



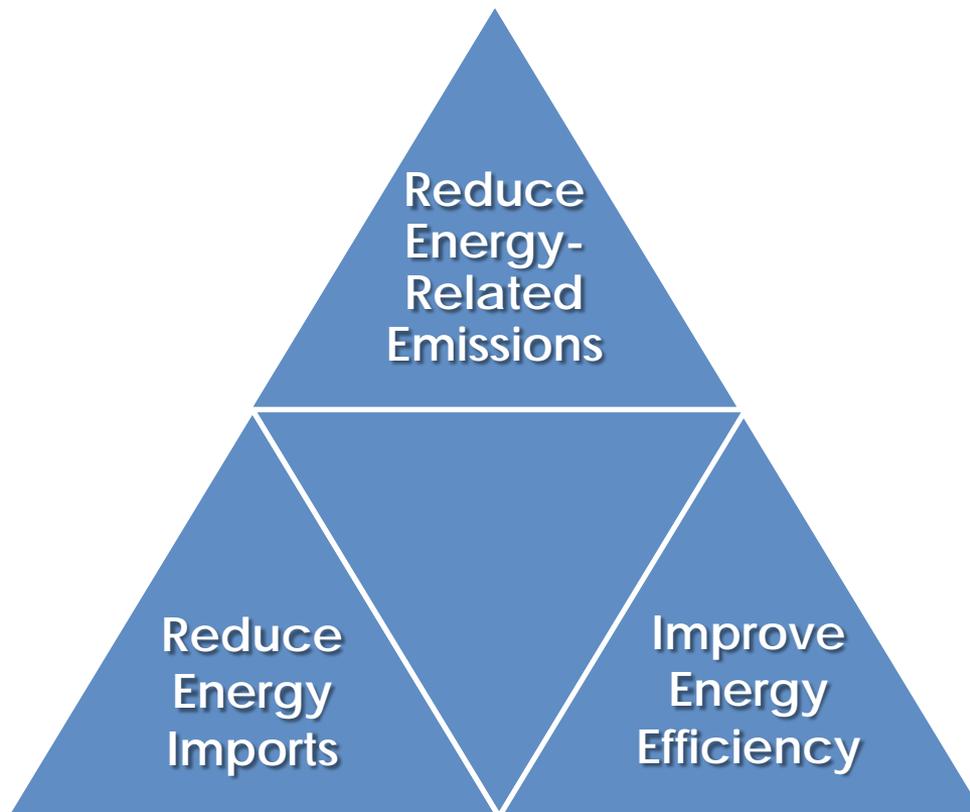
Catalyzing Energy Breakthroughs for a Secure American Future

**Biological Technologies for
Methane-to-Liquid Fuels Workshop**
Wednesday, December 5, 2012

Dr. Eric Toone, Principal Deputy Director

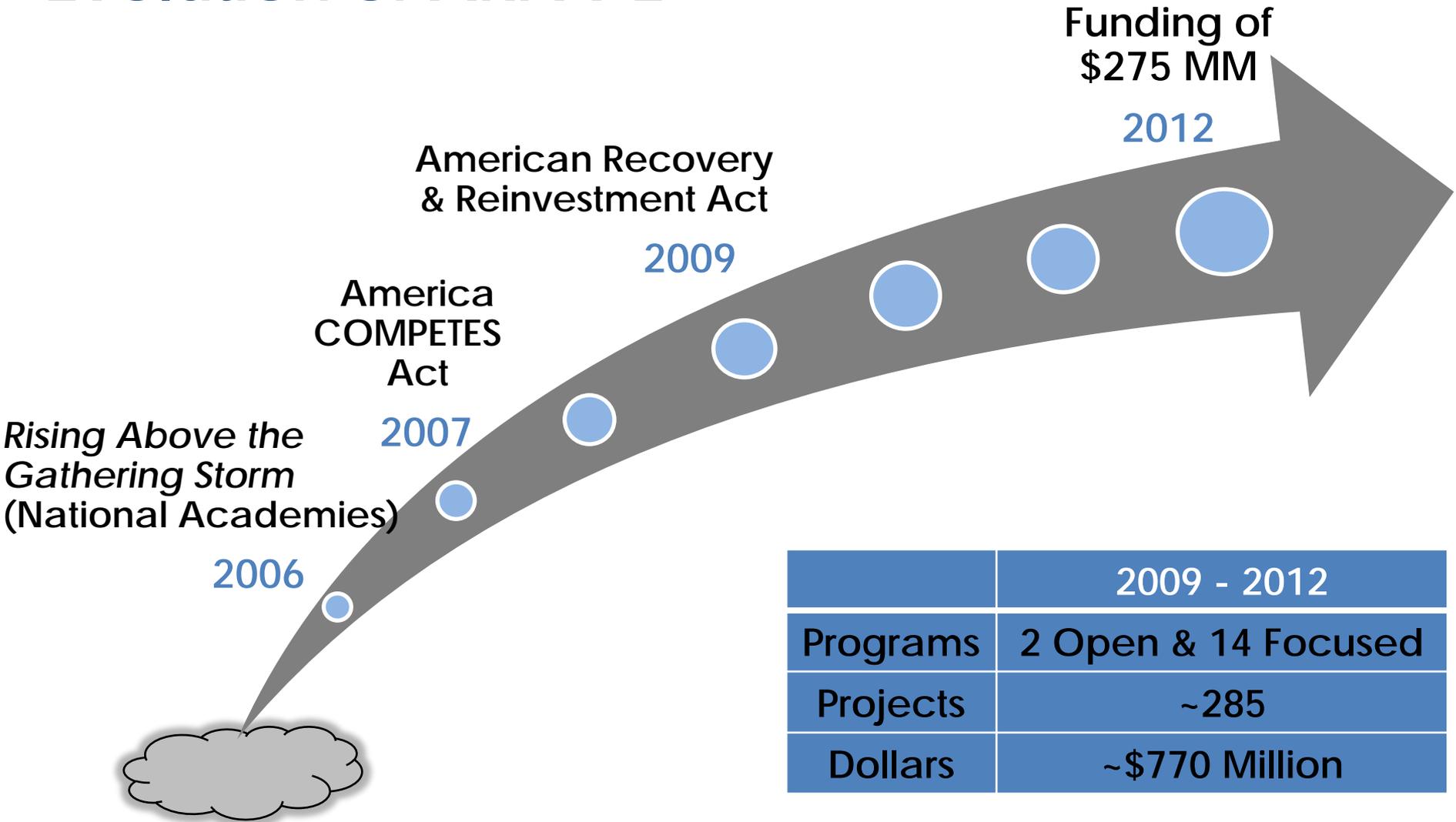
Mission

Enhance the economic and energy security of the U.S.



Ensure U.S. technological lead in developing and deploying advanced energy technologies

Evolution of ARPA-E



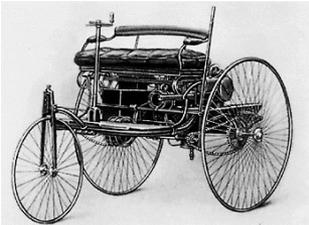
Creating New Learning Curves



Pre-Mechanized Transportation



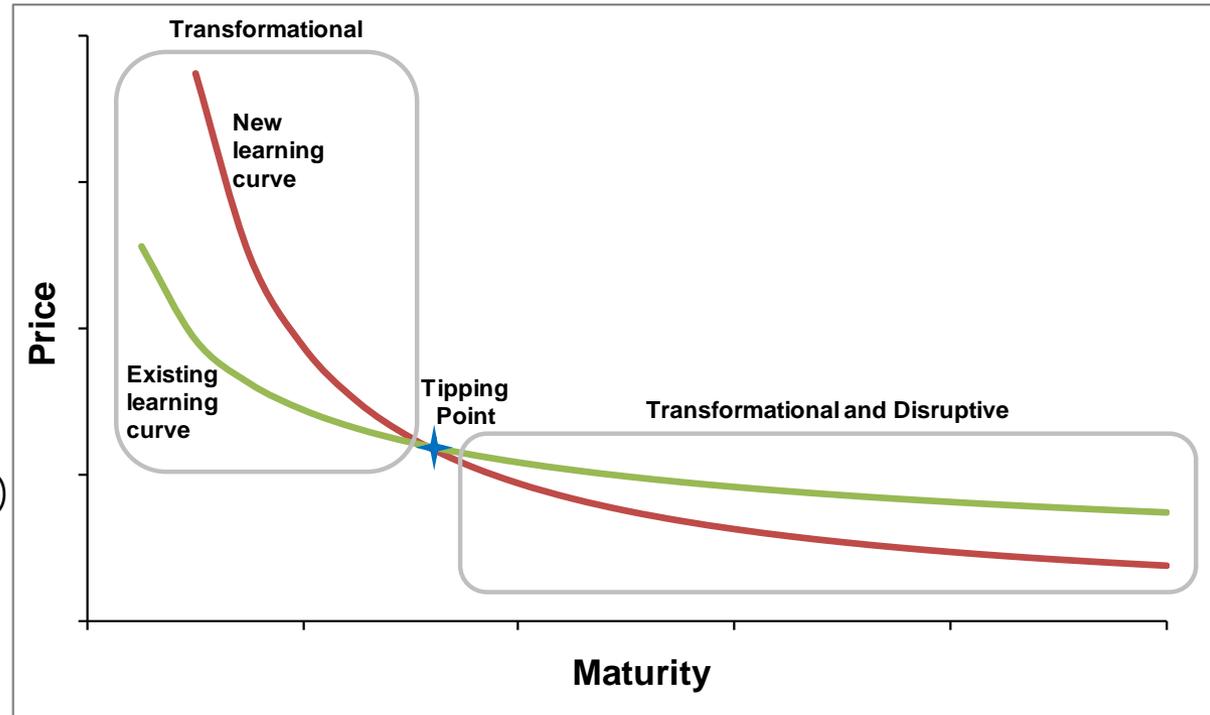
Steam-powered Cugnot (1769)



Benz Motorwagen (1885)



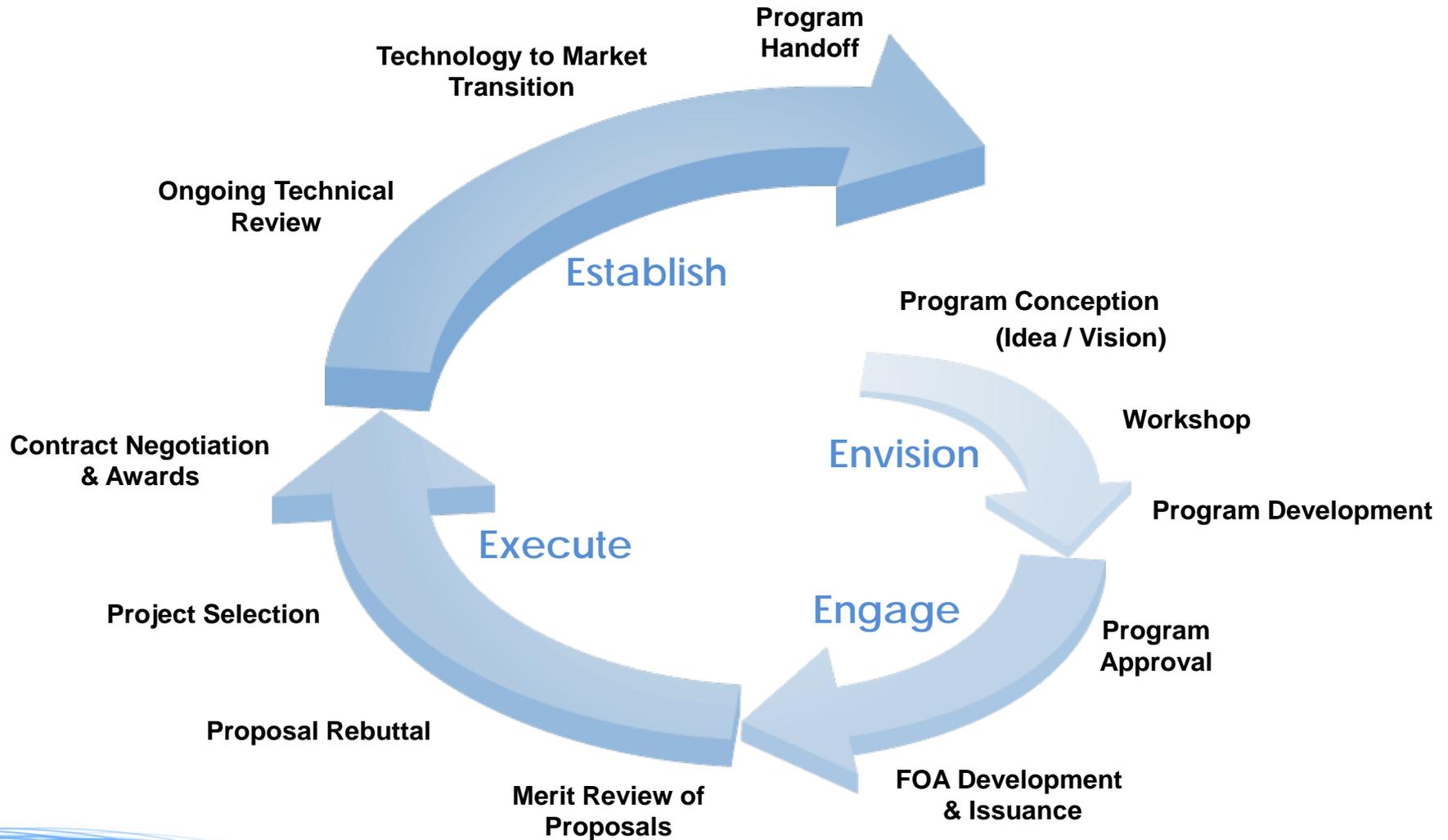
Ford Model T (1914)



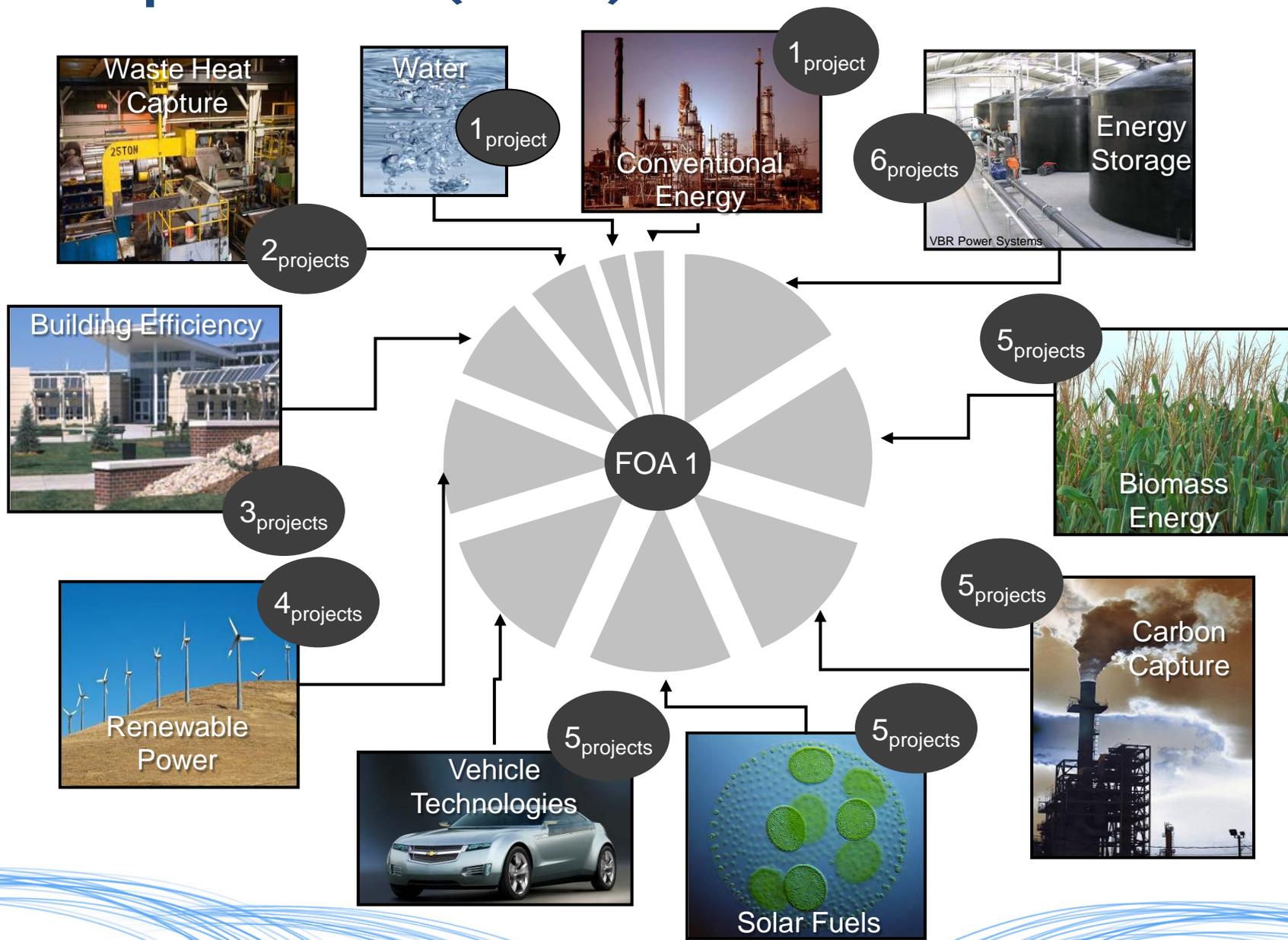
New energy technologies only matter if they are:

- Transformational and disruptive
- Adopted and deployed by private industry
- Meaningful to consumers
- Hit a key price tipping point

Program Development Cycle



First Open FOA (2009)



Focused Programs (2010-2012)

Transportation

Electrofuels



BEEST



PETRO



MOVE



Transportation and Stationary Power / Use

HEATS



REACT



AMPED



SBIR/STTR



Stationary Power / Use

BEEIT



IMPACCT



GRIDS



ADEPT



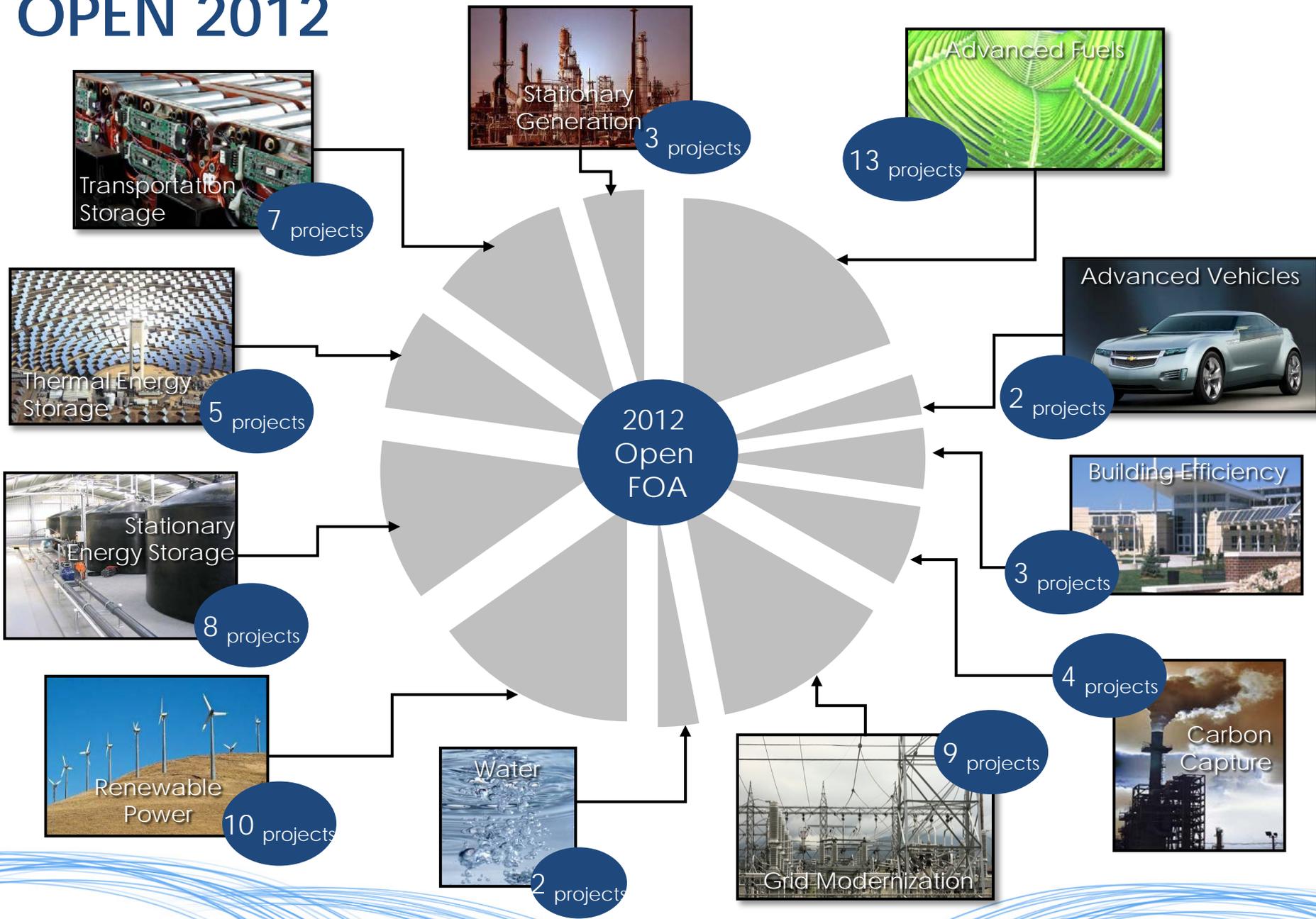
GENI



Solar ADEPT



OPEN 2012



Ramon Gonzalez



Associate Professor in the Departments of Chemical & Biomolecular Engineering and Bioengineering at Rice University

Received the prestigious National Science Foundation Faculty Early Career (CAREER)

Co-founded Glycos Biotechnologies, Inc., with the goal of commercializing sustainable chemicals produced from diverse renewable feedstocks

Published over 50 articles in leading scientific journals and is the lead inventor in four patents or patent applications



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