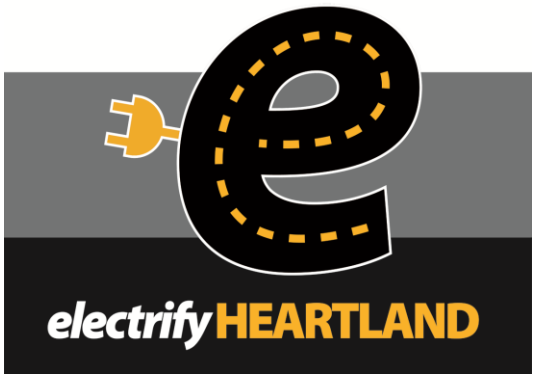
Electrify Heartland Plan

Appendix I: Getting Started With EV



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Community Readiness for EV and EVSE

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By: Metropolitan Energy Center

and Kansas City Regional Clean Cities Coalition

With: Black & Veatch

Metropolitan ENERGY CENTER

Kansas City Regional Clean Cities

BLACK & VEATCH

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CFDA Number 81.086

Electrify Heartland Plan

Electrify Heartland Project Abstract

Electrify Heartland is an electric vehicle planning project managed by Metropolitan Energy Center. It is a product of the Greater Kansas City Plug-In Readiness Initiative, co-chaired by Kansas City Regional Clean Cities Coalition. Our goal is to produce a regional plan to prepare public resources and secure the economic and environmental benefits of plug-in vehicles within targeted metro areas with estimated 2.7M population. The targeted metro areas include Kansas City, MO & KS; Jefferson City, MO, Wichita, KS; Salina, KS; Lawrence, KS; and Topeka, KS. (14 Counties: Cass, Clay, Cole, Douglas, Jackson, Johnson, Leavenworth, Miami, Platte, Ray, Saline, Sedgwick, Shawnee, Wyandotte).

Electrify Heartland Steering Committee

Team	Organization	Name
Charging Stations	Initiatives	Troy Carlson
Charging Stations	LilyPadEV	Larry Kinder
Charging Stations	Logios	Gustavo Collantes
Government Policy	Polsinelli Shughart PC	Alan Anderson
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Training	Kansas City Kansas Community College	Bob McGowan
Training	National Electrical Contractors Association	Jim Cianciolo
Utility Grid	Black & Veatch	Sam Scupham
Vehicle & Fleet	University of Missouri at Kansas City	Henry Marsh

Exhibit i-i. Electrify Heartland Steering Committee Members

Table of Appendices

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Appendix I: Getting Started With EV

Synopsis:

This appendix to the Electrify Heartland Plan outlines the decision process in choosing an electric vehicle.

Section Author:

Henry Marsh, University Missouri – Kansas City

Is an EV for you?

Electric vehicles are fun to drive and are well equipped with all the options. They are quiet and have plenty of power.

What are your driving habits?

How far do you drive each day to and from work?

How many miles annually do you drive?

If you drive less than 10,000 miles a year, an electric car may be a good choice. An electric vehicle may also be a good choice for a second vehicle to commute to work. Electric vehicles are well suited for short stop-and-go trips. A plug-in hybrid vehicle would give you extended range for those longer trips in a large metropolitan area.

What kind of electric car are you looking for?

- Hybrid
    - Usually a gasoline powered engine with an electric motor to assist in acceleration or propelling the vehicle. Battery power is limited in range and is recharged during braking, called regenerative braking.
- Plug-in hybrid
    - Same type of vehicle, except the batteries can be recharged from an external power source. The batteries have more capacity to propel the vehicle farther before the gasoline engine engages.
- All electric
    - Electric motor propels the vehicle and is 100 % battery powered. No gasoline engine to assist. Electric vehicles can be recharged on 120 volts or 240 volts. Check with a certified electrician if you need to upgrade electrical service for your vehicle.

How will you recharge your electric vehicle?

- Can you charge at home? Most homes can support charging an electric vehicle on 120 volts
- Where are charging stations in the area? http://www.afdc.energy.gov/fuels/electricity_stations.html

Consider these benefits of owning an electric

- Fuel economy

- Low cost vs. the price of gasoline
- Refuel/recharge at home
- Good performance
- Low emissions
- Energy security by reducing dependency on foreign oil

The price of an electric vehicle is considerably higher than a comparable compact vehicle, but there are currently incentives to purchase an electric vehicle. Most people have found that the cost of ownership off-sets the cost of an electric vehicle, especially considering the cost of fuel versus the cost of electricity.

Here is a web-site where you can do cost comparisons http://www.afdc.energy.gov/calc/

Learn more about electric vehicles-

http://www.afdc.energy.gov/pdfs/51228.pdf

Comparison with household appliances

- Chevy Volt - 120V 1440 watts
- Central air conditioning – 3500 watts
- Central AC fan – 750 watts
- Electric clothes dryer – 4400 watts
- Electric hot water heater – 3800 watts
- Dish washer (heats the water) – 3600 watts
- Electric oven – 2000 watts

How much electricity does my stuff use?
http://michaelbluejay.com/electricity/howmuch.html

Sources:

DOE Plug-In Electric Vehicle Handbook for Consumers:
http://www.afdc.energy.gov/pdfs/51226.pdf

DOE Plug-In Electric Vehicle Handbook for Fleet Managers:
http://www.afdc.energy.gov/pdfs/pev_handbook.pdf