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## FACILITATING THE TRANSITION FROM PROTOTYPES TO COMMERCIALY DEPLOYABLE PRODUCTS

### The Challenge

Feedback from the participants at the first three AEMC Partnership dialogues—coupled with an extensive literature review performed by the Council and EERE—defined a resource gap that inhibits promising new technologies in the pilot-line phase from reaching manufacturing at scale. This gap marks the second valley of death in the technology innovation cycle, often referred to as the scale-up valley of death. Without manufacturing innovation infrastructure—including human capital—and funding to scale production of a new technology, pilot-lines often fail to make the transition to a commercially deployable product.

### The Response

To allow for the increased introduction of commercially deployable products, this PPP will work toward two over-arching objectives.

1. Support the transition of prototypes at pilot-scale to commercially deployable products through an industry guided, high profile, competitive process.
  - The Executive Committee will identify broad technical areas where they have need for a commercial product or supplier, or where they would be interested in investing. The technical areas identified by the Executive Committee will be the categories for a “scale-up stage” competition. Technologies that have been proven at the pilot production stage and are transitioning to commercial-scale manufacturing will be eligible to compete.
  - The Executive Committee will issue a Request for Proposals (RFP) for the solicitation of promising pilot-scale technologies ready for manufacturing scale-up that will benefit from access to product/process design expertise and funding. The winner(s) of the competition will be the organization(s) that have the technology that best meets the needs of the founding partners—as judged by the Executive Committee. The winner(s) will be awarded a commitment from the founding partners to provide a path to commercialization by providing funding and assistance from a “Tiger Team” comprised of experts who can assist the company’s scale-up efforts with technical and business consultations.

2. Share up-to-date and relevant information on resources available for helping companies scale their technologies to manufacturing stages through a publicly accessible website.

## **Establishment**

The DOE will issue a Request for Information (RFI) and conduct appropriate internal surveys to understand and gauge interest in technology, applications, or sectors of interest.

Through a competitive bidding process, the Department of Energy will select one proposal from a group of partners to become the founding members of this PPP. Additional partners of the PPP could be added at a later stage.

## **Value Proposition**

### **Founding Members**

- Define the problems advertised in the RFPs, allowing founding members to potentially diversify their supplier base while simultaneously creating increased competition in their supply chain—driving further improvements in the supply chain;
- Access to the best and brightest entrepreneurs in the U.S. clean technology arena;
- Access to technologies ready for scale-up and deemed worthy to compete on a global scale—having built due diligence into the program;
- Significant risk reduction to mass-manufacture technologies of strategic interest to founding members;
- Ability to leverage federal dollars to evaluate exciting and potentially scalable technologies; and
- Early access to licensing, partnering, and/or acquisition deals.

### **General Members**

- Technologists in start-up companies, SMEs, universities, and national laboratories can earn access to technical, management, and financial resources to develop prototypes into mass-manufactured products and be connected to buyers to provide the capital infusion needed to scale production; and
- Entrepreneurs, SMEs, universities, and other entities can identify early-on the needs of potential customers and potential strategic investors and orient their innovation and efforts toward industry-relevant needs.

### **U.S. Department of Energy**

- Create high-quality enduring jobs for Americans in the clean technology industry;
- Assist technologies fostered by DOE-funded programs enter the marketplace;
- Create a network of American entrepreneurs, start-ups and volume manufacturers to catalyze the birth of new industries; and
- Help America compete in the global race to develop large profitable clean energy technology companies by increasing the likelihood that technologies will be manufactured in the United States.