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Is an electric car in your future?

By Tom Watson

Special to The Seattle Times

The idea of a clean, green, rechargeable driving machine has sparked the popular imagination for decades.

But now that electric cars are finally becoming more than a novelty, we'll soon find out whether they can dodge the potholes of technological, political and economic realities.

Q: I know Seattle will be a national test market for plug-in electric vehicles, starting this year. But what does that mean for me?

A: If you plan to buy a new car later this year and are willing to pay the higher initial cost, an electric car might be a realistic option. A federal grant will help fund the installation of about 2,500 charging stations for electric vehicles in the Seattle area. Some will be at car owners' homes and others will be public. Many should be put into operation this year.

To make use of this new charging infrastructure, the Nissan Leaf â€” the first mass-market, plug-in, all-electric car â€” should be on the street by late fall. However, so many details remain to be worked out, especially in developing the local charging network, that the first wave of electric-car buyers may experience a bumpy ride for a year or two.

Q: How much will the cars cost?

A: It's not firm yet, but Nissan has hinted that the Leaf will cost \$25,000 to \$30,000, a price similar to that of the Toyota Prius hybrid (which has a self-charging battery system and backup gasoline engine). The Leaf price will probably include \$7,500 federal tax credit for electric cars. Nissan may lease the batteries to buyers, which could add to the cost.

Other major car companies are also developing plug-in electric cars or plug-in hybrids, so prices should gradually drop. The few specialty or customized electric vehicles already on the market often cost more than \$100,000.

Q: Why was Seattle chosen as one of five electric-vehicle test markets in the U.S.?

A: Local government officials in our region actively sought the federal funding, citing numerous environmental and economic benefits. Since much of our region's electricity comes from hydropower, switching from gas vehicles to electric could significantly reduce emissions and help curb global warming.

Q: What are some of the long-term challenges facing the electric-vehicle industry?

A: Utilities, local governments and private companies (which in many cases will build and operate charging stations) must work closely to develop a reliable, fairly priced charging system.

If electric cars catch on, a method will be needed to limit charging during peak periods of electricity use. Electric-vehicle advocates say the energy needs of these cars can be met if cars are charged at off-peak hours and overall energy conservation improves.

Q: What about the batteries? Are they safe?

A: Great strides have recently been made in developing safe, efficient lithium-ion batteries for electric cars, but since they have

not yet endured real-world conditions, the jury is out.

There are also concerns about batteries used by electric cars and hybrids. Lithium and exotic "rare earth" minerals in these batteries are often mined in distant countries, creating the potential for price gouging. Mining of these materials in the U.S. will increase but may not meet all future needs.

Recycling of spent electric-car batteries (which may last eight to 10 years) will be crucial to protect the environment and keep battery costs down. Nissan has started a project to reuse old batteries from its Leaf cars for energy storage for utilities or industry.

Q: If those issues get resolved, are electric cars the answer to our transportation problems?

A: They are part of the solution, but driving less still trumps alternative-fuel cars. It will take more than electric cars to truly bring green power to the streets.

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