



The Evolution of Industrial Energy Efficiency Technology Deployment

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ACEEE

American Council for an Energy-Efficient Economy (ACEEE)

- ACEEE is a nonprofit 501(c)(3) that acts as a catalyst to advance energy efficiency policies, programs, technologies, investments & behaviors.
- 40+ staff in DC, DE, MI, WA & WI
- Focus on end-use efficiency in industry, buildings, utilities & transportation
- Other research in economic analysis; behavior; national, state & local policy.
- Funding:
 - Foundations (34%)
 - Federal & State Grants (7%)
 - Specific Contract Work (21%)
 - Conferences and Publications (34%)
 - Contributions and Other (4%)



Outlook for North American Manufacturing



Mostly positive outlook:

- U.S. recovering faster than Europe & Japan
- Manufacturing has lead the overall economic economy
- Demand driven in part by increased exports

Clouds on the horizon:

- Continued softening of U.S. & global economy
- Demand for manufactured good remains soft
- Political challenges in U.S. & Europe—shift to austerity & political gridlock

Reshoring

“Sometime around 2015, manufacturers will be indifferent between locating in America or China for production for consumption in America,” Hal Sirkin of **BCG**



The Economist

BCG Reports that :

- Factory worker pay in China soared 69% between 2005 and 2010
- Labor is a small and diminishing fraction of total costs
- Complex supply chains turn out too risky & expensive
- Reshoring could cut U.S. merchandise trade deficit with rest of world ~\$100bn by 2020

Carlyle Group & others betting on U.S. Manufacturing

Manufacturing Area for Bipartisan Policy Action

White House Manufacturing Executive Order:

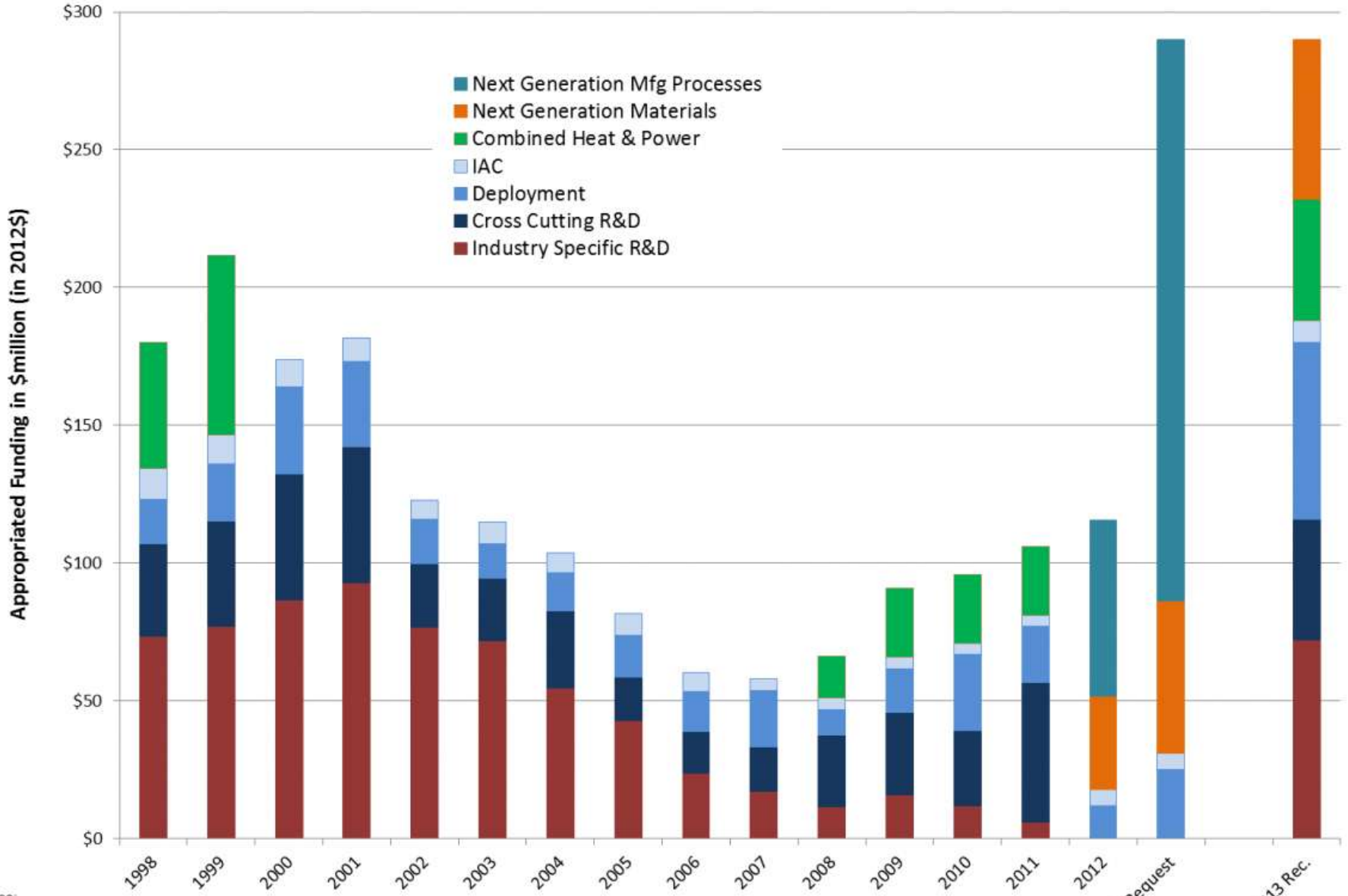
- Promote investment in manufacturing
- Focus on states
- Coordinates & leverages federal resources to support state efforts
- Leverage utility capital & programs to support industrial modernization & investment in CHP

Manufacturing legislation passed in December & additional bills poised for introduction

Importance of Research & Investment

- Competitiveness & efficiency linked to vintage of capacity
- Need new technologies in the pipeline for today AND tomorrow
- Key to success is application of technologies in specific industries
- DOE Industrial program was among most successful government funded programs—balance of near & long-term R&D with deployment tools

DOE Advanced Manufacturing Office Budget Requests and Appropriations



Notes:

- Known as Industrial Technologies Program prior to restructuring in 2012
- CHP activities were active under other programs from 2000 through 2007
- 2009 Recovery Act funds not included
- IAC is a subset of deployment; 2012 and later values are estimates

Fiscal Year

AMMEX 2013 Rec.

Leadership Shifting to States

- Allows offerings to be targeted to local industries—enabling partnerships that leverage local resources
- Public benefit programs offer stable & growing funding base
- Industrial EE among least-cost resources—help keep energy affordable to ALL customers

2010 Industrial Program Spending

	Spending (rounded)	Percent (actual)
Federal	\$149,000,000	14.32%
State	\$75,000,000	7.22%
Utilities/PBF	\$776,000,000	74.66%
Other/Non-Prof	\$39,000,000	3.88%
Total	\$1,039,000,000	
ARRA	\$109,000,000	additional (2010 est.)

Source: ACEEE 2012

Challenges Facing Industrial Technology Deployment

- Future will be increasingly about knowledge and less about capital assets
- Need to focus more on supply chains—
an increased focus on SMEs required
- Need to develop means of sharing information among partners/competitors

Deployment will Require Partnership

- Companies' success will depend upon their market partners
- Success will depend upon infrastructure:
 - resources,
 - transportation,
 - workforce,
 - innovation,
 - communications & protocols for sharing information
- We will need facilitators for these partnerships—a key role for the states

States Positioned to Lead

- Positioned near to manufacturers—understand the local challenges & local firms
- States will have more resources than federal governments in the near future
- Manufacturing technology deployment aligned with states' interest
 - Environmental policies—affordable clean environment
 - Utility policies—affordable reliable power
 - Economic development—expand manufacturing base
- Leverage local resources

Conclusions

- U.S. becoming low-cost materials manufacturing country
- Manufacturing poised for modernization
- Non-conventional gas & oil key driver
- Program focus shifting to the states
- States need to assume leadership if opportunities are to be fully realized

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