

Hydropower Workforce Report Survey

In partnership with the U.S. Department of Energy's [Water Power Technologies Office](#), the [National Renewable Energy Laboratory](#) and the [Hydropower Foundation](#) are working to develop an educational infrastructure to inspire and train future water power professionals for the hydropower industry. We are contacting you to get a better understanding of the hydropower industry workforce, including operation, maintenance, construction, and supply chain jobs. Your feedback will help improve educational materials and initiatives to help build a strong and diverse pipeline of hydropower workers to support the growth and modernization of the industry. Thank you for your help inspiring the next generation of hydropower professionals and helping to attract qualified candidates for you to hire in the future!

Hydropower includes in-conduit, run-of-river dams, run-of-river bypass, non-powered dams, storage and release, conventional hydropower, and pumped storage.

General

1. **What is the name of your organization?*** [open entry]
2. **Where is your organization based?*** [Zip Code]
3. **Which service(s) within the hydropower industry does your organization provide or specialize in?*** [select all that apply]
 - a. Technology and/or System Design
 - b. Research and Development
 - c. Manufacturing, including component parts manufacturing
 - d. Regulatory/Permitting/Environmental
 - e. Construction
 - f. Project Development & Siting
 - g. Education/Training
 - h. Government Relations/Advocacy
 - i. Communications/Public Affairs
 - j. Finance
 - k. Business Development
 - l. Legal/Insurance
 - m. Operations & Maintenance
 - n. Asset Management
 - o. Capital Planning
 - p. Other: [open entry]
4. **Do you work on-site at a hydropower facility or does your work directly support the operation of a hydropower facility (e.g., remote facility operations)?***
 - a. Yes
 - b. No
5. **Do you feel comfortable answering questions about the hiring and staffing needs of all of your firm's locations or just your current location?***

- a. All locations
 - b. My current location only [please provide zip code]
 - i. Please provide us with the email address of someone at your firm who is able to answer questions about hiring and staffing at other locations so that we can send them a survey. [open entry]
- 6. Which hydropower technologies does your organization primarily utilize?*** [select all that apply]
- a. Utility-scale
 - b. Small hydro
 - c. Pumped hydro
 - d. Conventional reservoir
 - e. Run of river
 - f. N/A
 - g. Other: [please specify]
- 7. Is your organization involved in developing or deploying low impact hydropower technologies? (Low impact refers to reducing or mitigating environmental or social impacts from hydropower generation)***
- a. Yes
 - i. If yes, are these technologies designed to: [select all that apply]
 - 1. Reduce impacts of existing hydropower projects
 - 2. Reduce impacts of new hydropower development
 - b. No
 - c. N/A
 - d. Other: [please specify]

Workforce Diversity, Equity and Inclusion

- 8. Is your organization experiencing challenges hiring from any of the following demographic groups?*** [select all that apply]
- a. Women
 - b. Minorities
 - c. Tribal communities
 - d. Veterans
 - e. I don't know
- 9. If you are experiencing challenges hiring women, minorities, tribal members or Veterans, please explain what kind of challenges you are experiencing:** [open entry]
- 10. Does your organization have any initiatives to increase the number of women working in hydropower jobs?***
- a. Yes

- i. If yes, please specify:
- b. No
- c. I don't know

11. Does your organization have any initiatives to increase the number of minorities working in hydropower jobs?*

- a. Yes
 - i. If yes, please specify:
- b. No
- c. I don't know

12. Does your organization have any initiatives to recruit hydropower workers from tribal communities?*

- a. Yes
 - i. If yes, please specify:
- b. No
- c. I don't know

13. Does your organization have any initiatives to recruit Veterans to work in hydropower?*

- a. Yes
 - i. If yes, please specify:
- b. No
- c. I don't know

Workforce Demographics

14. What is the age range for the majority of your hydropower workforce?* [select one]

- a. 16-25 years
- b. 26-35 years
- c. 36-45 years
- d. 46-55 years
- e. 56-65 years
- f. 65+ years
- g. I don't know

15. In which of these job types do you expect to see significant retirement over the next 5-10 years?* [select all that apply]

- a. Administrative
- b. Skilled craft or tradespeople (e.g., electrician, mechanic, technician, operator, manufacturing, welder)
- c. Construction, unskilled craft or tradespeople

- d. Project or program management
- e. Professional services (e.g., finance, human resources, communications, contracting, procurement)
- f. Supervisory or management
- g. Engineering services (e.g., engineer, draftsman, engineering technician)
- h. Health and safety
- i. Environmental science
- j. Sales/business
- k. Policy, regulatory, compliance
- l. Legal
- m. Data science
- n. Computer programming, and/or computer science (e.g., IT, SCADA)
- o. Asset management (e.g., CMMS)
- p. I don't know
- q. Other: [open entry]

16. From which job types is your organization currently seeing the most attrition of people *who are not retiring*?* [select all that apply]

- a. Administrative
- b. Skilled craft or tradespeople (e.g., electrician, mechanic, technician, operator, manufacturing, welder)
- c. Construction, unskilled craft or tradespeople
- d. Project or program management
- e. Professional services (e.g., finance, human resources, communications, contracting, procurement)
- f. Supervisory or management
- g. Engineering services (e.g., engineer, draftsman, engineering technician)
- h. Health and safety
- i. Environmental science
- j. Sales/business
- k. Policy, regulatory, compliance
- l. Legal
- m. Data science
- n. Computer programming, and/or computer science (e.g., IT, SCADA)
- o. Asset management (e.g., CMMS)
- p. I don't know
- q. Other: [open entry]

17. What kind of knowledge transfer systems do you have in place at your organization to support succession planning?* [select all that apply]

- a. No formal system
- b. Person to person (e.g., apprenticeship)

- c. Written documentation
- d. Photo or video documentation
- e. Computer or software documentation
- f. I don't know
- g. Other: [open entry]

18. Which hydropower technologies do you see having the largest opportunities for workforce growth in the future?* [select all that apply]

- a. Utility-scale
- b. Small hydro
- c. Pumped hydro
- d. Low impact technologies
- e. Other: [open entry]

19. Which hydropower jobs do you anticipate will have the largest growth over the next 10 years?* [select all that apply]

- a. Administrative
- b. Skilled craft or tradespeople (e.g., electrician, mechanic, technician, operator, manufacturing, welder)
- c. Construction, unskilled craft or tradespeople
- d. Project or program management
- e. Professional services (e.g., finance, human resources, communications, contracting, procurement)
- f. Supervisory or management
- g. Engineering services (e.g., engineer, draftsman, engineering technician)
- h. Health and safety
- i. Environmental science
- j. Sales/business
- k. Policy, regulatory, compliance
- l. Legal
- m. Data science
- n. Computer programming, and/or computer science (e.g., IT, SCADA)
- o. Asset management (e.g., CMMS)
- p. I don't know
- q. Other: [open entry]

20. Do you have any difficulties or challenges recruiting qualified applicants for any of these labor categories?* [select all that apply]

- a. Administrative
- b. Skilled craft or tradespeople (e.g., electrician, mechanic, technician, operator, manufacturing, welder)
- c. Construction, unskilled craft or tradespeople

- d. Program or project management
- e. Professional services (e.g., finance, human resources, communications)
- f. Supervisory or management
- g. Engineering services (e.g., engineer, draftsman, engineering technician)
- h. Health and safety
- i. Environmental science
- j. Sales/ business
- k. Policy, regulatory, compliance
- l. Legal
- b. Data science
- c. Computer programming, and/or computer science (e.g., IT, SCADA)
- d. Asset management (e.g., CMMS)
- e. I don't know
- f. Other: [open entry]

21. Please select the statements that best describe the reasons your organization is having difficulty finding qualified job applicants.* [select all that apply]

- a. Lack of familiarity with hydropower
- b. Lack of interest in hydropower
- c. Lack of interest in available jobs
- d. Competition with other industries for a particular skillset or experience
- e. There are not enough applicants for the positions
- f. There are enough applicants, but too many applicants do not have the training or education needed for the job.
- g. There are enough applicants, but too many applicants do not have the experience needed for the job
- h. There are enough qualified applicants, but they are unwilling to work for the wages we pay
- i. There are enough qualified applicants, but they are uninterested in the job location
- j. I don't know

22. Which of the following does your organization use to find qualified job applicants? [one response per row]

	Regularly	Sometimes	Rarely	Never
Career fairs				
Internships or apprenticeships				
Job websites				
Apprenticeships and/or union training programs				
Working directly with educational institutions to hire graduates				
Reaching out to labor unions				
Recruiting workers from outside the U.S.				

23. What could the Department of Energy Water Power Technologies Office do to aid in ensuring you are meeting your staffing goals? [open entry]

Crafts & Trades

[If you are not involved in working with skilled craft and tradespeople these questions can be skipped]

24. What does your organization do to attract and recruit skilled craft or trade workers? [Select all that apply]

- a. Apprenticeship programs
- b. Partnering and outreach to vocational schools
- c. Partnering and outreach to trade associations
- d. Recruiting from industries with transferrable skills
- e. I don't know
- f. Other: [please specify]

25. Which schools or training programs does your organization typically recruit and hire from for skilled craft or tradespeople? [open entry]

26. Does your organization recruit craft or trade workers from labor unions?

- a. Yes
 - i. If yes, which ones?
- b. No
 - i. If no, why not?

27. How are your recent skilled craft or trade workers learning about jobs in hydropower?

- a. Formal recruiting programs
- b. Partnering and outreach to vocational schools

- c. Partnering and outreach to trade associations
- d. Job websites
- e. I don't know
- f. Other: [please specify]

28. Which skilled craft or trade jobs do you have difficulty finding qualified applicants for? [select all that apply]

- a. Electricians
- b. Control & Instrumentation, SCADA
- c. Cyber
- d. Mechanics
- e. Technicians
- f. Operators
- g. Welders
- h. Machinists
- i. Crane operators
- j. Riggers
- k. I don't know
- l. Other: [please specify]

29. Which industries do you primarily compete with when hiring skilled craft or trade workers? [select all that apply]

- a. Fossil fuels
- b. Other renewables
- c. Maritime
- d. Defense
- e. Automotive
- f. Manufacturing
- g. I don't know
- h. Other: [open entry]

30. Have your skilled craft workers participated in apprenticeship training programs from any of the following? [select all that apply]

- a. U.S. Bureau of Reclamation
- b. Army Corps of Engineers
- c. Western Area Power Administration
- d. Bonneville Power Administration
- e. Southeastern Power Administration
- f. Southwestern Power Administration
- g. Tennessee Valley Authority
- h. Private companies
- i. Other: [open entry]

31. Are there particular knowledge or training gaps you are experiencing with your skilled craft or trade workers? [open entry]

32. How does your organization build the craft and trade worker skills needed to support your hydropower workforce? [open entry]

33. Have you updated your professional development to include more computer skills for craft and trade workers?

- a. Yes
 - i. If yes, please explain
- b. No

Thank you!

Questions?

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