



www.advancedenergy.org

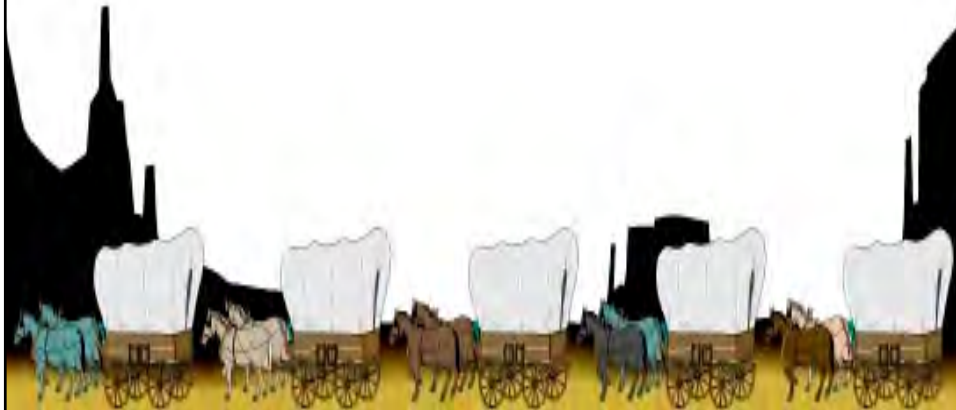


► worm·hole (wûrm' hol)

Physics. A theoretical distortion of space-time in a region of the universe that would link one location or time with another, through a path that is shorter in distance or duration than would otherwise be expected.

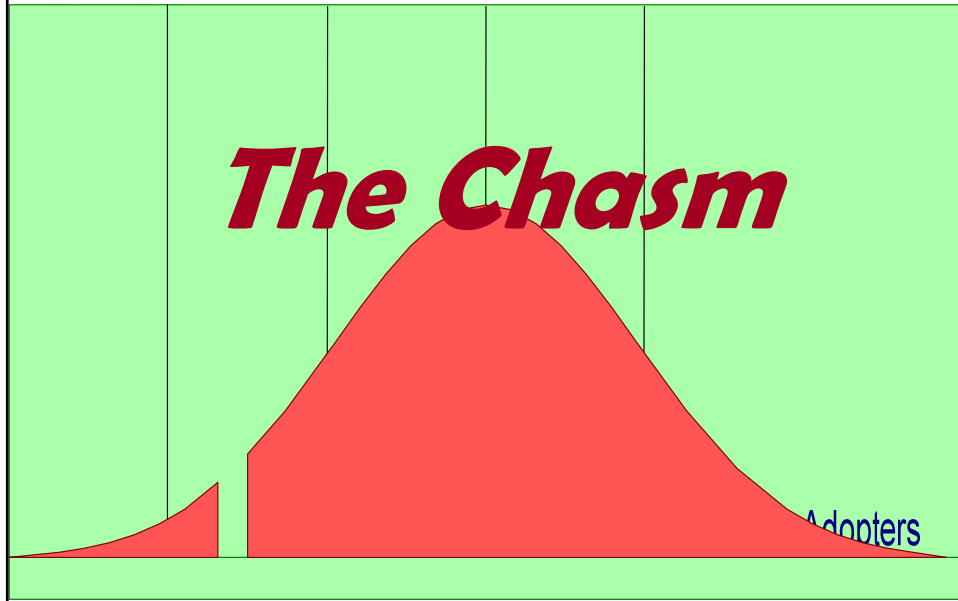
Advanced Energy A distortion of **technology-market** whereby the market adoption of technology occurs by a means that is shorter in duration or lower in cost than would otherwise be expected.

The Valley of Death





▶ The Marketer's Analogy



Early
Majority



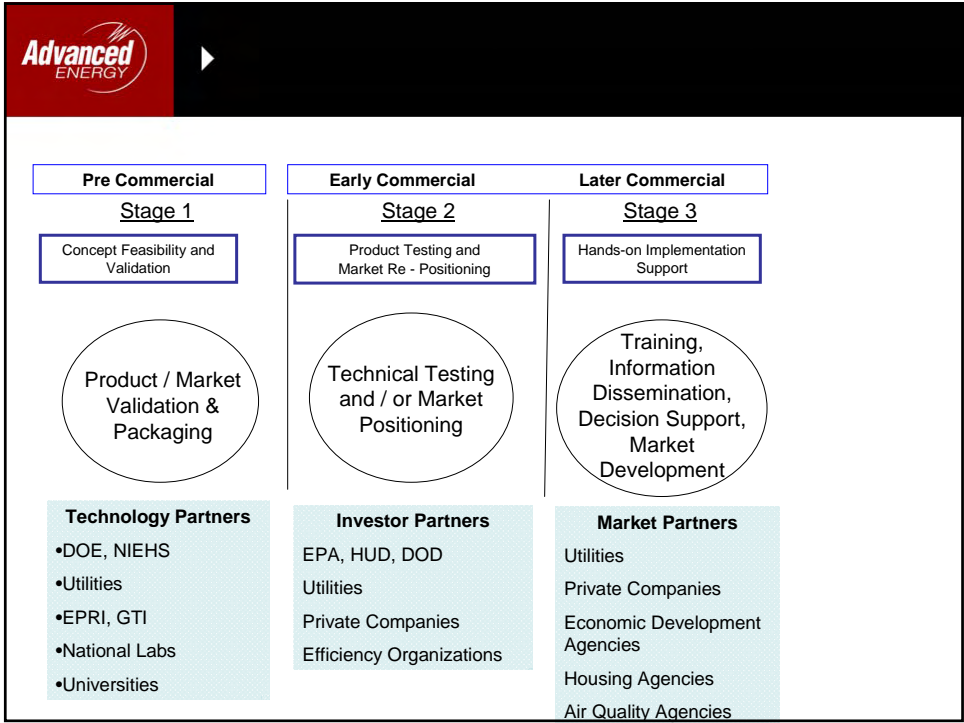
▶ Wormhole A much more positive analogy

There is nothing more difficult to take in hand,
more perilous to conduct, or more
uncertain in its success,

than to take the lead in
the introduction of a new order of things.

“The Prince,” Niccofo Machiavelli 1469-1527

Technology Ad





▶ Plug-in Hybrid School Bus Locations



<http://www.hybridschoolbus.org/>



▶ Project Plan

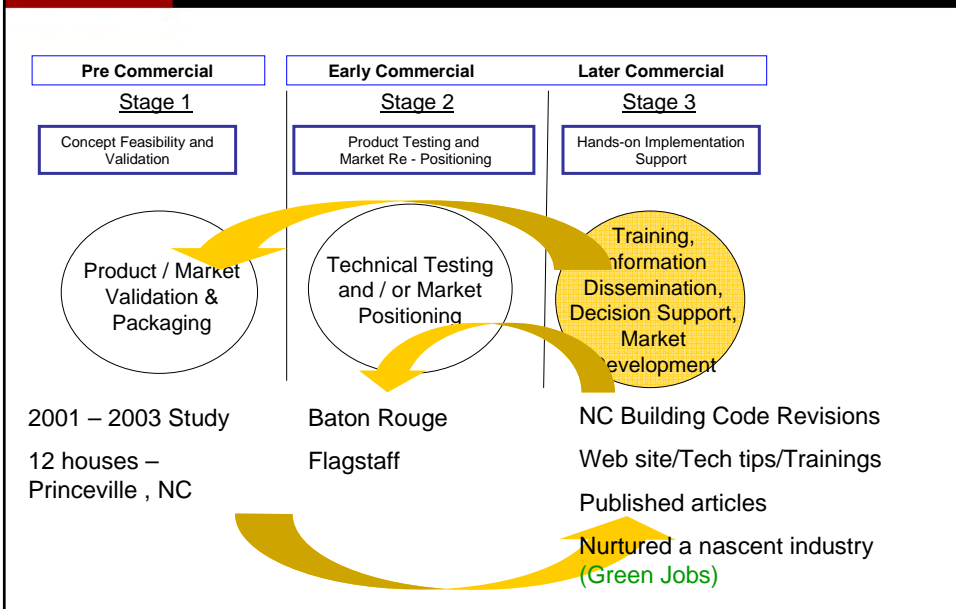
- ▶ Phase 1 (Completed 2005) - Computer Modeling & Feasibility Study
- ▶ Phase 2a (2006-2009) – Individual Bus Purchases & Monitoring
 - Assemble buyers consortium (10+% of market place) & Issue RFP
 - Assist buyers to put together funding
 - Monitor buses
- ▶ Phase 2b (2008 - 2011) – Early Fleet Purchases
 - Working now on a 200-300 bus purchase
- ▶ Phase 3 (2010 and beyond) – Broad Market Adoption
 - 5% market share
 - At least 2 of the 3 major manufacturers offering plug-in hybrid buses



▶ Closed Crawl Spaces

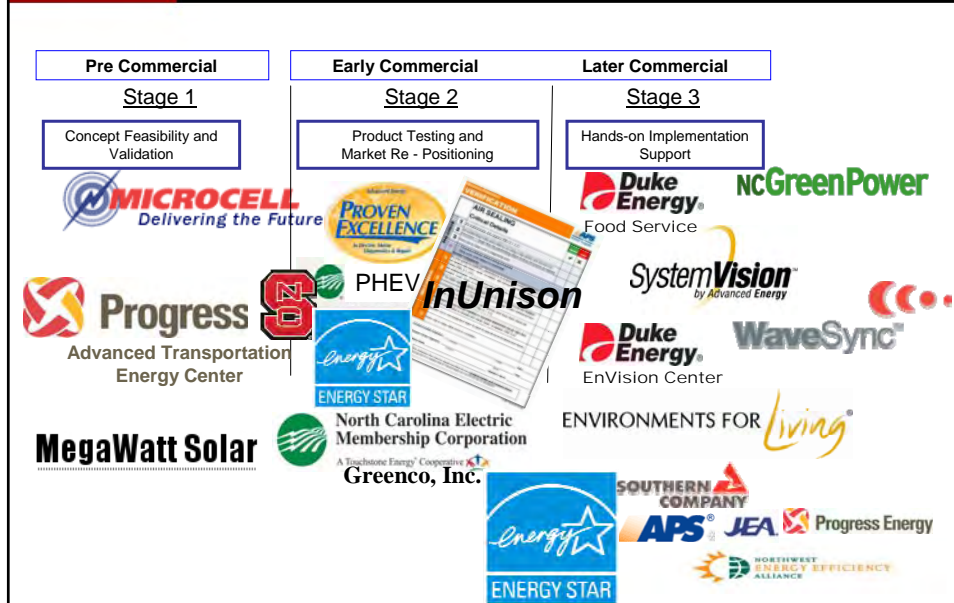


▶ Closed Crawl Spaces





▶ Additional Wormhole Activities



▶ Elements of Success

- ▶ Technology AND Market knowledge
 - > Good at identifying near-to-market technologies
 - > Understand the supply chain (who has greatest influence)
 - > Create value (hint: it is seldom energy savings)
- ▶ Prolonged presence
 - > Working across the continuum can take years
 - > Getting paid can be difficult; funding sources often limited to a single stage of the wormhole
 - > Requires lots of relationships

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