SMART Wind Manufacturing Forum

Developing a Consensus-Based Sustainable Manufacturing, Advanced Research & Technology Roadmap for Distributed Wind

September 30, 2015
Sacramento, CA
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SMART Wind Roadmap Contents

Foreword: Roadmap to Reach 30 GW by 2030 Vision

Executive Summary

Chapter 1: Introduction Rationale on importance of document

Chapter 2: State of Distributed Wind Turbine Industry & Market Opportunities Baselines & benchmarks, growth potential, project’s market impact-LCOE goal

Chapter 3: SMART Wind Consortium Overview Domestic content, subgroups, participants

Chapter 4: Distributed Wind Turbine Technology, Manufacturing Opportunities & Actions Technology & manufacturing barriers & actions, soft cost barriers & opportunities, summary of prioritized actions

Chapter 5: Research and Partnering Opportunities & Actions U.S. DOC, DOE, Research & Testing Laboratories, Universities & Technical Colleges, State Agencies

Chapter 6: Action Plan to Address Industry Barriers Increase global sales, OEM profitability, US manufacturing & jobs

Chapter 7: Strategy Summary and Conclusions Key recommendations, next steps, DWEA Sustainability Plan

References, Appendices Baseline & benchmark info, agendas, Consortium directory
Key Roadmap discussion items

Aggregated Bill of Materials (% Cost by Subgroup)

Figure 2-3. Aggregated BOM for SMART Wind OEMs
U.S. distributed wind global supply chain

Figure 2-5. Known locations of component suppliers
Key Benchmark: Cost Reduction Targets

DWEA 2025 targets:
$3.20-$4.50/Watt installed,
>35% avg capacity factors,
LCOEs of 7¢-10¢ per kWh

SMART Wind’s impact:
Substantially reduce LCOE of within next 5-10 years,
achieving parity with U.S. retail electricity grid rates in more markets

Figure 2-7. LCOE and IRR selected DW Policy Tool baseline results as of Fall 2015
Next Steps: Sustaining SMART Wind Collaboration

SMART Wind Consortium Development and Transition to DWEA Standing Committee

- **Subgroup Meetings (face-to-face)**
- **OEM Steering Group & Subgroup Virtual Meetings**
  - 2-4x per year
- **Sustainability Plan, Commitment Letters & Board Resolutions (deliverables)**
  - Annual January DWEA Board Retreats: Strategic Planning
  - October Annual Membership Appeals

SMART Wind Technology Roadmap Development and Implementation

- **Develop Draft Roadmap (Ch 1-5)**
- **Finalize Roadmap (Ch 6 & Actions)**
- **Review & Online Prioritization**
  - Final comments due
- **Roadmap Production & Dissemination**
  - Rank action plans & opportunities
- **Roadmap Implementation & Updates**
  - Final Report to NIST

- **Consortium Launch; Mechanical Systems; Composites; Electrical Systems; Support Structures**
- **Develop near-term and mid-term strategies and actions to increase cost competitiveness and productivity; decrease installation costs while maintaining safety**
SMART Wind Consortium Virtual Meetings

Mark your calendar for upcoming monthly SMART Wind virtual meetings
Next in series: 2:30 pm ET Wednesday, October 28

- Tower & Foundation Design (Nov 18, 2015)
- Condition/Health Monitoring (Jan 2015)
- Rare Earth Magnets in Distributed Wind (April 2015)
- Composite Materials & Process Opportunities (July 2015)
- Inverters & Variable Frequency Drives (August 2015)
- Reducing Installation Costs (May 2015)
- PEIC & SMART Wind Collaboration (June 2015)

Final SMART Wind Manufacturing Roadmap & Next Steps meeting in conjunction with Distributed Wind 2016 Feb 23-25 in Washington, DC

Register at www.distributedwind.org/smart-wind-consortium
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