Alternative Fuels and the Electric Charge Point Problem

MPSC

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Agenda

- What is DriveAlternatives?
- How are Electric Chargers Unique?

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Our Service

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Mission and Goal

Our Mission:

- Drive Green Easily

Our Goal:

- Become the Most Accurate, Reliable, and Comprehensive Source for Finding Alternative Fuel Stations

- **Drive** Alternative Fuel Vehicle Sales

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Problem – Finding Fuel

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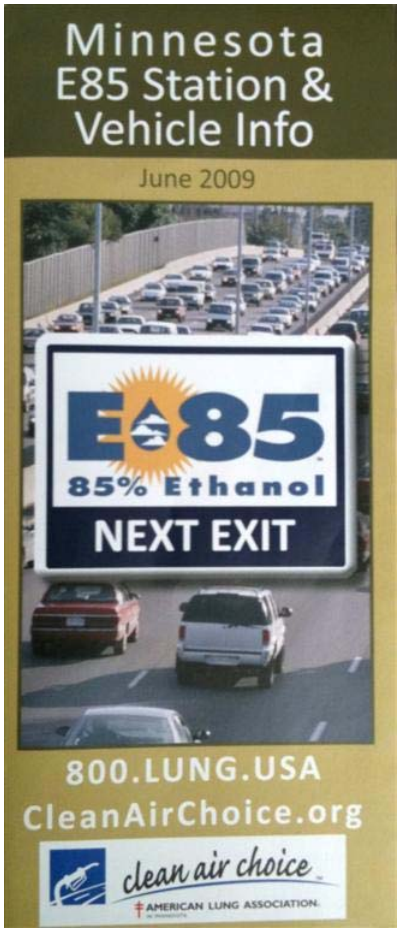
Range Anxiety #1



State of Minnesota

- Executive Order 04-10
  - E85 - 25% by 2010, 50% by 2015
  - Biodiesel - 10% by 2010, 25% by 2015
- State Fleet of 2,500 AFV's
  - "The state is interested in any tool that might make it easier for drivers to locate stations that offer cleaner fuel."
    - » *Tim Morse, chair of the SmartFleet Committee*

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Range Anxiety #2

ROUSH LPG Conversions:

- F250, F350
- E150, E250, E350

"Anything that helps alleviate the 'range anxiety' that new alternative fuel vehicle owners may feel is a big plus. With the DriveAlternatives app, ROUSH CleanTech propane powered vehicles customers are able to quickly locate LPG fueling sites within a close proximity to their current position. Range anxiety is eliminated, and our customers are happy."

Brian Carney, *Director of Marketing, ROUSH*

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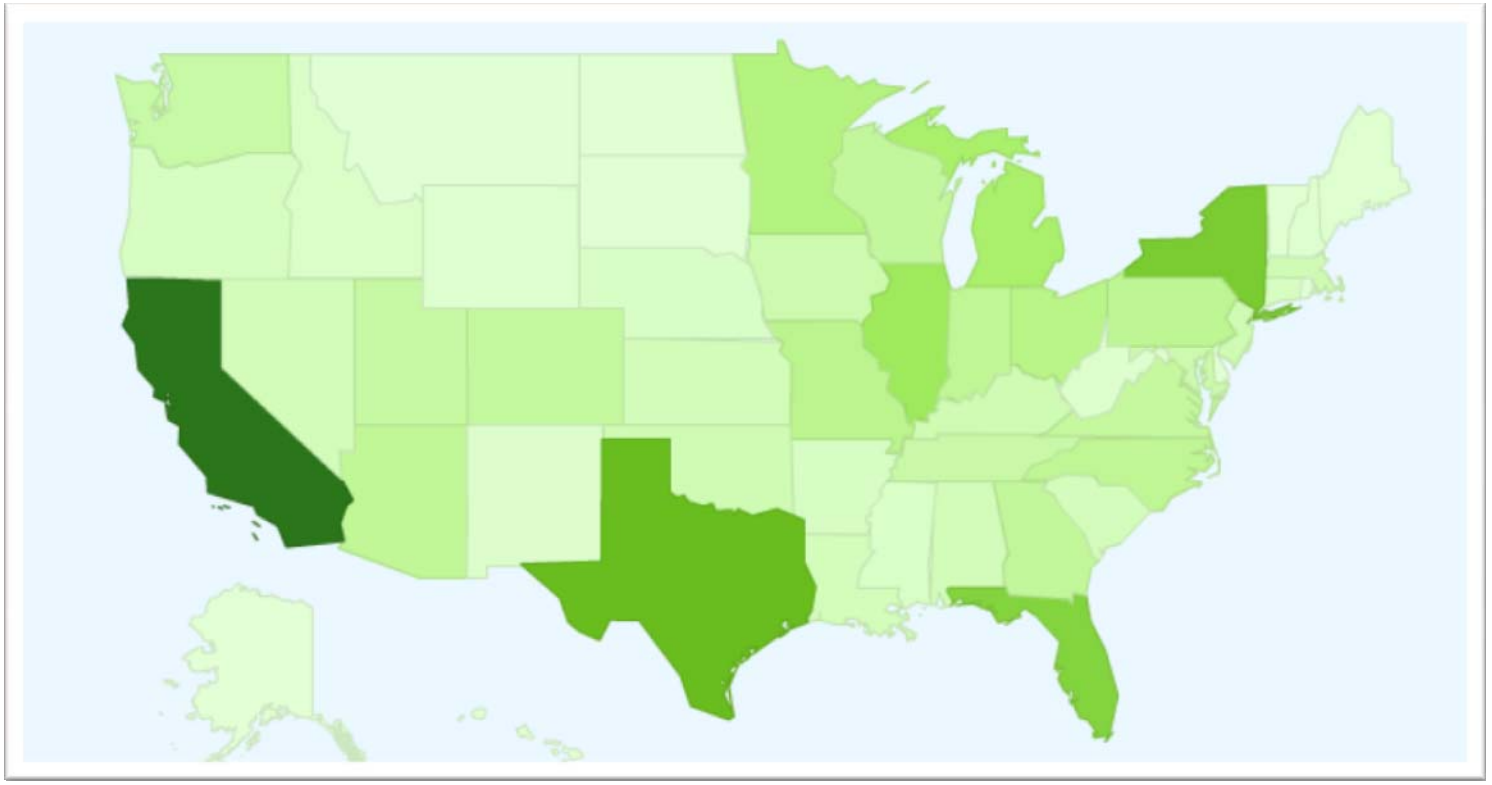
Range Anxiety Heat Map

Problem #1 – Finding Fuel

Last 50,000 Searches on DriveAlternatives



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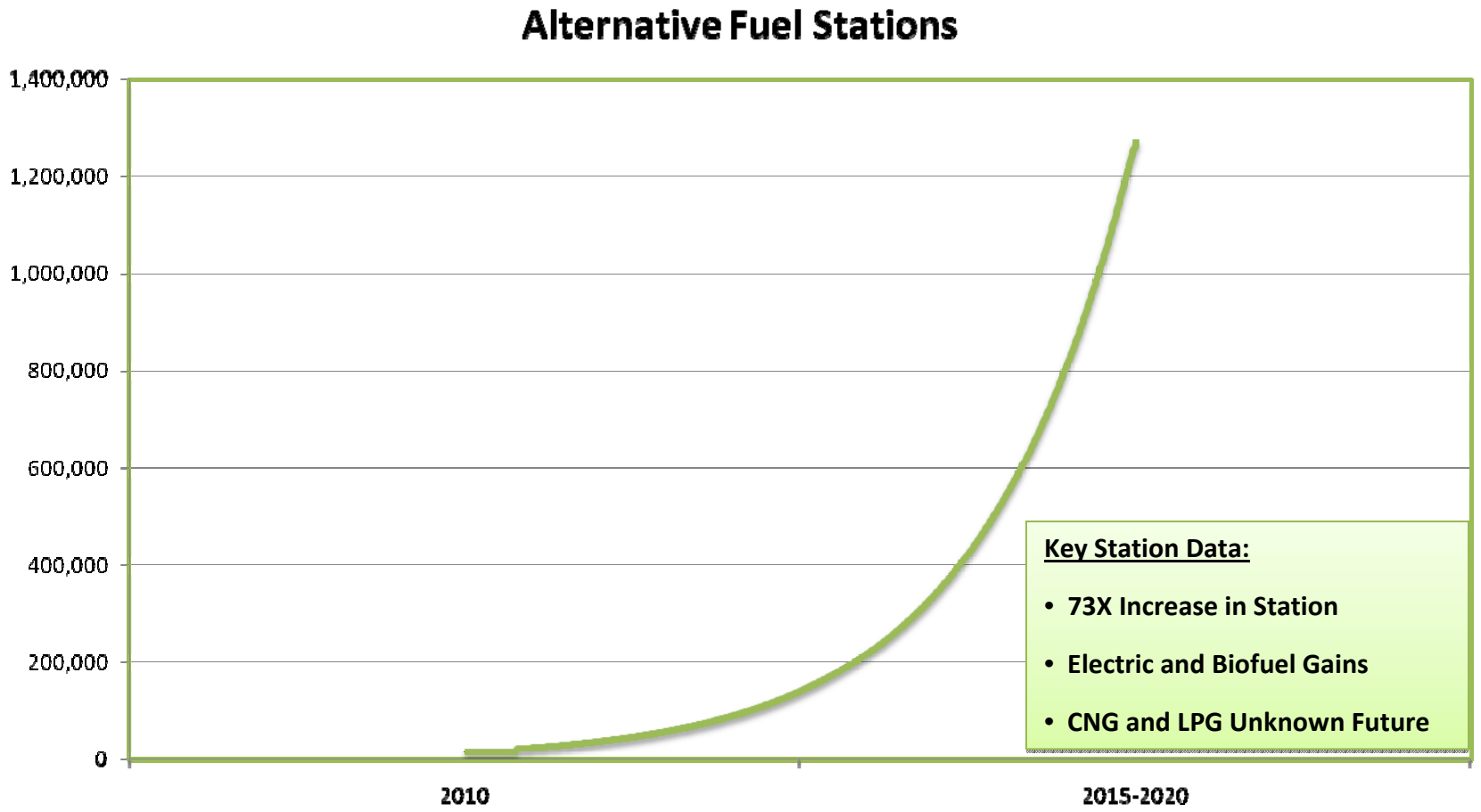
Station Infrastructure

Evolution of the Service



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Source: Pike Research, Growth Energy.

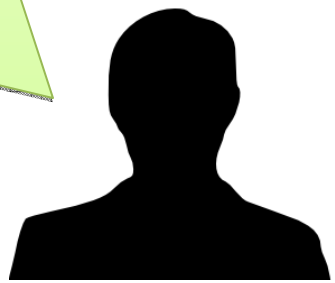
Importance of Crowdsourcing

Problem #2 – Finding a Car

"**It has to be Crowdsourced**. Stations come and go, it's impossible to monitor that behind a desk. I tried sending updates to the DoE database and they didn't know what to do with my information."

- **Clean Cities Coordinator**

- **20% LPG Stations Did Not Sell to Autos**
- **Missing >40 E85 Stations in TN**



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Prescription for Range Anxiety

Problem #1 – Finding Fuel

Website / iPhone App Features:

- Create Your Green Driver Account
- Find Alternative Fuel Stations
  - Retrieve in-app Directions to Stations
  - View/Update Station Info, Fuels, Prices
  - Mark Favorite Stations
  - Add Comments to Stations
  - Add Photos to Stations
- Update Email Alerts for Station Changes & Newsletter
- Retrieve Nearby Station/Auto Coupons & Discounts

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Electric Charge Points

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Location and Availability

- Location Problem
- Time Problem

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Fractured Solution

- Two Way Communication
- Silo Architecture

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Smart Solution

- Leverage Crowdsourcing
- Create Central Hub
- Integrate Check-ins

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Build Confidence

- People are Excited, but Anxious
- Make Service Smart

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Questions?

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