



Supplier Partnership Q3 Meeting **Environmental STEM Education**

July 19, 2017

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Global Sustainability Initiatives Team
Community Outreach & Dealer Programs

Global Environmental STEM Program



Strategic Value of Global Program

Streamline our existing local efforts in environmental education worldwide around one strategic effort that strengthens our reputation through enhanced visibility and validation

- ▶ Leverages an existing education program infrastructure through a global partnership with FEE
- ▶ Aligns all of GM's environmental education efforts worldwide
- ▶ Exemplifies GM's values around collaboration and strengthening relationships that create value for customers, as well as the company and communities where GM operates

Global Community Outreach Goals

GMNA 2017 BPD 6.1.3

Goal: Industry Leader in Environmental and Energy Performance		
#	OBJECTIVE & METHODS	TARGET
6.1	OBJECTIVE: Develop and implement environmental initiatives that will improve GM's environmental image through sustainability projects.	Attain Glidepath to 2020 Manufacturing Sustainability Goals
6.1.3	(L0 & L1) Schedule an environmental community outreach activity/event within one week of World Environment Day (Monday, June 5, 2017).	Community Envir Outreach Activity with participation of at least 3 functional teams

Develop and Implement environmental initiatives that will improve GM's environmental image through environmental STEM education sustainability projects

Eco-Green – U.S.

GM Environmental STEM Education Program

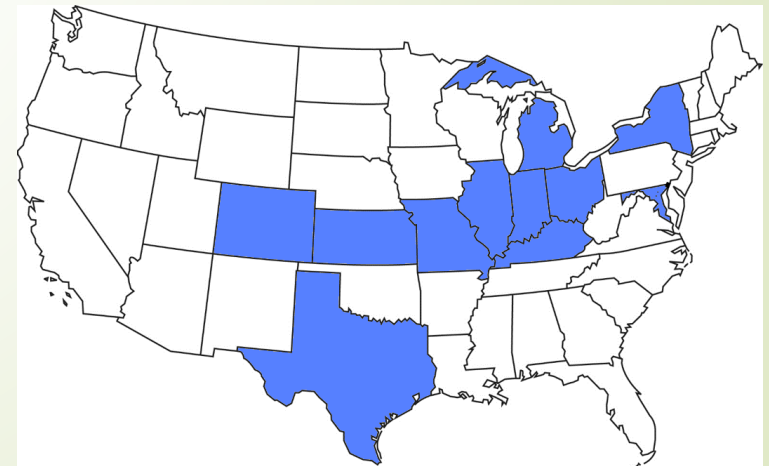
Collaborative of our new and existing partners in environmental STEM education that allows us to collectively measure and report our impact globally.



Earth Force Hands On Project Water Quality Monitoring

GECS leadership driven metrics:

- value metrics for participants through surveys
- increase in project implementation in addition to river sampling days
- increase in multiple school Summit events



State Park Biodiversity Project

Spring Hill, TN



On March 23, 200 students from Delk-Henson Intermediate School worked with Friends of Henry Horton, Tennessee Environmental Council (TEC), and mentors from GM Spring Hill Manufacturing to plant “live stakes,” improving the health of the wetland restoration area in Henry Horton State Park.

The restoration of the wetland began over a year ago. The students are working to increase the biodiversity of the wetland and to increase the wetland’s ability to hold and filter water – two important factors in maintaining the water quality of the Duck River, which runs through the State Park.

Community invited to become Recycling Ambassadors

Wentzville, MO

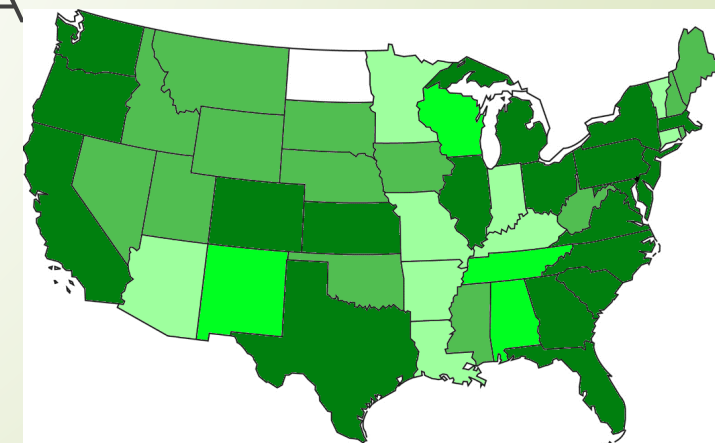
Students from Wentzville Middle School worked with a local Home Owners Association and the City of Wentzville to draft a Multi-family Recycling policy. The policy was introduced on May 24 to the Board of Alderman and they approved the recommendation to introduce a multi-family dwelling requirement to accommodate recycling. The proposal is being refined with an amendment to the municipal code.



“Our class is working to teach our community about recycling to decrease the amount of litter we see in Wentzville. We invite the community to become Recycling Ambassadors to inspire and teach our neighbors about recycling, too,” Jadyn Poston and Maria Slaughter, sixth graders, shared with trustees at Wentzville’s recent Homeowner’s Association Symposium.

National Wildlife Federation

- ▶ Nation's Largest Conservation Education Organization
- ▶ 4 million members and supporters
- ▶ 9 regional offices representing 49 states
- ▶ A leader in environmental education with over 50 years of experience
- ▶ Pre-K-12 Signature Program, Eco-Schools USA spans the U.S.
- ▶ Publisher of *Ranger Rick* and *Ranger Rick Jr.* magazines



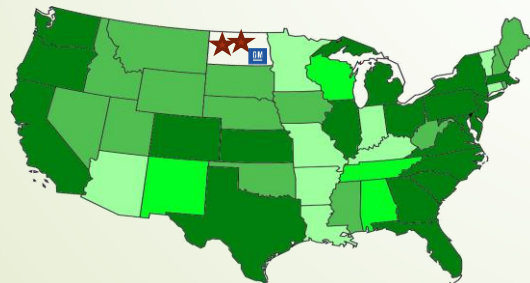


Eco-Schools USA



- NWF U.S. Host of international program
- 4,500 schools in 49 states
- Globally, in 50,000 K-12 schools in 59 nations
- Comprehensive school greening program
- Seven Step Framework
- “Sustainability Pathways”
- Student Driven Program
- Awards Process

**Over
3,700
Schools
in 49
States &
DC**



What is an Eco School program?



Eco-Schools USA
NATIONAL WILDLIFE FEDERATION®

- Environmental education program that **“Greens”** the school grounds, buildings, curriculum and the students
- Hands-on, **experiential learning** for students
- **Professional development** for school educators
- Mentoring opportunity for GM employees

- **Currently there are 50,000 K-12 Eco Schools in 59 nations**
- Seven Step Program Framework
- “Sustainability Pathways” or themes provide flexibility
- Student Driven Program – they develop solutions

- School tracks progress through online dashboard
- FEE provides **global impact / carbon/CO2 equivalencies**

12 Pathways for sustainable education



Increasing biodiversity on school grounds, community



Addressing energy issues at the school, and alternative energy solutions



Addressing toxics, mold, air quality, pest control at schools



Climate change causes, impacts, solutions



Addressing time spent outdoors, physical activity, connecting with nature



Developing school gardens, outdoor learning classrooms



Addressing recycling, reuse, reduction of consumption



Addressing water sources, water consumption, and water quality



Addressing school nutrition, edible school gardens, local foods



Debut: Fall 2017
Addresses watersheds, oceans, and wetlands



Debut: Fall 2017
Address forest education



Addressing transportation impacts of schools

Educational



Goal:

Improve educational conditions that impact:

- Student achievement
- Student interest in STEM
- Student knowledge, skills, and attitudes that contribute to a sustainable future

Educator Rating/Metric	2015	2016
Program effectiveness (e.g., student sustainability knowledge, skills, attitudes and behaviors)	72%	92%
Eco-Green increases student interest in STEM	83%	
High level of student engagement when interacting with GM Mentor Teams	75%	

Environmental



Goal:

- Measurably improve environmental conditions
- Improve environmental literacy

Biodiversity Index	.35	
Kilowatt Hours	1,308,611	
Pounds of waste	34,069	
# mins/ week spent outdoors learning	320	
Gallons of water reduced	24,763	
Eco-Green Program increases student's understanding of environmental issues	100%	100%
Eco-Green Program provides an increase in student efficacy	42%-60%	63%
Eco-Green Program increases student's desire to actively work towards a healthy and sustainable future	100%	100%

Community Relations



Goal:

- Build and deepen community relationships between General Motors, its' employees, dealers, and local Eco-Schools, faculty, and students

Educator Rating/Metric	2015	2016
Number of Projects	2	2
Schools reporting economic impact of projects so far	15%	50%
Their relationship with GM has been positively impacted as a result of the Eco-Green program	100%	100%

U.S. Eco-Green Pilot Implementation – GM Facilities, Dealerships & Supplier teams

Yuma, AZ



Milford, NJ



Eastpointe, MI



Foundation for Environmental Education

FEE is a non-governmental, non-profit organization promoting sustainable development through environmental education worldwide.

FEE will provide GM with a global platform for reporting and measuring community impact through employee engagement and sustainable education.





Bingham Farms Elementary



**Bingham Farms,
MI**

26 Teachers
332 Students
Title 1 Eligible
**46% Free/
Reduced**
38.8% Diverse

- The students collect, recycle water bottles. No recycling pickup at the school, teacher takes the bottles to a local recycling center
- Students began measuring food composting impact. ~ 250 lbs reduced since March.
- School inviting Quaker to garden volunteer opportunities to work outdoors with students

"Quaker Chemical Corp is committed to creating a sustainable future through investing heavily in local education. Our site was pleased to connect and partner with the Eco-Green program. This initiative provides a channel to foster interest and understanding of sustainable practices with local students."
Karmen Nash, '17



CALO Youth Build



Los Angeles, CA

Grades: 9- 12
28 Teachers
663 Students
Title 1 Eligible
95% Free/
Reduced
90.4% Diverse

- Students conducting energy audits in their neighborhood and installing energy efficient solutions
- Students have a community clothing swap and QC is donating goods
- Students planning to visit QC and use it as a learning lab
- QC donating old ink cartridges

“Participation in this program helps us develop community-based solutions to environmental and social issues.” Robert Zardeneta, Principal



Holy Redeemer Elementary



Detroit, MI

Grades: k-5
9 Teachers
210 Students
**95% Free/
Reduced**
90.4% Diverse

- Together, Ideal and Holy Redeemer have taken a parking lot within their urban school setting and developed raised beds gardens produced out of GM shipping containers.
- Students began school-wide recycling program and began to measure impact.

"Participation is easy and the kids love it. I had an overwhelming response from students wanting to participate." -Maria Davidson, 4th grade teacher