

**U.S. Department of Energy**  
**Office of Energy Efficiency and Renewable Energy**  
**Request for Information (RFI)**



**Manufacturing Barriers and Opportunities for Water Power  
Technologies**

**Request For Information: DE-FOA-0000943**  
**CFDA Number: 81.087**

**Issue Date:** 06/13/2013

**Closing Date:** 07/12/2013, 5:00 PM Eastern Time

**Responses Submitted to:** WaterMfg@go.doe.gov

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This is a Request for Information (RFI) only. DOE will not pay for information provided under this RFI and no project will be supported as a result of this RFI. This RFI is not accepting applications for financial assistance or financial incentives. DOE may or may not issue a Funding Opportunity Announcement (FOA) based on consideration of the input received from this RFI.

**Manufacturing Barriers and Opportunities for Water Power Technologies**  
**DOE Request for Information (RFI)**  
**DE-FOA-0000943**

**Program Area:** Wind & Water Power Technologies Office (WWPTO), Office of Energy Efficiency and Renewable Energy (EERE), U.S. Department of Energy (DOE)

**Requested Information Topics:** The Department of Energy (DOE) seeks input from the public related to improving the manufacturing process for both marine and hydrokinetic (MHK) & hydropower technologies. An emphasis on design for manufacturing could transition a nascent MHK industry from its current focus on performance prototypes towards manufacturing cost competitive production units. Advanced materials and manufacturing processes for hydropower turbines could result in cost reduction across the entire power plant that will have significant impact on the levelized cost of energy (LCOE) of hydropower. Investment in materials and manufacturing will drive an increase of U.S. domestic manufacturing content in clean energy technologies. DOE is seeking to improve these areas and is requesting information to identify the most promising investment opportunities based on industry needs.

**Wind & Water Power Technologies Office Background:**

The WWPTO is within the Department of Energy's Office of Energy Efficiency and Renewable Energy. The WWPTO's mission is to focus the passion, ingenuity, and diversity of the nation to enable rapid expansion of clean, affordable, reliable and domestic wind and water power to promote national security, economic vitality and environmental quality. To find more information about the WWPTO, please visit the [Wind Power Program](#) and [Water Power Program](#) websites.

**Request for Information Guidelines:**

Purpose: The information collected by this RFI will be used for market baseline information and internal DOE planning. Interested parties to this RFI may include, but are not limited to MHK and hydropower:

- Developers (Technology and Project);
- Original Equipment Manufacturers (OEMs);
- State agencies;
- Research institutions;
- Manufacturers; and
- Suppliers

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The sole purpose of this Request for Information (RFI) is to gain public input regarding manufacturing challenges and opportunities to advance MHK and hydropower technologies.

**DISCLAIMER AND IMPORTANT NOTES:** This is an RFI issued solely for information and program planning purposes; this RFI does not constitute a formal solicitation for proposals or abstracts. Your response to this notice will be treated as information only. Responses to this notice are not offers and cannot be accepted by the Government to form a binding agreement. DOE will not reimburse costs incurred in responding to this RFI.

**PROPRIETARY INFORMATION:** Patentable ideas, trade secrets, proprietary or confidential commercial or financial information, may be included in responses to this RFI. The use and disclosure of such data may be restricted, provided the respondent includes the following legend on the first page of the response narrative and specifies the pages of the response which are to be restricted:

“The data contained in pages \_\_\_\_\_ of this response have been submitted in confidence and contain trade secrets or proprietary information, and such data shall be used or disclosed only for information and program planning purposes. This restriction does not limit the government’s right to use or disclose data obtained without restriction from any source, including the respondent, consistent with applicable law.”

However, DOE prefers all submissions to be free of business-sensitive, proprietary, or otherwise confidential information as it cannot guarantee such information can be withheld from disclosure under the Freedom of Information Act.

**RFI Guidelines:** This RFI does not constitute a solicitation for specific project proposals. Responses to the RFI will be treated as informational only and will not be viewed as a binding commitment for the respondent to develop or pursue the project or ideas discussed. This is not a Funding Opportunity Announcement (FOA) and DOE is not accepting applications for financial assistance or financial incentives under this RFI. DOE may or may not decide at a later date to issue a FOA or other type of solicitation based on consideration of the input received from this RFI, but there is no guarantee that future funding opportunities or other activities will be undertaken as a result of this RFI. Because information received in response to this RFI may be used to structure future funding opportunities and/or may otherwise be made available to the public, respondents are strongly advised to not include any information in their responses that might be considered business-sensitive, proprietary, or otherwise confidential. If, however, a respondent chooses to submit business-sensitive, proprietary, or otherwise confidential information, it must be clearly and conspicuously marked as such in the response pursuant to the instructions above.

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DOE will not reply to any respondent questions or contacts received after the closure of the submission period for this RFI. Respondents are advised that DOE is under no obligation to acknowledge receipt of the information received or provide feedback to respondents with respect to any information submitted under this RFI. Responses to this RFI do not bind DOE to any further actions related to this topic. DOE thanks you for your assistance and input.

**EVALUATION AND ADMINISTRATION BY FEDERAL AND NON-FEDERAL PERSONNEL:** The Government may seek the advice of qualified non-Federal personnel when assessing responses submitted to this RFI. The Government may also use non-Federal personnel to conduct routine, nondiscretionary administrative activities. The respondents, by submitting their response, consent to DOE providing their response to non-Federal parties for these purposes. Non-Federal parties given access to responses must be subject to an appropriate obligation of confidentiality prior to being given the access. Submissions may be reviewed by support contractors and private consultants.

**RFI Response Instructions:** Responses to this RFI must be submitted electronically to [WaterMfg@go.doe.gov](mailto:WaterMfg@go.doe.gov) by 5:00 PM Eastern Standard Time on July 12, 2013. Responses should include: cover page, 1 page executive summary, and up to a 5 page full response. Responses must be provided as attachments (in Microsoft Word or PDF Format) to an email. The subject line should read "Manufacturing barriers and opportunities for Water Technologies (insert name-organization)." One inch margins and 12 point font should be used. Please indicate the questions being addressed (e.g., Topic A.1. or Topic B.2.). Respondents are requested to include the following information in their responses to this RFI: Company/institutional name; individual contact (mailing address, phone number, e-mail address); facility location(s) (zip code); and area of expertise/interest. The WWPTO recognizes that all listed questions may not be applicable to all respondents, and respondents may provide responses to all or a portion of the RFI questions. WWPTO requests that respondents focus only on the questions for which they can provide concise information.

**Requested Information:** This RFI invites comments and suggestions on all aspects of manufacturing for MHK and hydropower technologies. Responses can address, but are not limited to, some or all of the questions and subject areas listed in the following table:

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## **Topic A: MHK**

#	Targeted Audience	Question(s) for Comment By Respondents:
1	All	In what way can the use of alternative/innovative materials or manufacturing processes have a significant impact on the LCOE of an MHK system?
2	All	What materials or manufacturing processes, either in an early R&D stage or developed for other applications, have been considered or investigated? How can DOE best facilitate the incorporation of cost reducing materials or manufacturing processes into the MHK industry?
3	Developers, manufacturers	What are the top 3 cost drivers of fabricating MHK system prototypes? What R&D related efforts can DOE support to help address these cost drivers?
4	Developers, manufacturers	What is the biggest technical challenge of fabricating MHK system prototypes? What related efforts can DOE support to assist the industry in overcoming these technical challenges?
5	Developers, suppliers, manufacturers, State development agencies	What is the biggest manufacturing barrier/challenge in reaching array-scale production of MHK technologies? What infrastructure is needed to support this array-scale production? How can DOE aid industry in achieving array-scale production?
6	Developers, manufacturers, suppliers	How can DOE facilitate engagement between MHK technology developers and manufacturers/suppliers from other industries that can offer expertise in production of marine structures and technologies?

## **Topic B: Hydropower**

#	Targeted Audience	Question(s) for Comment By Respondents:
1	All	What component(s) of a hydropower plant can contribute significant reductions to overall LCOE through the use of alternative/innovative materials or manufacturing processes?
2	All	What efforts have been undertaken to design turbines out of materials other than steel (e.g. alternative metals, carbon fiber, composites, etc.)?

3	All	What are the potential benefit and challenges of developing turbines using advanced materials and manufacturing techniques?
4	OEMs, developers	What are the specifications that a new turbine manufacturing process would have to meet in order to maintain long term performance and structural reliability?
5	OEMs, developers, research institutions, suppliers	What are the necessary material properties or characteristics that need to be considered in potential design specifications for turbines that may be manufactured using advanced materials and techniques?
6	Developers, research institutes, suppliers	What are the distinct stages of research and development needed to investigate alternative materials or techniques for manufacturing hydropower turbines? Please specify the likely cost and amount of time needed to complete each stage of design and testing to evaluate performance and reliability.
7	OEMs, developers	What are the specifications that new manufacturing processes for pressure pipelines and tunnel liners would have to meet in order to maintain industry-standards for long term performance and structural reliability?
8	OEMs, developers, research institutions, suppliers	What are the necessary material properties or characteristics that need to be considered in potential design specifications for pressure pipelines and tunnel liners that may be manufactured using advanced materials and techniques?
9	Developers, research institutes, suppliers	What are the distinct stages of research and development needed to investigate alternative materials or techniques for manufacturing hydropower pressure pipelines and tunnel liners? Please specify the likely cost and amount of time needed to complete each stage of design and testing to evaluate performance and reliability.