

THE Project

....its about all of us....and our Life Style...

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We can't keep going this way



- Not enough oil
- USA Trade Deficit
- Security

The problem is not the Car.....
It's the fuel



'57 CHEVROLET! SWEET, SMOOTH AND SASSY!

Could Electricity Replace Imported Oil?



- **Its made in lots of ways**
- **Its can be made everywhere**

BUT would YOU buy an Electric Car?



Do You have concerns about an EV ?

- Outside of my garage there is no place to charge
- I won't be able to find a place to charge
- Charging takes a long time
- Charging will be inconvenient
- I don't know anything about it



Sponsored by USA Vehicle Technology Program

EV Project addresses EV Concerns by deploying

- **Large number of EV & Commercial Charging .. confined area**
- **Real World Lessons learned - Create the Plan Forward**

NEW VALUE CHAINS • NEW OPPORTUNITIES • JOBS

Project Responsibilities

- Ecotality: Program Manager, regional collaboration, deployment of charging infrastructure, and ROADMAP.
- NISSAN & GM: Electric Vehicles
- Customer: Information
- US DOE & NISSAN & GM: Information Gathering & Analysis



Program Manager

EXPERIENCE:

- 20 years electric vehicle testing
- 20 years battery testing
- 15 years smart & fast charging
- 100 years electric industry



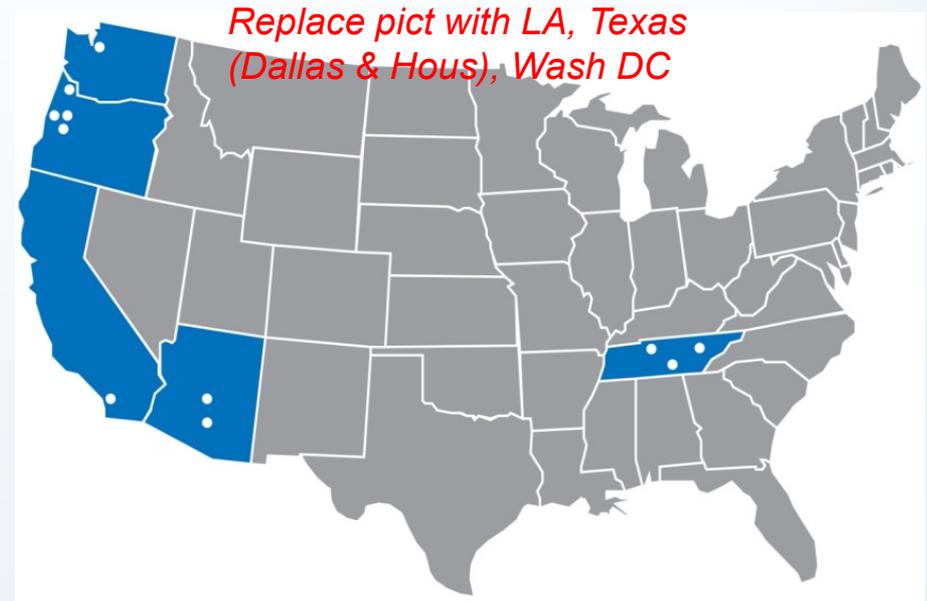
Historical Picture: 13 years ago, 1997 initial demonstration of OEM EV's charging at work.

7 Project Regions

Grid Connected Cars: 8,300
Nissan 5700 , Chevy - 2600

Charging:
15,500 (Level 2)
310 Fast Chargers (Level 3)

Roadmap:
10 year regional plans



Evaluate Infrastructure Effectiveness

45M people in Metro Project Regions

15 cities, 14 electric utilities, 2 national labs, 2 universities, Nissan N.A., GM

➤ **Washington**

Seattle 3.3 million (543/sq mile)

➤ **Oregon**

Portland: 2.2 million

Eugene: 155,000 (3813/sq mile)

Salem: 155,000 (2994/sq mile)

Corvallis: 50,000 (3625/sq mile)

➤ **California**

San Diego: 3 million (4174/sq mile)

Los Angeles: 14.8 million (8205/sq mile)

➤ **Arizona**

Phoenix: 4.28 million (255/sq mile)

Tucson: 1 million (2647/sq mile)

➤ **Tennessee:**

Nashville: 1.6 million (1234/sq mile)

Knoxville: 681,000 (1876/sq mile)

Chattanooga: 518,000 (1234/sq mile)

➤ **Texas:**

Dallas: 6.5 million (3697/sq mile)

Houston: 3.8 million (3872/sq mile)

➤ **District of Columbia**

Washington: 5.3 million (9776/sq mile)

The EV Project Grid Connected Vehicles

Nissan “Leaf”



GM Chevy – “Volt”



- Built in the USA Deployed in each Project Region
- JOBS: Dealerships, Sales & Service

EV Project Participation

- **Qualify (limited number of participants)**
 - Your home address & estimated daily EV use
- **Use of EV & Commercial Charging**
- **Information gathering to develop Models & Roadmap.**

BUT ... if you don't join the EV Project

- *You can still own an EV*
- *You'll be able to get access to Commercial Charging*

Build the Charging Infrastructure

ECOTALITY

- **Identify and Resolve Barriers to Deployment**
- **Install Charging Equipment**
- **Evaluate Effectiveness**
- **Planning for the Future**

New charger pictures

NEW VALUE CHAINS • NEW OPPORTUNITIES • JOBS

Chargers

Level 1 – about 1.2 kW power from 120 AC volt outlet
(15 to 20 hours full charge for Nissan Leaf)



Level 2 – about 6.6 kW power from a 240 AC volt circuit
(3 to 4 hours for full charge for Nissan Leaf)



Level 3 – Fast Charge, DC Power 60 kW
(20 minutes Charge)

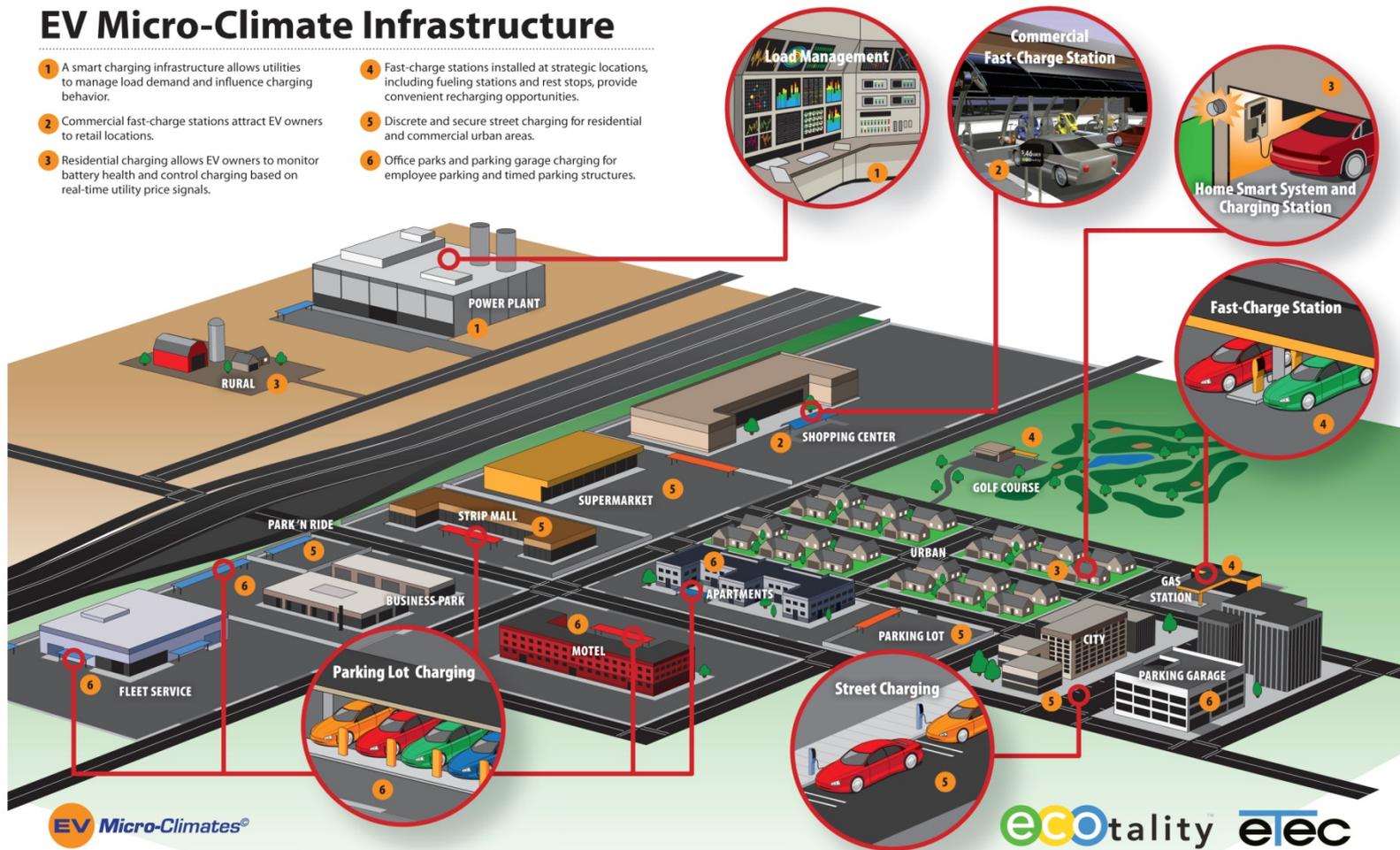
Ecotality installs 2,500 Chargers per Region

- ***1,000 Level 2 Chargers - EV Owner joins the Regional EV Project & participates in Information Gathering***
- ***1,500 Level 2 Chargers installed for Commercial use, with Controlled Access (WORK – SHOP – TRAVEL).***
- ***50 Fast Chargers installed for Commercial Use.***

..WE CREATE Local JOBS...

EV Micro-Climate Infrastructure

- 1 A smart charging infrastructure allows utilities to manage load demand and influence charging behavior.
- 2 Commercial fast-charge stations attract EV owners to retail locations.
- 3 Residential charging allows EV owners to monitor battery health and control charging based on real-time utility price signals.
- 4 Fast-charge stations installed at strategic locations, including fueling stations and rest stops, provide convenient recharging opportunities.
- 5 Discrete and secure street charging for residential and commercial urban areas.
- 6 Office parks and parking garage charging for employee parking and timed parking structures.



The ROADMAP looking Ahead

- **Develop Regional 10-Year Plan**
 - Deployment Area
 - EV Deployment & Penetration
 - Level 2 & Fast Charger Requirements

- **Models for Infrastructure Development in the next 500 cities**
 - Development of future Commercial Models

- **Controlled Access for Commercial/Public Chargers**
 - Development of Charger Infrastructure Cost and Revenue Models

What \$1 Billion per Day Buys



EV connected to your lifestyle



...have a cup of coffee..while your EV charges



Secured
Safe
Sustainable
Energy

Electricity will help replace imported oil

The EV Project will help make this happen



- **DEFINE a New Fueling System**
- **SHAPE the Future of Transportation**

Its just the **BEGINNING**

- *What new products & services?*
- *What new business & opportunities?*
- *What new jobs?*

Better vehicles....better energy...better life

WHAT AN EXCITING NEW FUTURE !

This Project is about creating a different *Future...*

It is also about...

- ✓ Putting everything in place in our communities...
- ✓ Creating new jobs and opportunities with our innovation
- ✓ For every 1000 miles driven... 30 gallons of imported oil is eliminated.



Home and Car in One Secured Energy System

THE

EV Project



It's Just the Beginning...

It is the Future....

...Just the First Step

..And it will be exciting