

Water Power Technologies Office (WPTO) Marine and Hydrokinetic

U.S. DEPARTMENT OF
ENERGY

Energy Efficiency &
Renewable Energy



Overview of Environmental Monitoring Instrumentation

February 15, 2017

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Session Overview

Environmental Monitoring Instrumentation: Extensive environmental monitoring is often required as conditions for licensing and can be time intensive and costly. These projects focus on creating instrumentation designed to efficiently monitor around MHK devices, provide the relevant data needed to address environmental concerns and reduce time and cost associated with data collection and analysis.

The Challenge: Traditional oceanic and aquatic monitoring technologies are not designed to function optimally in high energy, low light environments where MHK devices would be located. Additionally, data collection and processing is costly and time consuming.

2014 Peer Review and Response: All new work started after the last peer review

Program Strategic Priorities

Technology Maturity

- Test and demonstrate prototypes
- Develop cost effective approaches for installation, grid integration, operations and maintenance
- Conduct R&D for Innovative MHK systems & components
- Develop tools to optimize device and array performance and reliability
- Develop and apply quantitative metrics to advance MHK technologies

Deployment Barriers

- Identify potential improvements to regulatory processes and requirements
- Support research focused on retiring or mitigating environmental risks and reducing costs
- Build awareness of MHK technologies
- Ensure MHK interests are considered in coastal and marine planning processes
- Evaluate deployment infrastructure needs and possible approaches to bridge gaps

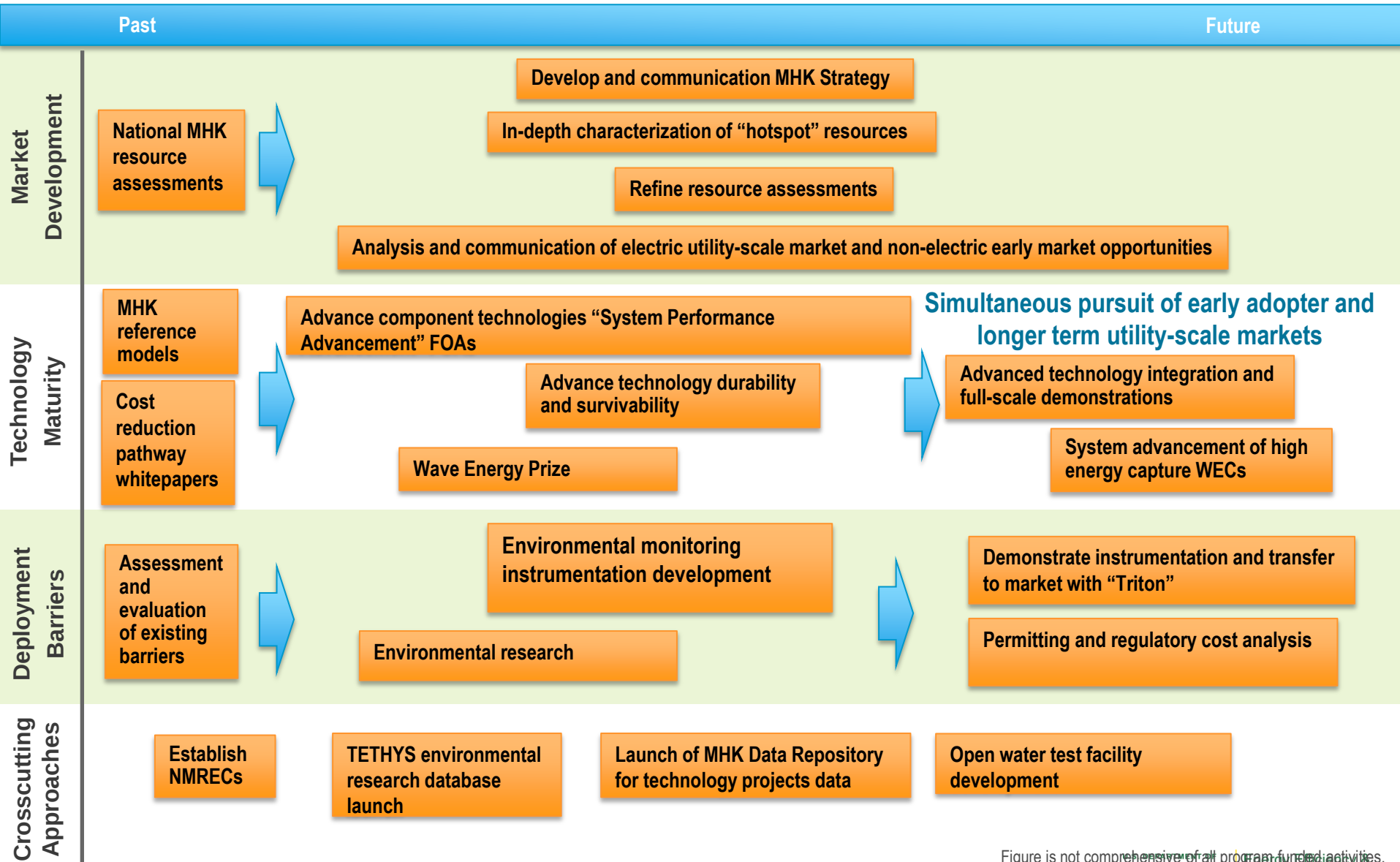
Market Development

- Support project demonstrations to reduce risk and build investor confidence
- Assess and communicate potential MHK market opportunities, including off-grid and non-electric
- Inform incentives and policy measures
- Develop, maintain and communicate our national strategy
- Support development of standards
- Expand MHK technical and research community

Crosscutting Approaches

- Enable access to testing facilities that help accelerate the pace of technology development
- Improve resource characterization to optimize technologies, reduce deployment risks and identify promising markets
- Exchange of data information and expertise

MHK Phase I/Phase II *Timeline of Initiatives*



Timeline

