Growth Track Projects

- Improve Technology Costs and Performance (17 projects)
- Develop Environmentally Sustainable Hydropower (2 projects)
Optimization
- Optimize technical, environmental, and water-use efficiency of existing fleet
- Collect and disseminate data on new and existing assets
- Facilitate interagency collaboration to increase regulatory process efficiency
- Identify revenue streams for ancillary services

Growth
- Lower costs of hydropower components and civil works
- Increase power train efficiency for low-head, variable flow applications
- Facilitate mechanisms for testing and advancing new hydropower systems and components
- Reduce costs and deployment timelines of new PSH plants
- Prepare the incoming hydropower workforce

Sustainability
- Design new hydropower systems that minimize or avoid environmental impacts
- Support development of new fish passage technologies and approaches
- Develop technologies, tools, and strategies to evaluate and address environmental impacts
- Increase resilience to climate change
Recent Accomplishments:

- **September 2015:** $6.5 million awarded to seven organizations to advance the manufacturing and installation of low-environmental-impact hydropower technologies.
- **July 2016:** Published a long-range national *Hydropower Vision* report to establish the analytical basis for a new era of growth in sustainable domestic hydropower over the next half century.

Future Initiatives:

- Results of an FY 2016 test facility feasibility effort will be leveraged to initiate work on location, design, and cost estimate of a Federal Hydropower Test Site.
- Six organizations will begin work to develop innovative technologies that reduce capital costs and deployment timelines for pumped-storage hydropower and non-powered dams.
- Continuation of 3-year project to define a new class of standard and modular hydropower technology that will deploy at significantly reduced cost, with smaller physical and environmental footprint.

Young’s Creek Hydro Project in Washington State, 2011 (7.5MW)
Agenda - Tuesday, February 14

- Modular Pumped Storage Hydropower Feasibility and Economic Analysis - Boualem Hadjerioua, ORNL
- Standard Modular Hydropower (SMH) - Brennan Smith, ORNL
- Hydro Research Foundation University Research Awards Program - Brenna Vaughn, Hydro Research Foundation

LUNCH

- The 45 Mile Hydroelectric Project - Jim Gordon, Earth by Design, Inc.
- SLH100 Demonstration Project at Monroe Hydro - Abe Schneider, Natel Energy, Inc.
- Demonstration of Variable Speed Permanent Magnet Generator at Small, Low-Head Hydro Site - David Brown Kinloch, Weisenberger Mills, Inc.
- Demonstration of a New Low-Head Hydropower Unit - Wayne Krouse, Hydro Green Energy, LLC
- South Fork Powerhouse Project - David Hanson, Sacramento Municipal Utility District
- Harnessing the Hydroelectric Potential of Engineered Drops - Jerry Straalsund, Percheron Power, LLC

BREAK

- Cellular Cofferdam for Hydropower Use - Marte Gutierrez, Trustees of the Colorado School of Mines
- Cement Changes and Solutions to the Industry - Todd Sirotiak, North Dakota State University
- Optimized Composite Prototype for Archimedes Turbine Manufacture - Jerry Straalsund, Percheron Power, LLC
- The Design and Development of a Composite Hydropower Turbine Runner - Pat Hipp, Composite Technology Development, Inc.
Agenda - Wednesday, February 15

- Modular Low-Head Hydropower System - David Duquette, Littoral Power Systems, Inc.
- French Modular Impoundment - Bill French, French Development Enterprises, LLC
- Cost-Optimization Modular Helical Rotor Turbine-Generator System for Small Hydro Power Plants - David Yee, Eaton Corporation
- Rapidly Deployable Advanced Integrated Low Head Hydropower Turbine Prototype - Arnie Fontaine, Pennsylvania State University

BREAK

- Magnetic Gears for Hydropower Drivetrains - Emily Morris, Emrgy, Inc.