Cost
Goal 1: [Enter Descriptive Goal Title]	1.1 [Enter Descriptive Output Title]	[Enter Date]	[Enter brief description of how output date was selected/ deemed appropriate]	\$ [Enter Output Cost]
Goal 1 Cost: \$ [Enter]	1.2 [Enter Descriptive Output Title]	[Enter Date]	[Enter brief description of how output date was selected/ deemed appropriate]	\$ [Enter Output Cost]
Anticipated Outcome(s):			[Enter outcome(s) from this goal/output(s)]	
Supported Administrative/Business Need(s):			[Enter administrative and/or business needs supported by this goal/output(s)]	
Supported EPA Strategic Goal and Objective:			[Enter the EPA strategic goal & objective (one) most supported by the proposed goal/outputs]	
Total Budget for Goal One:			\$ [Enter Sum of Output Costs]	
- Expand Table to Include More Goals as Applicable to the Proposed Project -				
a. Total Budget for Goals:			\$ [Enter Sum of Goal Costs]	
b. Personnel Costs (Not Included in Goal Costs):			\$ [Enter, if applicable]	
c. Fringe Costs (Not Included in Goal Costs):			\$ [Enter, if applicable]	
Total Direct Costs:			\$ [Enter Total Direct Costs (Sum of A-C)]	
Total Indirect Costs:			\$ [Enter Total Indirect Costs]	
Total Project Budget:			\$ [Add Total Direct Costs & Indirect Costs]	

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

3. Identifying Key Personnel and Associated Roles, Responsibilities, and Qualifications

The purpose of this section is to explicitly identify which project roles are applicable to the proposed project and provide the full name, current job title, current organization, and anticipated project role(s) and responsibility(ies) for at least one key contact in the roles of project manager, programmatic contact (if applicable), formal partner (if applicable), and formal mentor (if applicable). Note that the role of project manager is applicable to all EN project proposals.

If the role of contractor/vendor is applicable to the project, provide the anticipated project role(s) and responsibility(ies), the planned method of acquisition, and the planned vetting method to ensure the candidate is qualified to complete work as assigned (see [Section II-A](#) for more details).

Applicants that intend to distribute all of their EPA funding for subaward(s) and/or procurement contracts must also explain how they will manage these transactions in compliance with applicable Federal requirements without EPA funding for personnel.

- **Project Manager:** Provide the contact details listed in the first paragraph (above). Additionally, include an overview of the project manager's past experiences and/or qualifications in project and financial management (e.g., working with a set budget).

- If the contact for this role is not yet known (e.g., a portion of this grant will be used to hire this position), provide a statement of skills, knowledge, abilities, and qualifications necessary for the role, including specific project/financial management experience, and specify the role's future project role(s) and responsibility(ies).
- **Programmatic Contact:** Any proposed projects that involve the management of, transport of or access to programmatic data must substantially involve the program which owns the data in project planning and implementation to ensure that the Program's data and IT management requirements are met. State whether this role is applicable to the proposed project and, if so, provide the contact details listed in the first paragraph for at least one programmatic key contact. In addition, identify the programmatic office's relation to the lead applicant organization.
 - If an applicant's project does not include programmatic involvement, explicitly state this and detail why this was deemed not applicable and/or necessary for the proposed project.
 - If the contact for this role is not yet known, provide a statement of skills, knowledge, abilities, and qualifications necessary for the role, and specify the role's future project role(s) and responsibility(ies).
- **Formal Partners:** State whether this role is applicable to the proposed project and, if so, provide the contact details listed in the first paragraph for at least one formal partner. In addition, identify the partnering organization's relation to the lead applicant organization. In the case that all grant funds will be distributed for subaward(s), explain how these transactions will be managed in compliance with applicable Federal requirements without EPA funding for personnel.
 - Applications which involve more than one partnering organization need only list these details for one contact from one partnering organization. Include further partner information details in the 'Formal Project Partners - Roles and Responsibilities and Distribution of Funds' attachment (see ['Additional Attachments'](#)).
 - If an applicant's project does not include a formal partner, explicitly state this.
 - If the contact for this role is not yet known, provide a statement of skills, knowledge, abilities, and qualifications necessary for the role and specify the role's future project role(s) and responsibility(ies).
- **Formal Mentor:** When applying specifically under the ['Individual Capacity Building with Mentorship'](#) opportunity, state that this role is applicable to the proposed project and provide the contact details listed in the first paragraph for at least one formal mentor contact. In addition, detail the mentoring organization's involvement with the Exchange Network. List at least one EN assistance agreement successfully completed by the mentor and verify that they currently report or publishes data for one or more environmental programs using an EN [node](#), [VES](#), or [APIs](#).
 - Detail mentorship costs in [Section 7: Overview of Project Budget](#).
 - If an applicant's project does not include a formal mentor, explicitly state this.
 - If the contact for this role is not yet known, provide a statement of necessary skills, knowledge, abilities, and qualifications, and specify the role's future project role(s) and responsibility(ies).

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- **Contractor/Vendor:** State whether this role is applicable to the proposed project, but do not provide the contact details listed in the first paragraph. If it is an applicable role, only identify anticipated project roles and responsibilities, the planned method of acquisition, and the planned method of vetting to ensure the selected candidate is qualified to complete assigned work. In the case that all grant funds will be distributed for a procurement contract, explain how these transactions will be managed in compliance with applicable Federal requirements without EPA funding for personnel.
 - o Detail contractor costs in [Section 7: Overview of Project Budget](#).
 - o If an applicant's project does not include a contractor/vendor, explicitly state this.

We recommend applicants provide key contact details in the following table format, but it is not required.

Table. 3 Key Contacts					
Key Contact Type	Applicable Role? (Y/N)	Contact Name	Current Job Title	Current Organization	Anticipated Role(s)/Responsibilit(ies)
PROJECT MANAGER	Yes	[Enter Name]	[Enter Job Title]	[Enter Org. Name]	[Enter brief description of proposed project roles and responsibilities]
Project and Financial Management Experience and/ cations		[Enter brief description of relevant qualifications/experience]			
PROGRAMMAT CONTACT	[Enter Y/N]	[Enter Name]	[Enter Job Title]	[Enter Org. Name]	[Enter brief description of proposed project roles and responsibilities]
Programmatic Office's Relationship to the Applicant		[Enter brief description of relationship between programmatic office and applicant office]			
FORMAL PARTNER CONTACT	[Enter Y/N]	[Enter Name]	[Enter Job Title]	[Enter Org. Name]	[Enter brief description of proposed project roles and responsibilities]
Partnering Organization's Relation to the Lead Applicant		[Enter brief description of relationship between lead applicant and the partner contact's organization]			
FORMAL MENTOR CONTACT	[Enter Y/N]	[Enter Name]	[Enter Job Title]	[Enter Org. Name]	[Enter brief description of proposed project roles and responsibilities]
Summary of Mentor's Prior Exchange Network Experience		[Enter brief summary of mentor organization's EN experience/history]			
Mentor's Prior EN Grant(s)		[List at least one prior EN grant – include EN grant number and fiscal year]			
Does This Mentor Currently Report or Publish Data for One or More Environmental Programs Using an EN Node, VES, or API? (Y/N)					[Enter Y/N]

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

NOTE: Mark 'no' in the second column titled 'applicable role' for any role that is not applicable and write N/A in all other fields in that section.

NOTE: Write 'not yet hired' under the columns 'contact name', 'current job title', and 'current organization' for any role that has not yet been hired and then add the following row:

Statement of Skills, Knowledge, Abilities, and Qualifications from the Recruitment Package	[Enter brief summary of position's recruitment package]
---	---

We recommend applicants provide contractor/vendor details in the following table format, but it is not required.

Table. 4 Contractors/Vendors Key Contacts			
Applicable Role? (Y/N)	Planned Method of Acquisition	Planned Method of Qualification Vetting	Anticipated Role(s)/ Responsibilit(ies)
[Enter Y/N]	[Enter Job Title]	[Enter Org. Name]	[Enter brief description of proposed project roles and responsibilities]

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

NOTE: Mark 'no' in the first column if contractors/vendors are not applicable and write N/A in all other fields.

4. Commitment to Reuse

Applicants should not spend assistance agreement funds on tools already developed and available for EN partners. The purpose of this section is for the applicant to clearly name and describe which existing project-appropriate tools and shared services will be incorporated into their proposed project. Refer to [Appendix D](#) to find a list of resources for identifying tools and services for reuse.

If no products will be incorporated into the proposed project, clearly state this and provide a detailed justification explaining why no tools, resources, services, widgets, etc. have been identified for reuse.

We recommend applicants provide details on reused components in the following table format, but it is not required.

Table 5. Reused Components		
Component Name	Component Description	Location Where Reusable Component Was Found
[Enter Component Name or Title]	[Provide a brief description of the component and why it is appropriate for the proposed project]	[Identify Database or Site]

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

Applicants must also include two commitment statements in this section as are related to a term and condition for Exchange Network grant close-outs (see [Section VI-B Administrative and National Policy Requirements](#)). In the first statement, explicitly commit to register any new tools/IT components developed as part of the project, once the project is completed. In the second statement, explicitly commit to register the reuse of any tools/IT components as part of the grant close-out process, once the project is completed.

5. Technical Understanding and Data Availability

The purpose of this section is for the applicant to demonstrate that they and/or their partners have the technical understanding necessary to perform the proposed work and that the data and/or IT management solutions are appropriate for the project. Detail how the proposed project will enhance data sharing and data availability for the applicant and among EN partners.

Identify and provide a brief description for each data/IT management/ technological solution they will be utilizing in their project. For each solution identified, detail why this technology is necessary and appropriate for the project, which business/administrative need(s) it helps to meet, and describe why the applicant feels confident in their ability to successfully implement and maintain the solution.

If specific solutions and/or technological aspects of the project are not yet known (e.g., if the applicant is utilizing a contractor), clearly state who will make the project's technical decisions, describe why they are the qualified/the appropriate party, and identify which business/administrative needs the selected technology or solutions will need to address.

Explain how the knowledge, data, or technology outputs developed during the proposed project will enhance data sharing and availability for the applicant's own organization, any formal partners (if applicable), and for other organizations across the Exchange Network.

6. Project Alignment with the E-Enterprise Digital Strategy (EEDS)

The purpose of this section is for applicants to identify how the proposed technical solution(s) align with each of the three principles of the E-Enterprise Digital Strategy ([EEDS](#)). Additionally, identify how the proposed technical solution(s) reflect the EEDS's [API](#)-first approach and how the proposed technical solution(s) enhance data sharing and availability for the applicant's organization, specifically in the context of the first principle of EEDS and/or an API-first approach.

NOTE: More information on the EEDS and a link to the full text is available in [Appendix D](#).

7. Overview of Project Budget

Applicants should have already clearly stated budget amounts for each [goal](#) and each [output](#) within the [Project Goals, Outputs, and Outcomes section of the project narrative](#). The purpose of this section is for applicants to establish the appropriateness of the budget amounts proposed for these outputs and outcomes, as well as provide a detailed overview of other pertinent budgetary costs.

Applicants should have already established which EN project opportunities they are applying in [Section One 'Project Description'](#) (e.g., '[Continuous Water Quality Monitoring](#)', '[WQX](#)', etc.). EN [project opportunity](#) write-ups are provided in Appendices [A](#), [B](#), and [C](#) and these provide cost estimates for potential project activities in a table titled 'Potential Activities (Project Goals) Under This Opportunity'.

If an application's costs for goals and outputs fall within the ranges listed in the applicable EN project opportunity write-up(s), these costs are automatically considered appropriate for the activity. Provide clarifying language, as necessary, to clearly link each of their goals and outputs to the activities listed in the table so that reviewers can accurately assess cost appropriateness.

If an applicant's goal and/or output cost(s) exceed the cost estimates provided in the appendices, provide a clear and detailed rationale for how they estimated this cost and why these funds are necessary to accomplish the work.

For any project goals and outputs which do not correspond to an activity in the applicable EN project opportunity write-up(s), or for a proposed project that does not have an applicable EN project opportunity, provide a detailed cost rationale for each goal and output explaining how these costs were calculated and why the cost was deemed appropriate for the work.

List the following pertinent budget information in sufficient detail, including (as applicable):

- Breakdown of direct grants funding vs. [in-kind](#) support
- Breakdown of funds for primary grantee vs. funds for [project partners](#)
- [Contractual](#) costs
- [Mentorship](#) costs

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- [Indirect costs](#) with the associated indirect cost (IDC) rate and expiration date
- Amount requested in [equipment](#)
- Amount requested in [supplies](#)
- Travel costs and each travel destination, traveler name, and cost per participant

We recommend applicants provide details on project trips in the following table format, but it is not required.

Table 6. Project Travel					
#	Destination	# of Travelers	Traveler Name(s)	Cost per Traveler	Total Trip Cost
1	[Enter location and purpose of trip] <i>E.g., 'EN Regional Conference, Seattle'</i>	[Enter #]	[Enter Name(s)]	[\$[Enter amount]]	[\$[Enter amount]]
2	[Enter location and purpose of trip]	[Enter #]	[Enter Name(s)]	[\$[Enter amount]]	[\$[Enter amount]]
Total Travel Costs:					[\$[Enter amount]]

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

8. Past Performance

Clearly indicate in this section whether the applicant organization has received a prior Exchange Network assistance agreement(s) or explicitly state that the organization has never received an EN assistance agreement.

Additionally, list any tools, resources, services and/or dataflows produced by EN assistance agreement funds since 2011 that were [successfully registered](#) in [RCS](#)/[ENDS](#)/[SSRC](#) at the time of grant close out. Provide the associated grant number and fiscal year for each registered component.

We recommend applicants provide details on previously registered components in the following table format, but it is not required.

Table 7. Component Registrations in Closed Grants from 2011 Onwards					
Grant ID	Year of Grant Award	Year of Grant Close-Out	Component Description	System	Link to Record
[Enter #]	[Enter #]	[Enter #]	[Enter brief description of the registered IT component]	['ENDS', 'RCS', or 'SSRC']	[Enter]
[Enter #]	[Enter #]	[Enter #]	[Enter brief description of the registered IT component]	['ENDS', 'RCS', or 'SSRC']	[Enter]

NOTE: Blue text enclosed in brackets in the optional table above signifies sections of text to be edited/expanded upon by the applicant; change this text back to black before project narrative submission.

NOTE: An optional, fillable project narrative template is available on the EN Website at <https://www.epa.gov/exchangenetwork/exchange-network-grant-program#Resources>.

Mandatory Assistance Agreement Attachments:

- 1) **[Cover Letter](#)** (use ‘Other Attachments Form’ to submit; see optional, fillable template [here](#))
- 2) **[Project Narrative Attachment Form](#)** (see optional, fillable template [here](#))
- 3) **[Budget Narrative Attachment Form](#)** (see optional, fillable template [here](#))
 - This form is used to attach your budget narrative document.
 - Please refer to the budget category guidance in [Appendix D](#) when completing this form.
 - Please note that the document submitted under this form is separate from the [Project Narrative](#).
 - This budget narrative is required to help the grants office process the award, should the project be selected.
 - Please note that applicants must not include [management fees](#) or similar charges in excess of the [direct costs](#) and [indirect costs](#) in their project budgets.
- 4) **[Application for Federal Assistance \(SF 424\)](#)**
 - Please note the organizational [UEI](#) number must be included on the SF-424.
 - Please see [RAIN-2021-G01](#) for information about EPA's implementation of the upcoming Government-wide transition from DUNS to Unique Entity Identifier (UEI).
 - Entities can now obtain an SAM.gov generated Unique Entity Identifier (UEI) at <https://sam.gov/content/entity-information>.
 - Please include the county/parish in the applicant address on line 8(d).
 - Please note that congressional district should be 2-digit code on line 16(a).
 - Please list the project start date as October 1, 2022 and use the entire project period of performance, with an end date of September 30, 2025 on line 17(a & b).
- 5) **[Budget Information for Non-Construction Programs \(SF-424A\)](#)**
 - Please refer to the budget category guidance in [Appendix D](#) when completing this form.
 - Total amount of federal funding requested for the project period should be shown on line 5(e) and on line 6(k) of SF-424A.
 - Total amount of [direct costs](#) should be shown on line 6(i) and on line 21.
 - The indirect cost rate (i.e., a percentage), the base (e.g., personnel costs and fringe benefits) and the amount should also be indicated on line 22.
 - See the [‘Negotiated Indirect Cost Rate Agreement’ section](#) for more details
 - Note that the numbers and totals depicted on this form **must** exactly match those depicted on the Budget Narrative Attachment form (see #3 above).
 - Please do not include monetary amounts less than one dollar (round all budget items to the nearest whole number).
- 6) **[Key Contacts Form \(EPA Form 5700-54\)](#)**
- 7) **[Pre-Award Compliance Review Report \(EPA Form 4700-4\)](#)**

Additional Assistance Agreement Attachments, Mandatory if Applicable:

Use the 'Other Attachment Form' to submit the following documents, as applicable:

1) Personnel Attachments:

- Include biographical sketches or resumes of the lead and any partner Project Manager(s).
 - Each biographical sketch should outline the education, work history and knowledge/expertise of the individual managing the proposed project.
 - For applicants who propose to use funding from this assistance agreement to hire key personnel and/or the project manager only -- submit a statement of knowledge, skills, abilities and qualifications from the recruitment package for the position.

2) Negotiated Indirect Cost Rate Agreement

This is required for any applicants charging indirect costs.

- Indirect costs (IDCs) may be budgeted and charged by recipients of Federal assistance agreements in accordance with 2 CFR Part 200. EPA's Indirect Cost Policy for Recipients of EPA Assistance Agreements (IDC Policy) implements the Federal regulations, and the following applies to all EPA assistance agreements, unless there are statutory or regulatory limits on IDCs.
- For an assistance agreement recipient to use EPA funding for indirect costs, the IDC category of the recipient's assistance agreement award budget must include an amount for IDCs and at least one of the following must apply:
- Except for "exempt" agencies and Institutions of Higher Education as noted below, all recipients must have one of the following current (not expired) IDC rates, including IDC rates that have been extended by the cognizant agency:
 - Provisional;
 - Final;
 - Fixed rate with carry-forward;
 - Predetermined;
 - 10% de minimus rate authorized by 2 CFR 200.414(f);
 - EPA-approved use of one of the following:
 - 10% de minimus as detailed in section 6.3 of the IDC Policy; or
 - Expired fixed rate with carry-forward as detailed in section 6.4.a. of the IDC Policy.
- "Exempt" state or local governmental departments or agencies are agencies that receive up to and including \$35,000,000 in Federal funding per the department or agency's fiscal year, and must have an IDC rate proposal developed in accordance with 2 CFR 200 Appendix VII, with documentation maintained and available for audit.
- Institutions of Higher Education must use the IDC rate in place at the time of award for the life of the assistance agreement (unless the rate was provisional at time of award, in which case the rate will change once it becomes final). As provided by 2 CFR Part 200, Appendix III(C)(7), the term "life of the assistance agreement", means each competitive segment of the project. Additional information is available in the regulation.
- IDCs incurred during any period of the assistance agreement that are not covered by the provisions above are not allowable costs and must not be drawn down by the recipient. Recipients may budget for IDCs pending approval of their IDC rate by the cognizant Federal agency or an exception granted by EPA under section 6.3 or 6.4 of the IDC Policy. However, recipients may not draw down IDCs until their rate is approved or EPA grants an exception.

- The IDC Policy does not govern indirect rates for subrecipients or recipient procurement contractors under EPA assistance agreements. Pass-through entities are required to comply with [2 CFR 200.331\(a\)\(4\)](#) when establishing indirect cost rates for subawards.
- See the [Indirect Cost Guidance for Recipients of EPA Assistance Agreements](#) for additional information.

3) Additional Information for Inter-Tribal Consortium:

This is required for any inter-tribal consortia applying for an Exchange Network assistance agreement

- [Inter-tribal consortia](#) applicants must include attachment(s) showing:
 - A formal partnership exists among the 'Tribal governments' members of the inter-tribal consortium and the majority of the members are federally recognized Indian tribes
 - The consortium's federally recognized tribal members have authorized the consortium to apply for and receive assistance from the EN Grant Program.

4) Formal Project Partners – Roles and Responsibilities and Distribution of Funds:

This is required for any projects with [formal partners](#) requesting over \$200,000 in assistance agreement funds

- If the proposed project involves formal project partners who will actively participate in implementing the project, provide a description of the roles and responsibilities of each partner in carrying out each of the project [goals](#) and the method of financing the partner's participation.
 - Describe how the recipient would coordinate work among the partners using methods such as regular teleconferences, meetings or written status reports.
 - If the recipient plans to distribute funding to partners, describe the method for doing so.
 - Provide letter(s) of support confirming partner participation in the proposed project.
- EN projects including one or more formal partners can have budgets up to \$400,000, if the partnership eligibility criteria outlined in [Section III-D](#) is met.
- Partnerships formed from within a single state, territorial or tribal government (e.g., a "partnership" limited to the Environment and Public Health Departments within a state) are not eligible partnerships and are limited to the \$200,000 maximum funding.

5) Formal Project Mentors – Roles and Responsibilities and Distribution of Funds:

This is required for any projects with formal mentors applying under '[Individual Capacity Building with Mentorship](#)'

- If the proposed project involves formal project mentors who will actively participate in the project, provide a description of the mentoring activities and support:
 - Describe how the recipient would coordinate with the mentor using methods such as regular teleconferences, meetings or written status reports.
 - If the recipient plans to distribute funding to mentors, describe the method for doing so.
 - Provide a letter of support confirming project participation by the mentoring organization.
- EN assistance agreements projects including a formal mentor can have budgets up to \$215,000, of which up to \$15,000 can be allocated to mentorship costs.

6) List of Prior Exchange Network [Assistance Agreements](#):

This is required for any applicants who have received prior Exchange Network assistance agreements

- Provide a list of previously awarded assistance agreements since 2002.

7) Documentation Certifying Applicant Status as an [Instrumentality of the State or Tribe](#)

This is required for applicants applying as an instrumentality of the state or tribe

- States and Territories: Provide a signed attorney general letter certifying this status.
- Tribes: Provide a certification and supporting documentation from the tribal council or other appropriate tribal government official certifying this status.

Detailed Instructions for Submitting Applications Through Grants.gov

Requirements to Submit Through Grants.gov and Limited Exception Procedures:

Applicants must apply electronically through [Grants.gov](https://www.grants.gov) under this funding opportunity based on the grants.gov instructions in this announcement. If your organization has no access to the internet or access is very limited, you may request an exception for the remainder of this calendar year by following the procedures outlined [here](#). Please note that your request must be received at least 15 calendar days before the application due date to allow enough time to negotiate alternative submission methods. Issues with submissions with respect to this opportunity only are addressed in section *c. Technical Issues with Submission* below.

Submission Instructions:

The electronic submission of your application must be made by an official representative of your institution who is registered with Grants.gov and is authorized to sign applications for Federal assistance. For more information on the registration requirements that must be completed in order to submit an application through grants.gov, go to [Grants.gov](https://www.grants.gov) and click on "Applicants" on the top of the page and then go to the "Get Registered" link on the page. If your organization is not currently registered with Grants.gov, please encourage your office to designate an Authorized Organization Representative ([AOR](#)) and ask that individual to begin the registration process as soon as possible.

NEW – PLEASE READ: Existing and new SAM.gov registrants are also assigned a free SAM-issued Unique Entity Identifier (UEI). Applicants must use their UEI, not their DUNS number, when filling out forms in the package for this funding opportunity. Please see [RAIN-2021-G01](#) for information about EPA's implementation of the upcoming Government-wide transition from DUNS to UEI. Please note that until April 4, 2022, applicant organizations registering for the first time in SAM.gov will need a DUNS number.

Applicants need to ensure that the AOR who submits the application through Grants.gov and whose UEI is listed on the application is an AOR for the applicant listed on the application. Additionally, the UEI listed on the application must be registered to the applicant organization's SAM account. If not, the application may be deemed ineligible.

To begin the application process under this grant announcement, go to [Grants.gov](https://www.grants.gov) and click the red "Apply" button at the top of the view grant opportunity page. If you encounter technical difficulties or the Apply button is grayed out please contact grants.gov for assistance at the grants.gov support center at support@grants.gov or 1-800-518-4726 before the application deadline. Please note: To apply through Grants.gov, you must use Adobe Reader software and download the compatible Adobe Reader version. For more information about Adobe Reader, to verify compatibility, or to download the free software, please visit [Adobe Reader Compatibility Information on Grants.gov](#).

Application Submission Deadline:

Your organization's [AOR](#) must submit your complete application package electronically to EPA through [Grants.gov](https://www.grants.gov) no later than **Sunday, May 1, 2022 at 11:59 PM ET**. Please allow for enough time to successfully submit your application and allow for unexpected errors requiring you to resubmit.

Please submit all the mandatory application materials and any applicable additional application documents, detailed in Appendix E, using the instructions above.

Appendix E

Detailed Instructions for Preparing and Submitting Applications

Applications submitted through grants.gov will be time and date stamped electronically. If you have not received a confirmation of receipt from EPA (not from grants.gov) within 30 days of the application deadline, please contact ENGrantProgram@epa.gov. Failure to do so may result in your application not being reviewed.

Technical Issues with Submission:

1. Once the application package has been completed, the "Submit" button should be enabled. If the "Submit" button is not active, please call Grants.gov for assistance at 1-800-518-4726. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-5035. Applicants should save the completed application package with two different file names before providing it to the AOR to avoid having to re-create the package should submission problems be experienced or a revised application needs to be submitted.

2. Submitting the application. The application package must be transferred to Grants.gov by an AOR. The AOR should close all other software before attempting to submit the application package. Click the "submit" button of the application package. Your Internet browser will launch and a sign-in page will appear. **Note: Minor problems are not uncommon with transfers to Grants.gov. It is essential to allow sufficient time to ensure that your application is submitted to Grants.gov BEFORE the due date identified in Section IV of the solicitation.** The Grants.gov support desk operates 24 hours a day, seven days a week, except Federal Holidays.

A successful transfer will end with an on-screen acknowledgement. For documentation purposes, print or screen capture this acknowledgement. If a submission problem occurs, reboot the computer turning the power off may be necessary and re-attempt the submission.

Note: Grants.gov issues a "case number" upon a request for assistance.

3. Transmission Difficulties. If transmission difficulties that result in a late transmission, no transmission, or rejection of the transmitted application are experienced, and following the above instructions do not resolve the problem so that the application is submitted to [Grants.gov](https://www.grants.gov) by the deadline date and time, follow the guidance below. The Agency will make a decision concerning acceptance of each late submission on a case-by-case basis. All emails, as described below, are to be sent to Erin McGown at ENGrantProgram@epa.gov with the FON in the subject line. If you are unable to email, contact Erin McGown at 202-564-6381. Be aware that EPA will only consider accepting applications that were unable to transmit due to [Grants.gov](https://www.grants.gov) or relevant <https://www.sam.gov/SAM/> system issues or for unforeseen exigent circumstances, such as extreme weather interfering with internet access. Failure of an applicant to submit timely because they did not properly or timely register in SAM.gov or Grants.gov is not an acceptable reason to justify acceptance of a late submittal.

If you are experiencing problems resulting in an inability to upload the application to Grants.gov, it is essential to call [Grants.gov](https://www.grants.gov) for assistance at 1-800-518-4726 before the application deadline. Applicants who are outside the U.S. at the time of submittal and are not able to access the toll-free number may reach a Grants.gov representative by calling 606-545-5035. Be sure to obtain a case number from Grants.gov. If the problems stem from unforeseen exigent circumstances unrelated to Grants.gov, such as extreme weather interfering with internet access, contact Erin McGown at 202-564-6381.

Appendix E
Detailed Instructions for Preparing and Submitting Applications

4. Unsuccessful transfer of the application package: If a successful transfer of the application cannot be accomplished even with assistance from Grants.gov due to electronic submission system issues or unforeseen exigent circumstances, and you have already attempted to resolve the issue by contacting Grants.gov, send an email message to ENGrantProgram@epa.gov prior to the application deadline. The email message must document the problem and include the Grants.gov case number as well as the entire application in PDF format as an attachment.

5. Grants.gov rejection of the application package: If a notification is received from Grants.gov stating that the application has been rejected for reasons other than late submittal and it is too late to reapply, promptly send an email to Erin McGown at ENGrantProgram@epa.gov with the FON in the subject line within one business day of the closing date of this solicitation. The email should include any materials provided by Grants.gov and attach the entire application in PDF format.

Please note that successful submission through Grants.gov or via email does not necessarily mean your application is eligible for award.

Appendix F: Optional Pre-Submission Checklist

The below checklist was designed to help applicants ensure all required documents in their application package are included and to help applicants avoid common applicant errors and unnecessary point loss. The successful completion of the checklist does not guarantee a high application score nor ensure funding.

General

- ☐ Have you checked [SSRC](#) and [EECIP](#) for reusable components that can be incorporated into your proposed project (see [Appendix D](#))?
- ☐ Have you double-checked that your documents include all information outlined in [Appendix E](#)?
- ☐ If using the optional templates (available on the [EN website](#)), have you changed all blue text to black after editing and deleted the template notes provided in black italicized text?
- ☐ Do the numbers captured in the '[Project Goals, Outputs, and Outcomes](#)' section of your Project Narrative exactly match the numbers in your [Budget Narrative Attachment Form](#) **AND** the numbers in your project's SF-[424A form](#)?
- ☐ Do any of your budget estimates include change (monetary amounts less than 1 dollar)? If they do, please round these amounts up or down to the nearest whole number and rework your budget.
- ☐ If this application is requesting over \$200,000 (as an [EN partnership](#)), are the partners located in separate state, territorial or tribal governments?

Cover Letter:

- ☐ Has your cover letter been signed by an authorized organizational representative ([AOR](#))?
- ☐ If you are requesting a [PPG](#), have you made note of that in the cover letter and included the relevant PPG grant number?
- ☐ If you are working with any [formal partners](#), have you noted them in your cover letter?
- ☐ If you are working with a [formal mentor](#), have you noted this in your cover letter?

Project Narrative:

- ☐ Is your project narrative a maximum of 10 pages?
- ☐ Does your project narrative include all eight of the sections noted in Appendix E's project narrative overview (see [pages E3-E9](#)), marked with bold section headers?
- ☐ Within the '[Project Description](#)' section of the project narrative, have you stated which specific EPA strategic goals and objectives as listed in [Section 1-C](#) are supported by the proposed project, and provided a brief description of this support for each? Have you also included associated environmental [outputs](#) and [outcomes](#)?
- ☐ Within the '[Project Goals, Outputs, and Outcomes](#)' section of your project narrative, is the sum of your outputs equal to the total amount budgeted for that goal?

Appendix F
Optional Pre-Submission Checklist

- ☐ Within the '[Commitment to Reuse](#)' section of the project narrative, have you included two separate commitment statements? One which commits to registering new products developed as part of your project and one which commits to registering the reuse of existing EN products, at the time of grant close-out?
- ☐ Within the '[Past Performance](#)' section of the project narrative, have you clearly stated whether you have received any prior EN assistance agreements OR stated that you have never received an EN assistance agreement?

[Budget Narrative Attachment Form:](#)

- ☐ Have you followed the budget category guidance provided in [Appendix D](#)?
- ☐ If applicable to your application, are [subaward](#) costs captured within the 'other' budget category (and **not** included under personnel or [contractual](#) costs?)
- ☐ Did you include travel costs to the National EE/EN Conference? Please note this is only allowable for tribal applicants (as this is covered by ECOS for states and territories).
- ☐ Do your budget narrative categories exactly match the budget categories (section b) on the [424A form](#)?
- ☐ If applicable to your application, are training costs captured within the 'other' budget category (with the exception of travel costs to/from the training, which should be captured under 'travel')?
- ☐ If applicable to your application, are supply and/or [equipment](#) cost itemized (price and quantity per unit)?
- ☐ If applicable to your application, does your travel cost include the number of travelers per event, calculated cost per traveler, [mileage](#), [per diem](#), and the purpose of travel?

[Standard SF-424 Form \(Application for Federal Assistance\):](#)

- ☐ Does your SF-424 form show a project start date of 10/1/22 and an end date of 12/30/25?
- ☐ Have you included your county/parish on your SF-424 form (line 17 a & b)?
- ☐ Is the congressional district noted on your SF-424 form depicted as a 2-digit code (line 16 a)?
- ☐ Does the [UEI](#) number on the SF-424 form also belong to the organization listed on this form?

[Additional Attachments:](#)

- ☐ If you are charging [indirect costs](#), have you attached an [Indirect Cost Rate Agreement](#), following the guidance on page E11?
- ☐ (*Tribal Applicants Only*) If your current [indirect cost \(IDC\) rate agreement](#) is expired and you have submitted a proposal for approval, have you attached a copy of the proposal with your application?
- ☐ If you are applying as an 'instrumentality of a state' or an 'instrumentality of a tribe', have you attached the proper signed documentation certifying this status?

Appendix G: Glossary of Terms, Phrases, and Acronyms

Application Programming Interface (API): When used in the context of web development, an API is a set of Hypertext Transfer Protocol (HTTP) request messages (SOAP or REST), along with a definition of the structure of response messages, which is usually in an Extensible Markup Language (XML) or JavaScript Object Notation (JSON) format. The term web API is virtually synonymous with the term web service.

Assessment Units: A waterbody or portion of a waterbody that is identified and used to track water quality.

Assistance Agreement: Assistance Agreement is an agreement with the primary purpose to provide appropriated funds to stimulate an activity, including but not limited to, grants and cooperative agreements.

Authorized Organizational Representative (C): An Authorized Organizational Representative (AOR) is the individual who is authorized to sign on behalf of the proposing organization.

CAA Stationary Source: Generally, any source of an air pollutant except those emissions resulting directly from an internal combustion engine for transportation purposes or from a nonroad engine or nonroad vehicle as defined in section 7550 of the Clean Air Act. Stationary sources of air pollution include, for example, factories, refineries, boilers, power plants, gas stations, and dry cleaners.

CEDRI: Compliance and Emissions Data Reporting Interface.

Central Data Exchange (CDX): CDX is the gateway through which environmental data enters the Agency and is EPA's point of presence on the Exchange Network and for many EPA services. CDX provides the capability for submitters to access their data using web services. CDX enables EPA and participating Program Offices to work with stakeholders - including state, tribal and local governments and regulated industries - to enable streamlined, electronic submission of data via the Internet.

Conference(s): Conference is defined as a meeting, retreat, seminar, symposium, workshop or event whose primary purpose is the dissemination of technical information beyond the non-Federal entity and is necessary and reasonable for successful performance under the Federal grant award.

Consolidated Grant (CG): Territories may consolidate their various assistance agreements through a single Consolidated Grant (CG). A territorial applicant whose territory has a Consolidated Grant (CG) with EPA may request new awards be incorporated into the CG. An applicant should include the CG number in both their cover letter and project narrative. An applicant may also request to create a new CG PPG that includes the project proposed under this solicitation. Absent a request from the recipient for inclusion in or creation of a CG, EPA will award the grant in a stand-alone vehicle. States, certain interstate agencies, and tribes may also consolidate their various assistance agreements through a single [PPG](#).

Construction: Construction is the erection, building, alteration, remodeling, improvement, or extension of buildings, structures or other property. Construction also includes remedial actions in response to a release, or a threat of a release, of a hazardous substance into the environment as determined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.

Contract: Contract is a legal instrument by which a non-Federal entity purchases property or services needed to carry out the project or program under a federal award.

Cooperative Agreement: Cooperative Agreement is a legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity that provides substantial involvement in carrying out the Federal grant award activities. See [Section II-B](#) for more information.

Cross-Media Electronic Reporting Rule (CROMERR): The Cross-Media Electronic Reporting Rule (CROMERR) provides the legal framework for electronic reporting under EPA's regulatory programs. The Rule sets performance-based, technology-neutral system standards and provides a streamlined, uniform process for Agency review and approval of electronic reporting. The CROMERR program ensures the enforceability of regulatory information collected electronically by EPA and EPA's state, tribal and local government partners. Both new and existing electronic reporting programs require EPA approval, and the regulation establishes a process for applying for and obtaining such approval. CROMERR also addresses electronic reporting directly to EPA. See the [Shared CROMERR Services](#) EN Project Opportunity.

CWA: Clean Water Act.

Data Access Services (Publishing): Data access services are a specific subset of the many possible types of web services. Network publishing is a term that refers to using Exchange Network technologies, services and specifications for web services to make data available to Network users by running a query and returning environmental data in the form of XML or JSON documents. These services are also called data services. Once these data services are deployed, they can be used in a number of ways such as populating web pages, synchronizing data between sites, viewing data in a web service client, or building new sources of data into an integrated application. Other web service types include data submission, security, quality assurance, notification and status. RESTful services are particularly useful for data publishing.

Data Appliance: A reusable component that can be used to ingest sensor data and publish that data using the open standards.

Data Element: A data element is the smallest unit of information stored in, and exchanged among, Exchange Network partners' information systems. Examples of data elements are the facility name or inspection date.

Data Standard: A data standard documents an agreement on representation, format, and definition of common data exchanged. Exchange Network partners must use EN approved data standards. See more information at <https://www.exchangenetwork.net/data-standards/>.

De Minimis: The 10% de minimis indirect cost rate is a Federally-recognized rate that non-Federal entities may use to recover allowable indirect costs on grants or cooperative agreements.

Direct Funding: Direct funding is funding that is provided to an organization directly by a government entity.

Direct Costs/Charges: Direct costs are those costs that can be identified specifically with a particular final cost objective. Typical costs charged directly to a Federal grant award are the compensation (including fringe benefits) of employees who work on that award, and the costs of materials and other items of expense incurred for the Federal award.

Discharge Monitoring Report (DMR): The EPA uniform national form, including any subsequent additions, revisions, or modifications for the reporting of self-monitoring results by permittees.

DUNS: A Data Universal Numbering System or DUNS number is a unique, nine-digit series of numerals that identifies a business; please see [RAIN-2021-G01](#) for information about EPA's implementation of the upcoming Government-wide transition from DUNS to Unique Entity Identifier ([UEI](#)).

E-Enterprise: E-Enterprise is a joint initiative of states, tribes and EPA to expand access to environmental monitoring data, streamline regulatory information collections, and achieve performance goals for regulatory burden reduction and cost avoidance.

E-Enterprise Community Inventory Platform (EECIP): The E-Enterprise Community Inventory Platform is a living project inventory with content spanning topics such as process improvement, advanced monitoring, IT, and data management. Users can view partner agencies' projects and systems, participate in discussion threads, and connect with peers. Further information can be found in [Appendix D](#).

Equipment: Equipment is tangible personal property (including information technology systems) having a useful life of more than one year and a per-unit acquisition cost which equals or exceeds \$5,000.

Exchange Network Discovery Services (ENDS): The Exchange Network Discovery Services (ENDS) is a set of directory services for all nodes in EN. This central catalog approach supports the automated consumption of services using tools such as the EN Browser and the EN Services Center via an XML document that contains the service metadata. ENDS automate both the discovery and retrieval of service metadata for the Network and supports the Administration and export of node services via the web and web Service interfaces. ENDS is composed of two main components: the first, is a set of services that allows EN partners to submit and query the service descriptions stored in the ENDS repository; the second, is a web interface that simplifies the data entry of service metadata into ENDS. The services all accept or return a common XML schema. This XML schema provides a structured, standard way to represent EN services across all EN Nodes. A second ENDS schema defines the Data Element Description Language (DEDL) that can be used by individual Exchange Network nodes for describing acceptable parameters and valid allowable values and making them available as services. DEDL further enhances the ability for EN partners to build rich, user friendly applications using EN services. More information on ENDS is available at: <http://www.exchangenetwork.net/exchange-network-discovery-service-ends/>.

Exchange Network Services Center (ENSC): The ENSC is a browser-based portal that provides Exchange Network partners access to a broad range of Network services. Among the most notable features of the Service Center is the ability to submit data to EPA systems, monitor the status of data submissions, and access a variety of Network administrative data. Essentially, the ENSC offers most of the functionality of a Node, but it is not automated and cannot respond to data requests. It simplifies access to Network services because it requires no software to install or configure. It can be accessed from any computer with a browser and internet access. The ENSC is available [here](#).

Environmental Information Exchange Network (Exchange Network; EN): The Exchange Network is an Internet and standards-based information network among EPA and its partners in states, tribes, and territories. It is designed to help integrate information, provide secure real-time access to environmental information, and support the electronic collection and exchange of high-quality data and information. The EN provides a more efficient way of exchanging environmental information at all levels of government. It significantly improves the way EPA and its state, tribal, and territorial partners send and receive information.

(EN) Project Opportunity: In the context of the Exchange Network Grant Program, the phrase 'project opportunities' refers to specific project write-ups that provide potential applicants with the information needed to design a proposal for a particular data exchange, data service, or project type. These write-ups contain essential descriptions and background information, suggested project activities and estimated costs, and helpful links and resources. Applicants can apply under one or multiple EN project opportunities or propose projects that do not have a specific project opportunity write-up (see [I-B. EN Assistance Activities and Funding Areas](#)). Applicants should explicitly state in the 'Project Description' section of their project narrative which EN Project Opportunit(ies) they are applying under.

Extensible Markup Language (XML): Extensible Markup Language is a flexible self-describing language for creating common information formats and sharing both the format and content of data over the Internet and elsewhere. XML is a formatting language recommended by the World Wide Web Consortium (W3C). For more guidance, see the [Exchange Network website](#).

Appendix G

Glossary of Terms, Phrases, and Acronyms

Geospatial Data: Geospatial data are data that identify, depict, or describe the geographic locations, boundaries, or characteristics of the Earth's inhabitants or its natural or human-constructed features. Geospatial data include geographic coordinates (e.g., latitude and longitude) that identify a specific location on the Earth and data that are linked to geographic locations or have a geospatial component (e.g., socio-economic data, land use records and analyses, land surveys, homeland security information, and environmental analyses). Geospatial data may be obtained using a variety of approaches and technologies, including things such as surveys, satellite remote sensing, Global Position System (GPS) hand-held devices, and airborne imagery and detection devices.

GHGRP: Green House Gas Program.

Goal: In EPA grant terminology, a goal is a self-contained project (e.g., implementing [WQX](#), implementing an electronic reporting system using [shared CROMERR services](#)). This differs from the more common definition of goal—a desired end. An Exchange Network grant application must list one or more goals.

Grant(s): Grant is a legal instrument of financial assistance between a Federal awarding agency or pass-through entity and a non-Federal entity. See [Section II-B](#) for more information.

Indirect Costs/Charges: Indirect cost are those costs incurred for a common or joint purpose benefitting more than one cost objective, and not readily assignable to the cost objectives specifically benefitted.

In-Kind Services: Services provided by EPA contractors and consultants on specific parts of the project for the recipient. The recipient can request this type of service as part of the assistance agreement application, if the in-kind work is directly related to the recipient's application and the applicant is the primary beneficiary of the work. However, EPA reserves the right to decide whether in-kind services will be provided. The recipient may not direct the work provided through in-kind services. These services are managed by EPA.

Instrumentality of a State or Tribe: An instrumentality is an organization created by or pursuant to state statute or tribal laws and operated for public purposes. Generally, an instrumentality performs governmental functions, but does not have full government powers, such as police authority, taxation and eminent domain.

Integrated Project Team: A group of individuals comprised of partner and EPA staff, support contractors, and technology vendors organized to design and implement a specific exchange.

Inter-Tribal Consortia: Inter-tribal consortium is a coalition of two or more separate Indian tribes that join for the purpose of applying for an assistance agreement. An intertribal consortium is eligible to receive a Cooperative Agreement from EPA only if the intertribal consortium demonstrates that all members of the consortium meet the eligibility requirements for the Cooperative Agreement, and all members authorize the consortium to apply for and receive assistance.

IR: Integrated Reporting combines Clean Water Act Sections 303(d) and 305(b).

JSON: JavaScript Object Notation is a lightweight data-interchange format.

Management Fees: When formulating budgets for applications, applicants must not include management fees or similar charges in excess of the direct costs and indirect costs at the rate approved by the applicants cognizant audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA. The term management fees or similar charges refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses, unforeseen liabilities, or for other similar costs that are not allowable under EPA assistance agreements. Management fees or similar charges may not be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the scope of work.

Metadata: Metadata are data or information that describes other data. Examples include data that describe how or where the data were collected, whether or not the data comply with agreed-upon data standards, or how the data will be used.

Mileage: Mileage is an allowance for traveling expenses at a certain rate per mile.

MVP: Minimal Viable Product.

Negotiated Indirect Cost Rate Agreement: Negotiated Indirect Cost Rate Agreement is the documentation that issues the reimbursement rate(s) negotiated between the Federal government and a grantee organization to substantiate its request for the establishment of an indirect cost rate.

NEI: National Emission Inventory.

Node: A Node is a web service enabled server (hardware and software) that provides a point for exchanging information over the Internet. Exchange Network Nodes can gain access to and transmit information using web services. In order to achieve interoperability among Nodes, all Nodes must be set up according to the EN specifications. Freely available Node software is available at <http://www.exchangenetwork.net/exchange-network-products/>. Specifications, protocols, tools, code and documentation for building a functioning Exchange Network Node are available at <http://www.exchangenetwork.net/knowledge-base/>.

Node Client: A Node client is an application (software code) that can generate web service messages for using the Exchange Network. A Node client can do the following:

- Submit data in XML format to EPA or other partners using the Exchange Network and
- Request data in XML format from EPA or other partners using the Exchange Network.

Several Node clients that are very user friendly are available on the Exchange Network website already. More are on the way. A Node client software developer kit (SDK) is also available to help you integrate Node client requests into your applications. Unlike Nodes, Node clients *cannot* publish data on the Exchange Network (i.e., they cannot listen for or respond to data queries from other EN partners).

OGC: Open Geospatial Consortium.

Operations and Maintenance (O&M): During O&M an asset is in operation and produces the same product or provides a repetitive service. Maintenance is the activities necessary to keep an IT asset functioning as designed. This includes operating system upgrades, technology refreshes, and security patch implementations. **Maintenance excludes activities that expand the capacity of an asset or otherwise upgrade it to serve needs different from or significantly greater than those originally intended.** Operations are the day-to-day management of assets in the production environment and include activities to operate data centers, help desks, operational centers, telecommunication centers, and end user support services.

Outcome: The term “outcome” means the result, effect, or consequence of carrying out a project leading to an environmental or programmatic goal. Outcomes may be environmental, behavioral, health- related or programmatic in nature, may be quantitative or qualitative, and may not necessarily be achievable within an assistance agreement funding period.

Output: The term “output” means an environmental activity, effort, or associated work products leading to an environmental goal, that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative but must be measurable during an assistance agreement funding period.

Participant Support Costs: These costs include expenses that your organization pays on behalf of participants, including stipends, training fees, travel assistance for trainees and other program participants who are not employees of your organization, relocation expenses (with adequate justification), incentives paid to participants in research experiments, focus groups, surveys, or similar research activities, and/or rebates or other subsidies, as provided in EPA’s Participant Support Cost Guidance (<https://www.epa.gov/grants/rain-2018-g05>). These costs should be listed under the ‘other’ budget category in an applicant’s [424A form](#) and [budget narrative attachment form](#).

PDTs: Product Design Teams.

Per Diem: Per diem is the allowance for lodging (excl. taxes), meals and incidental expenses for each day.

PM2.5: Particulate matter with an aerodynamic diameter of 2.5 microns or less.

Performance Partnership Grant (PPG): In 1996, Congress authorized EPA to award Performance Partnership Grants (PPGs). As a result, states, certain interstate agencies, and tribes can now choose to combine two or more environmental program assistance agreements into a single PPG. An applicant whose organization has an existing Performance Partnership Grant (PPG) with EPA may request that any new assistance agreement recommended for funding be incorporated into the PPG. applicant may also request to create a new PPG that includes the project proposed under this solicitation. Absent a request from the recipient for inclusion in or creation of a PPG, EPA will award the assistance agreement in a stand-alone vehicle. See [Section III-F](#) for additional information on PPGs. Territories may also consolidate their various assistance agreements through a single [Consolidated Grant](#).

Pre-Award Costs: Pre-award costs are those incurred prior to the effective date of the Federal award directly pursuant to the negotiation and in anticipation of the Federal award where such costs are necessary for efficient and timely performance of the scope of work.

QAPP: Quality Assurance Project Plan.

QARF: Quality Assurance Reporting Form; the QARF is a tailored Quality Assurance Project Plan (QAPP) tailored specifically to satisfy the unique Quality Assurance needs of the EN Grant Program. See [Section VI-B](#).

RENC Regional Exchange Network Coordinator: A Regional Exchange Network Coordinator, or RENC, acts as the coordinator and facilitator of the EN and the EN grant program for the region in which they work. In this role, the RENC's primary responsibility is to serve as the regional project officer for awarded EN assistance agreements, which includes providing necessary support and guidance for grantees, performing grant monitoring functions, and reviewing/approving grant reporting forms and extensions. A current list of RENCs can be found [here](#).

Representational State Transfer (REST) / RESTful Web Service: Software system designed to support machine-to-machine interaction over a network. Representational State Transfer (REST) services do not require XML, SOAP, or WSDL (Web Services Description Language) but rely on the exchange of requests and responses between the resources and their corresponding states. REST-style services facilitate the aggregation of services into more complex services and the development of mashups. REST services are usually accessed via HTTP (like a web URL or link).

RESTful APIs: Representational state transfer (REST) is a software architectural style that defines a set of constraints to be used for creating Web services. Web services that conform to the REST architectural style, called RESTful Web services, provide interoperability between computer systems on the internet.

Reusable Component Service (RCS): Retired in 2020, this repository provided a central point of access for previous EN grantees to register any newly developed resources and the reuse of existing EN resources. These records have since been migrated to the SSRC. Current guidance on meeting the EN grant registration requirement can be found [here](#).

Shared Services Resource Catalog (SSRC): The Shared Services Resource Catalog (SSRC) is part of EPA's System of Registries (<https://sscatalog.epa.gov/sharedservicecatalog/search>). It is both a catalog of EPA, state, tribal and territory services and a registry of XML schema, widgets, plug-ins, web services and many other resources all of which can be reused by others. SSRC has a searchable interface with which users can search for existing data and IT assets, grouped by resource types of similar assets. Anyone can search these resources by going to the SSRC public website, which hosts all publicly viewable resources without requiring registration or a password.

SLT: State, Tribal, and Local <agencies>.

Simple Object Access Protocol (SOAP): SOAP is a protocol specification for exchanging structured information for the implementation of web services on a computer network. It allows machines to interoperate in a loosely coupled manner using simple standard messages over the Hypertext Transfer Protocol (HTTP or others) and uses Extensible Markup Language (XML) as the mechanisms for information exchange.

Subawards: A subaward (“subgrant”) is an award of financial assistance provided by a pass-through entity to a subrecipient to carry out part of a Federal award received by the pass-through entity. It does not include payments to a contractor or payments to an individual that is a beneficiary of a Federal program. See [Section II-A](#) for more information.

Subrecipient: Subrecipient is a non-Federal entity that receives a subaward from a pass-through entity to carry out part of a Federal program but does not include an individual that is a beneficiary of such program.

Subject Matter Experts (SMEs): A subject matter expert is an individual who exhibits the highest level of expertise in a specified topic or field of work.

Supplies: Supplies are all tangible personal property. A computing device is a supply if the acquisition cost is less \$5,000, regardless of the length of its useful life.

TMDL: Total Maximum Daily Load is a calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant.

Unique Entity Identifier (UEI): Unique Entity Identifier (UEI) means the identifier assigned by SAM to uniquely identify business entities. This is the replacement identifier for a business’s [DUNS number](#). Beginning April 4, 2022, DUNS numbers will no longer be used as a UEI and only the SAM.gov created UEI will be accepted. All EPA competitive funding opportunities with a close date on or after April 1, 2022, will use UEI-compatible grant application packages. All entities applying for EPA competitive funding opportunities with a close date on or after April 1, 2022, will need to use their UEI to complete the UEI-compatible grant application packages and associated forms. See [Appendix E](#) and [RAIN-2021-G01-R1 | US EPA](#) for more information.

Unliquidated Obligations (ULOs): Unliquidated obligations are obligations incurred by the non-Federal entity that have not been paid (liquidated).

WaterML 2: Water Markup Language 2.

Web Services: Web services are a software system designed to support interoperable machine-to-machine interaction over a network. They make it easier to conduct work across organizations regardless of the types of operating systems, hardware/software, programming languages, and databases that are being used. The term web API is virtually synonymous with the term web service.

Widget: A software tool that uses a small (smaller than a page) graphical interface to provide a function or service and that can be added to a web application or to a web page.

Workshops: Workshop is defined as a meeting, retreat, seminar, symposium, conference or event whose primary purpose is the dissemination of technical information beyond the non-Federal entity and is necessary and reasonable for successful performance under the Federal award.

XML Schema: A XML schema defines the structure of a XML document including data elements and attributes can appear in a document, how the data elements relate to one another, whether an element is empty or can include text, which types of data are allowed for specific data elements and attributes, and what the default and fixed values are for elements and attributes. A set of Network quality assurance web services is available to validate your XML documents against the schemas using a standard parser. A list of procedural and guidance documents related to schema development is available on the Exchange Network website at:

<http://www.exchangenetwork.net/knowledge-base/>.