

Catherine Dunwoody's Keynote Address
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May 1843. The first wagon train left Independence Missouri for the West. Families left their homes and all they knew for the promise of something better. They understood that their journey along the Oregon Trail would be long and difficult. But even with water shortages, rough weather and hostile natives, the promise of what lay beyond the Rockies kept them going. Despite detours and delays, six months later, they arrived in the West. They were the first pioneers.

We are pioneers too. Our journey to bring fuel cells and hydrogen to a commercial market is like the early trek West. We believe that the destination—cleaner air, less petroleum, lower carbon, new jobs and business opportunities—is worth the effort.

In February, I was part of the IPHE workshop to explore ideas for getting early hydrogen infrastructure in place in the next five years. Many of the participants talked about the “Valley of Death,” that period during which numbers are small and costs are high. One of the break-out groups suggested calling this period “crossing the river” instead.

When the wagon trains left one of the three jumping off points, the first day's journey included crossing the Missouri River. They drove bulky wagons and frightened livestock onto wooden ferries, which had to dodge chunks of ice in the swift current. Many people told the pioneers that they were too ambitious. The journey was too far, too hard, too expensive and dangerous. Stay home and raise your children! Why look for something better when good enough is right here?

Today many of use are like those pioneers, standing at the banks of the Missouri making the decision to cross or not. People—some powerful people—have told us that we're too ambitious. They say that hydrogen is too hard, too expensive and too far away.

Others are already on the far side of the river...some have even glimpsed the destination. Companies are successfully using hydrogen and fuel cells for material handling and stationary power today. With fuel cell vehicles and transit buses on the road, and the first retail-ready hydrogen stations serving customers, we have proven the technology for transportation. Now it's time to build a successful market.

Today, California has just a few publicly accessible hydrogen stations that are open to the customers of all auto makers. But that's changing.

California has co-funded with industry seven more public stations – and industry has funded one on its own too—that are being planned, permitted and built right now. These include groundbreaking technology—a station using hydrogen from a pipeline, a station designed to fill buses and cars, a station that will make hydrogen, heat and electricity from sewage, and the first two-dispenser station in the state.

New stations in development			
City	Operator	Capacity (kg/day)	Expected Date
Harbor City	Mebtahi	100	Q3 2010
Newport Beach	Shell	100	Q4 2010
San Francisco	SFO	120	Q2 2011
Torrance	Shell	50	Q3 2010
Westwood	UCLA	140	Q2 2011
Emeryville	AC Transit	60 (passenger) 150 (transit)	Q4 2010
Fountain Valley	OCSA	100	Q3 2010
Los Angeles	CSULA	60	Q1 2011

The first wagon train followed a trail that fur trappers had been using for 30 years, but on pack mules, not Conestoga wagons. The fur trappers were following a foot path that the Native Americans used for generations. As they traveled West, the wagon trains turned the trail into a road.

These retail-ready stations will make our path a little wider, smoothing out some bumps, putting in a few more trail markers. We're making good progress, but we need to do more.

In the California Fuel Cell Partnership's 2009 survey, our automaker members reported that they plan to bring about 4,000 passenger vehicles to California by 2015. Transit agencies may be operating as many as 60 fuel cell buses. The stations we have and those in development are fine for hundreds of vehicles, but they aren't enough for the thousands that are coming.


Vehicles coming			
	Hundreds	Thousands	Tens of Thousands
	Through 2012	2013-2015	2016-2018
Total passenger vehicles	450	4,200	54,300
	Field Testing	Full-scale demonstration	Commercial
	Through 2011	2012-2014	2015-2017
Number of fuel cell buses	15 to 17	20 to 60	60 to 150

* Based on automaker surveys and transit regulations and plans

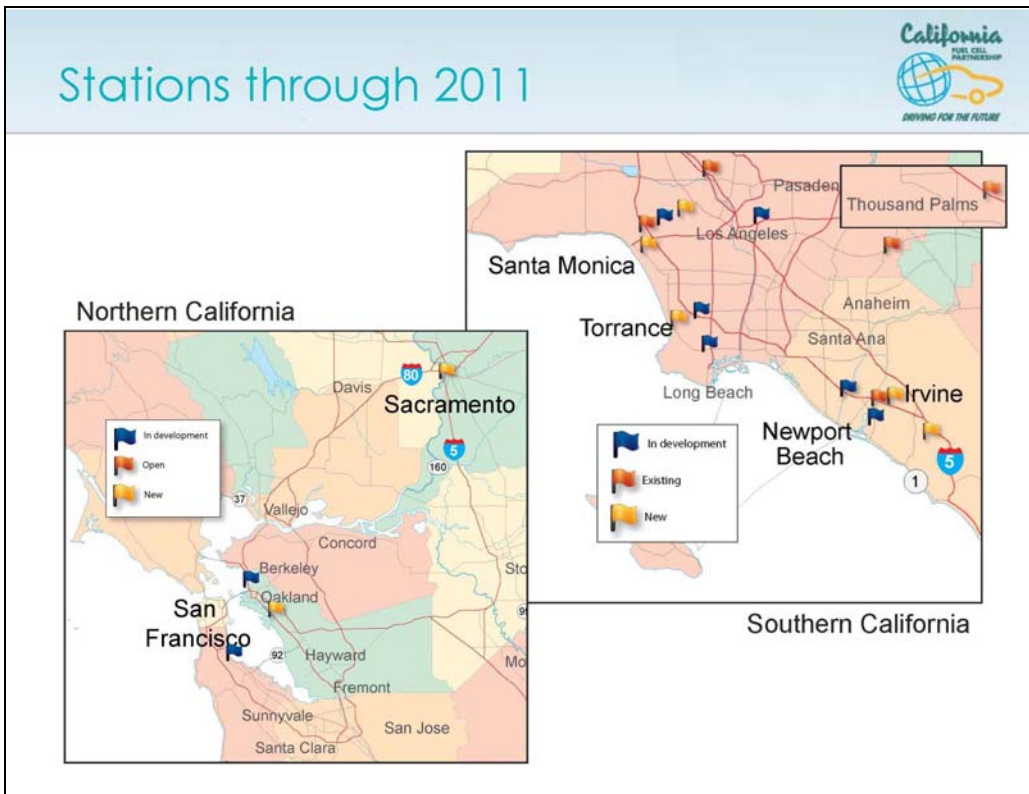
Today...right now...CaFCP is releasing the first progress and next steps report to our 2009 action plan. The action plan is a vision of how to prepare for a commercial market by 2015. It was a groundbreaking piece of work by our 30 industry and government members. It uses survey data, academic research and real-world information to identify the first clusters of hydrogen stations and show how and when stations must be funded and built to be in place for customers. It is a map of how to get from Independence to the Willamette Valley, the ending point of the Oregon Trail.

Like a map that includes prairies, mountains, rivers, deserts and forests, we intended that the action plan would be refined and sharpened to account for new information we gain along the journey, and inevitable changes in the environment. The Progress and Next Steps report is the first refinement. It highlights the progress that we – everyone in this room – has made in the past year to move us closer to market. And it focuses very specifically on what we need to do in the next two years to stay on track toward a commercial launch.

The centerpiece is stations. The action plan defined the clusters. The next steps report lists communities for seven new stations and expansion of four existing stations, all to be operational by the end of 2011.

Next Steps		
7	New Stations	Santa Monica, Irvine, Torrance, San Francisco, Sacramento clusters
4	Expanded Stations	Santa Monica, Irvine clusters, plus network connectors
2011	Open	Stations to be operational by the end of 2011

These new stations and those already existing and in development will create a small network of retail-ready stations in California that can provide fuel and convenience for customers, and help ensure that stations are used to the maximum.



So, more stations for more customers. And the Next Steps report calls for other specific actions that move us closer to the commercial market:

- We're going to synchronize and augment regulations and policies – This year the California Air Resources Board will propose new regulations for renewable hydrogen, revised Zero-Emission Vehicle regulations to launch CA on a path to meet our 2050 climate goals, and changes to existing fuels regulations, such as the Clean Fuels Outlet, that will help coordinate fuel availability to vehicle deployment.
- We're going to complete the initial codes and standards to allow retail sales of hydrogen – The Division of Measurement Standards will develop the tools and methods for measuring quantity of hydrogen dispensed and fuel quality, so that hydrogen can be sold as a retail transportation fuel.
- We're going to support business models developed by the private sector – like all alternative fuels, hydrogen must eventually compete with gasoline and yield profits for business. How do we get there? We need practical approaches that will work for fuel retailers, and we're already working closely with them to understand their needs.
- And we're going to support early market communities – hydrogen and fuel cells can help communities meet their environmental and energy goals, reducing local emissions as well as their carbon footprint. Communities can identify local, even renewable, resources, to make hydrogen in their region and be more energy independent. We are working closely with early market communities to help them make these connections.

When the pioneers traveled along the Oregon Trail, they encountered a few forts along the way. These weren't the walled fortresses you've seen in movies about the Wild West, but collections of buildings with stores, baths and mail service—not to mention saloons. The forts were a welcome site for the pioneers—a reminder that civilization existed and that they weren't alone in the wilderness.

The hydrogen programs in other US states and in Germany, Japan, Canada and Korea are like these forts. We in California know that we're not going it alone; each region may have different methods, but we all have the same goal of settling the West.

California continues to be a leader in this new frontier, investing in multiple fuels and technologies to reduce petroleum, improve air quality and meet climate goals. Our friends in the environmental community like to call this AB 118 program "Car Trek: the Next Generation." Last week, I and several others testified at budget hearings about progress and next steps for hydrogen fuel cell vehicles.

At one point, the committee chairman, Ira Ruskin, asked "When is it appropriate for government to invest in infrastructure?" He said he originally started thinking about this issue as it relates to hydrogen funding. Now, this question deserves a thoughtful and thorough response...but when you're standing in a crowded room with people sitting on

uncomfortable chairs and your whole testimony is supposed to be less than two minutes, you don't get to do thoughtful and thorough.

John Boesel of CalSTART was in the catbird seat when Ruskin asked the question. His answer was simple, and he nailed it: "Alternative fuels need support until they can be competitive with gasoline and diesel, and those fuels currently have a monopoly on the market."

Going first is difficult, but we make it a little easier for those who follow.

After that first wagon train in 1843, more wagon trains embarked on the trip West. Within 20 years, nearly half a million Americans traveled the Oregon Trail—some to the Willamette Valley for farmland and logging, others to California for gold. Working together, they improved the road west, built towns and cities, and created a cross-country mail system, the Pony Express.

Today, nearly 37 million people call California home. Even in these economic times, it remains one of the largest economies in the world. It is home base for the entertainment and computer industries, boasts a huge agriculture industry and some of the most recognized landmarks in the world. Imagine how different life would be if those early pioneers hadn't crossed the Missouri river to achieve their vision in the West. Imagine how different our world will be because we are crossing that river, and settling a new frontier.