Competitiveness Improvement Project

• Funder: U.S. Department of Energy/National Renewable Energy Laboratory (NREL) via competitive solicitation process
• Purpose: expand and revitalize U.S. leadership in domestic and international distributed wind turbine market sector
• Approach: assist U.S. manufacturers in lowering levelized cost of energy (LCOE)
• Eligible projects: component improvement, manufacturing process improvement, prototype turbine testing, and certification turbine testing.

Bergey Excel 10, 10-kW turbine, Klickitat County, WA
Photo by Gwen Bassetti, NREL 26429
Criteria – Component Improvement

- U.S. manufacturer
- Maximum 1,000-m² rotor swept area
- 18-month period of performance

Merits
- Evidence that improvements will result in turbine certification
- Evidence that investment will contribute to LCOE reduction
- Sound business plan for certification for U.S. market
- Team/expertise

Cost sharing
- Minimum 20%
- Maximum $350,000 from NREL

Other requirements
- Figure of merit: LCOE before and after
- Eligibility verification (U.S. manufacturer).
Criteria – Manufacturing Process Improvement

- U.S. manufacturer
- Maximum 1,000-m² rotor swept area
- 18-month period of performance

Merits
- Evidence that improvements will result in turbine certification
- Evidence that investment will contribute to LCOE reduction
- Sound business plan for certification for U.S. market
- Team/expertise

Cost sharing
- Minimum 50%
- Maximum $350,000 from NREL

Other requirements
- Figure of merit: LCOE before and after
- Eligibility verification (U.S. manufacturer)
Criteria – Prototype Testing

- U.S. manufacturer
- Maximum 1,000-m² rotor swept area
- 18-month period of performance

Merits
- Technical approach
- Test plan
- Expertise

Cost sharing
- Minimum 50%
- Maximum $150,000 from NREL

Other requirements
- Figure of merit: LCOE before and after
- Eligibility verification (U.S. manufacturer)
- Documentation requirements for testing facility.
Criteria – Certification Testing

- U.S. manufacturer
- Maximum 1,000-m² rotor swept area
- 18-month period of performance

Merits
- Evidence that turbine system is likely to comprise significant share of small wind market in United States
- Capabilities to manufacture and supply turbine system in U.S. market AND to provide associated installation and maintenance support
- Sound business plan leading to certification of turbine for U.S. market
- Team/expertise

Cost sharing
- Minimum 20%
- Maximum $150,000 from NREL

Other requirements
- Figure of merit: LCOE before and after
- Eligibility verification (U.S. manufacturer)
- Documentation requirements for testing facility.
Awardees – Round 1

- Solicitation released September 2012
- Numerous proposals received
- Two funded
  - Bergey Windpower Company (component improvement)
  - Pika Energy (manufacturing process improvement).

Bergey 10-kW turbine in Goldendale, WA
Photo from Gwen Bassett, NREL 26431

Pika T701 turbine in Gorman, ME
Photo from Nathan Broaddus, NREL (top) 30092 and (bottom) 30094
Awardees – Round 2

- Solicitation released September 2013
- Numerous proposals received
- Three funded
  - Endurance Wind Power (prototype testing)
  - Pika Energy (component improvement)
  - Pika Energy (manufacturing process improvement)
  - Others under negotiation.

Endurance E3120 turbine; 50-kW turbine, Appleton, WI
Photo from Kettle View Renewable Energy, LLC, NREL 28428
Next Steps

• Round 1:
  o Pika Energy completed June 2014
  o Bergey Windpower Company – extend period of performance until February 2015

• Round 2:
  o Awardees under contract to date beginning work
  o Execute remaining contracts and begin work

• Round 3:
  o Release competitive solicitation
  o Goal: Fund as many awardees deemed competitive as budget allows.