

Electric and Hybrid Vehicles Sector in Indiana

Indiana is the second highest recipient of grants from the Recovery Act dedicated for the development of next generation batteries and electric vehicles. Six Indiana Companies and one university (Purdue) received part of the injection of money from the grant to stimulate the development of batteries and electric vehicles. Overall, seven projects in Indiana will receive grants totalling more than \$400 million. The bodies and companies involved in the sector as well as the breakdown of the allocation of funding are listed below.

Summary of Allocation of Funds

Recipient	Location	Purpose	Amount
EnerDel, Inc.	Indianapolis, IN	Production of lithium-ion cells and packs for hybrid and electric vehicles.	\$118,500,000
Remy, Inc.	Anderson, IN; Morristown, IN; Greenfield, IN; Indianapolis, IN	Establishing a standardized platform of hybrid electric motors and controls.	\$60,200,000
Magna E-Car Systems of America, Inc.	Muncie, IN	Increasing production capacity of advanced automotive electric-drive system component manufacturing plants located in the U.S.	\$40,000,000
Delphi Automotive Systems, LLC	Kokomo, IN	Expansion of manufacturing for existing electric-drive power electronics components for both passenger and commercial vehicles.	\$89,300,000
Allison Transmission, Inc.	Indianapolis, IN	Increasing U.S. capacity to manufacture hybrid systems for the commercial truck market.	\$62,800,000
Navistar, Inc.	Elkhart, IN	Develop, validate, and deploy 400 advanced battery electric delivery trucks with a 100 mile range.	\$39,200,000
Purdue University	West Lafayette, IN	Advanced Electric Drive Vehicle Education Program	\$6,100,000
TOTAL			\$416,100,000

Other Electric and Hybrid Vehicles Companies in Indiana

Bright Automotive

Bright Automotive was launched from Colorado-based Rocky Mountain Institute (RMI) with the goal of building on the work of a consortium of organizations, including Alcoa, Google.org, Johnson Controls and the Turner Foundation.

Bright Automotive has designed the IDEA, a 100-mpg plug-in hybrid electric (PHEV) vehicle truck classification aimed at commercial and government uses. Currently, Bright Automotive is on target to begin mass production of the IDEA in 2012 at an annual rate of 50,000 units, creating more than 5,000 jobs. The production will take place in Anderson, Indiana.

Bright Automotive is also offering battery packs, PHEV and EV vehicle conversions, hybrid system development consulting and alternative powertrain modeling simulations.

Electric Motors Corporation (EMC) and Gulf Stream Coach

EMC, which develops and manufactures electric power drive systems for electric and hybrid vehicles, has established a partnership with RV manufacturer Gulf Stream Coach to produce the first light-duty electric pickup truck. Together, the companies plan to invest more than \$80 million on building renovations, machinery and equipment to site manufacturing facilities in Wakarusa and Nappanee and potentially create more than 1,600 jobs by 2012.

Carbon Motors

Carbon Motors, a startup maker of high-tech police cars, intends to invest \$350 million to site its production headquarters in the 1.8 million square-foot-facility formerly occupied by Visteon. The company said it could create 1,550 jobs.

Carbon Motors, established by former Ford Motor Company executives in 2003, has developed the Carbon E7, a law enforcement vehicle which incorporates bullet proof door and dash panels, radiation and biological threat detectors, an automatic license plate recognition system, integrated emergency lights and a clean diesel engine. Carbon Motors estimates the E7's 3.0 liter clean diesel engine could reduce law enforcement fleet fuel costs by up to 40 percent.

THINK

The company plans to invest more than \$43 million in building improvements and equipment, and create more than 400 jobs in Elkhart, IN. The plant is slated to begin assembling vehicles in early 2011. THINK's investments in Elkhart will support manufacturing capacity for more than 20,000 vehicles a year.

THINK is scheduled to begin selling the THINK City in the U.S. later in 2010.

Indianapolis based EnerDel is a supplier of lithium-ion automotive batteries for THINK. EnerDel parent company, Ener1, Inc. (Nasdaq HEV) is a 31% equity stakeholder in THINK.

Energy Systems Network

The Energy Systems Network (ESN) is a new Indiana-based cleantech initiative. The ESN is a catalyst for partnerships among private firms and research institutions to bring energy breakthroughs to market, leveraging Indiana's strong manufacturing sector, R&D capabilities, and heritage of engineering advanced power systems. ESN projects draw on the rich diversity of established and emerging companies and institutions across Indiana that collectively make up a world-class clean-tech cluster with expertise in advanced technology vehicles, distributed power generation, advanced biofuels, renewable energy and energy efficiency.

ESN members include: Duke Energy, Cummins, Delphi, Allison Transmission, Remy, Rolls Royce, Raytheon, Indianapolis Power & Light, Midwest ISO, NSWC Crane, Brevini, I Power, EnerDel, AltairNano, Bright Automotive, Purdue University, Indiana University, The University of Notre Dame and Ivy Tech Community College.

Ener1 has teamed up with ESN to create the largest and most comprehensive battery and electric vehicle consortium. The ESN is currently working on the following commercialization projects:



Hoosier Heavy Hybrid Partnership

A cooperative partnership between Cummins, Inc., the Delphi Corporation, Allison Transmission, Inc., Remy, and Duke Energy Corporation seeks to develop a fully integrated hybrid power train system that uses higher performance components and demonstrate next generation plug-in hybrid technology for light, medium, and heavy duty vehicles.

Project Plug-IN

Project Plug-IN is the first of its kind commercial scale pilot of plug-in hybrid and smart grid technology working together to demonstrate an energy efficient transportation system solution for the Indianapolis area. The pilot will span the service territories of two regulated utilities, Duke Energy and IPL, and include the development of a model regulatory framework and network architecture needed to take smart grid and plug-in systems to scale. Project Plug-IN has been selected by the Rocky Mountain Institute as one of the three cities, along with Portland and Raleigh, for their Project Get Ready Initiative which promotes cities that are best-of-class in preparing for the plug-in revolution. Installations of charging points and infrastructure are scheduled to start in the summer of 2010.

Partners: Duke Energy, Indianapolis Power and Light, Nissan, Smart USA, Cummins, Bright Automotive, Delphi Corporation, IBM, EnerDel, Simon Property Group, Purdue University, and the Rocky Mountain Institute.)

MicroGreen

MicroGreen is the development of the distributed power generation micro grid system to provide scalable power for military and commercial markets including back-up power for renewable energy development and micro-grid systems for military bases and industrial facilities. Accelerated systems testing and evaluation will occur at Naval Surface Warfare Centre Crane in southern Indiana.

Partners: SAIC, Duke Energy, Cummins, Delphi, SolarNet, I- Power, EnerDel, NSWC Crane

Educational Institutions

Purdue University plans to use a \$6.1 million grant to develop electric vehicle degree and training programs. The institution will partner with other state colleges and universities for the Indiana Advanced Electric Vehicle Training and Education Consortium.

Purdue will partner with Notre Dame University, Indiana University-Purdue University Indianapolis, Ivy Tech Community College, Purdue University Calumet and Indiana University Northwest to develop the program. The goal is to educate and train the work force needed to design, manufacture and maintain advanced electric vehicles and the associated infrastructure.

Please see complete list of Indiana higher education and research institutions in the presentation attached.