



ARPA-E/ASD(R&E) Hybrid Energy Storage Module (HESM) Technology Workshop Introduction

19 May 2011

**Mr. Donald Hoffman
DoD Program Manager**

**Mr. Mark Johnson
ARPA-E Program Manager**

Arun Majumdar – Director ARPA-E

Sharon Burke – ASD (OEPP)
Al Shaffer – ASD (R&E)

IPT Members

Mark Johnson ARPA-E IPT Lead

- ARPA-E
- ASD (R&E)
- ASD (OEPP)

Don Hoffman DoD IPT Lead

- Air Force (AFRLWP, AFRL Tyndall)
- Army (ARL, TARDEC)
- Navy (ONR, NSWC)

GAO

Industries

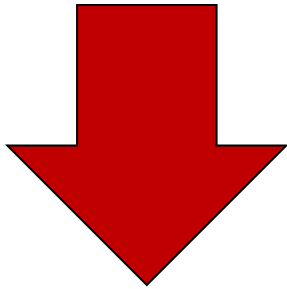
Large Companies
Small Businesses

Universities

National Labs

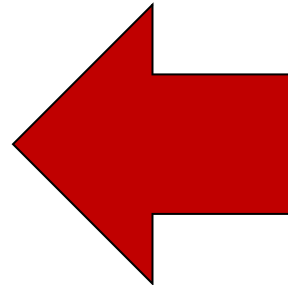
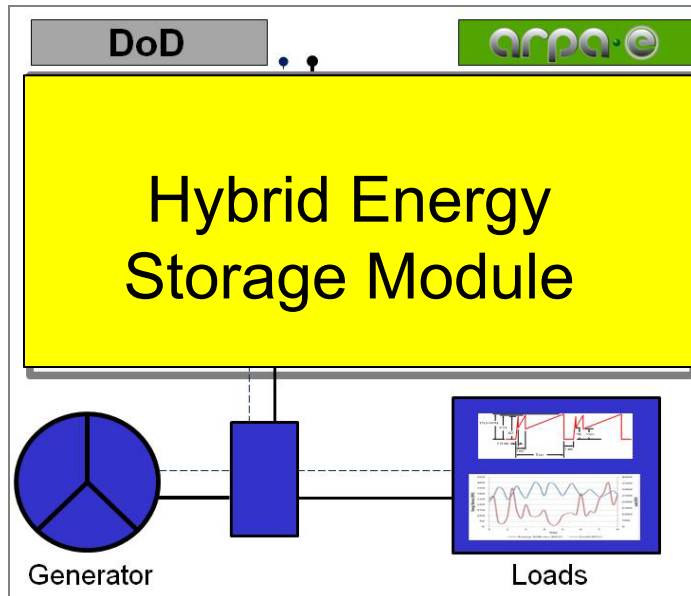
Non-Government R&D

**Application
Systems Perspectives**



With Input from Technical Community

- **Develop Possible Systems Approaches**
- **Identify New Technology Opportunities**
- **High Light Technology Gaps**



**Enabling Technology
Perspectives**

Time	Title	Presenter
0815	Registration and Continental Breakfast / Coffee	
0900	Introduction	Don Hoffman (DoD) & Mark Johnson (ARPA-E)
0915	ARPA-E Remarks	Dr Arun Majumdar (Director of ARPA-E)
0930	OSD Remarks	Ms. Sharon Burke, ASD (OEPP)
0945	Hybrid Energy Storage Overview	Mark Johnson (ARPA-E)
1015	Break	
1030	HESM Applications	John Heinzel (HESM IPT)
1100	Energy Dense Storage	Mike Perry (UTRC)
1130	Power Dense Storage	Matt Lazarewicz (Beacon Power)
1200	Lunch	
1245	Power Electronics	Pat Hayes (ABB)
1315	Control Systems	Darrell Massie (IPERC)
1345	Commercial Certification	Greg Monty (UL)
1415	Break	
1430	Open Discussion <ul style="list-style-type: none"> Application Requirements & Opportunities 	Facilitators: Jack Price - ASD(R&E) Jillyn Alban - ASD(R&E)
1700	Report – Out on Breakout Discussion	
1730	Wrap Up & Final Words	Don Hoffman (DoD) & Mark Johnson (ARPA-E)



Time	Title	Presenter
0900	Introduction	Don Hoffman (DoD) & Mark Johnson (ARPA-E)
0915	Open Discussion <ul style="list-style-type: none">Technology Needs & Gaps	Facilitators Dave Danielson (ARPA-E) Rajeev Ram (ARPA-E)
1130	Lunch	
1215	Breakout Group Report	
1315	Wrap Up & Final Words	Don Hoffman (DoD) & Mark Johnson (ARPA-E)
1330	End of Workshop	
1330	One on One with HESM Program Managers	