

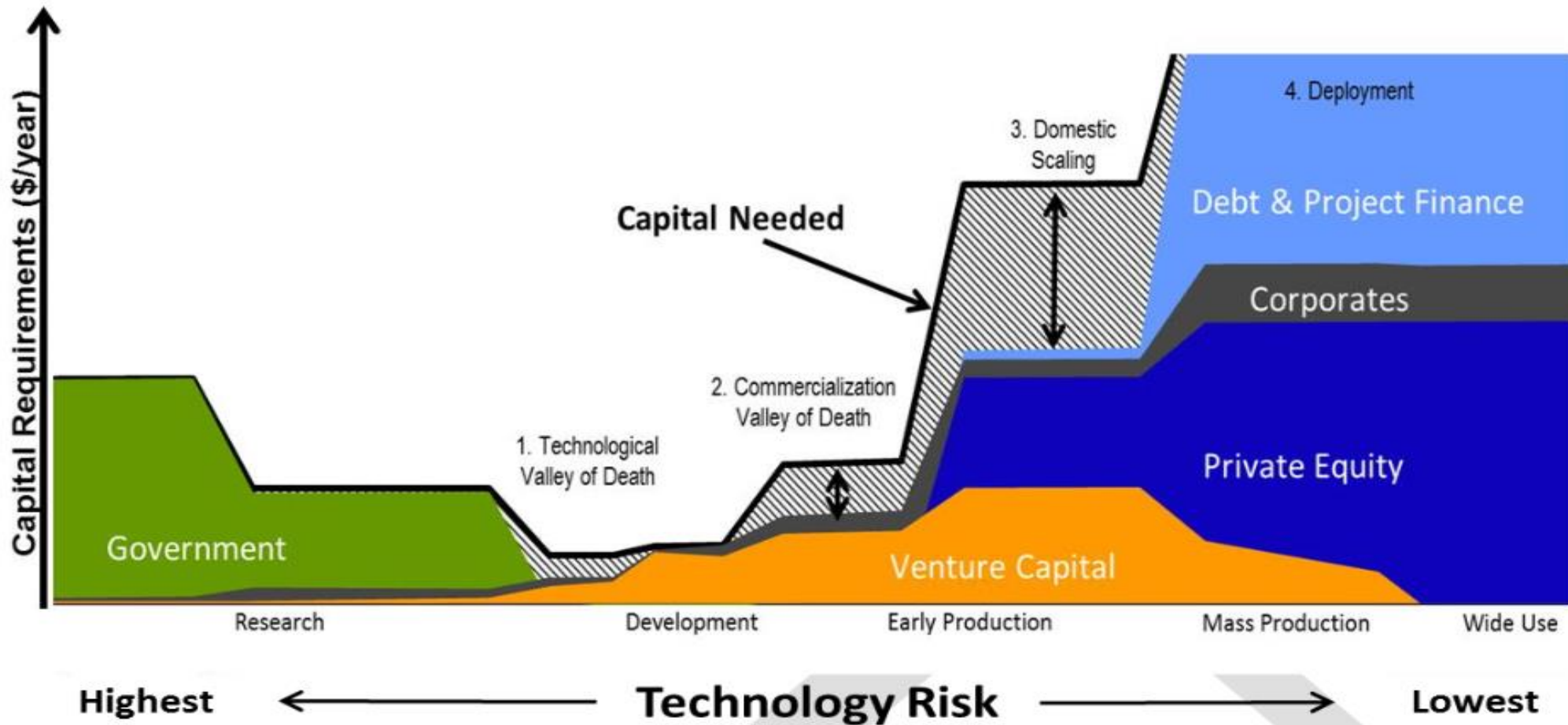
IEA Global Technology Roadmap for Iron and Steel

AISI Development of Innovative Sustainable Technologies

March 29, 2019

Paris, France

Technology Development: Risk and Capital



U.S. Department of Energy's Advanced Manufacturing Office Multi-Year Program Plan for FY 2017-2021, Draft. Figure 2.3, Pg 13

EERE/AMO: Vision, Mission and Goals

EERE Strategic Plan Goals

- Improve the Energy Efficiency of Our Homes, Buildings, and Industries (#3)
- Stimulate the Growth of a Thriving Domestic Clean Energy Manufacturing Industry (#4)

AMO Vision and Mission

Vision: U.S. global leadership in sustainable and efficient manufacturing for a growing and competitive economy.

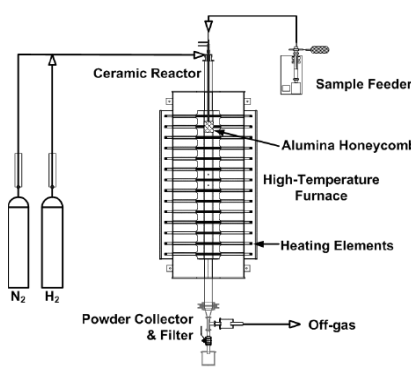


Mission: Catalyze research, development and adoption of energy-related advanced manufacturing technologies and practices to drive U.S. economic competitiveness and energy productivity.

AMO Strategic Goals

- Improve the productivity and energy efficiency of U.S. manufacturing
- Reduce lifecycle energy and resource impacts of manufactured goods
- Leverage diverse domestic energy resources in U.S. manufacturing, while strengthening environmental stewardship
- Transition DOE supported innovative technologies and practices into U.S. manufacturing capabilities
- Strengthen and advance the U.S. manufacturing workforce

U.S. Department of Energy's Advanced Manufacturing Office Multi-Year Program Plan for FY 2017-2021, Draft. Figure 2.8, Pg 30

Novel Flash Ironmaking: Project Phases

Project Objectives	Kinetic Feasibility Technology Road Map (2005-2007)	Proof of Concept at Lab Scale AISI CO ₂ Breakthrough (2008-2011)	Process Validation/ Scale-up Innovative Manufacturing Initiative (2012-2018)	Industrial Pilot TBD (2018+)
Experimental Apparatuses				<p>~3,000 tpy Continuous</p>
Funding	Total, \$500k	Total, \$4.8M	Total, \$11M	~\$35M Funding TBD

Thank You / For More Information

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