



NISSAN'S ZERO-EMISSION FUTURE

November 4, 2009

Nissan North America

Zero Emission



NISSAN GREEN PROGRAM



"Seeking a symbiosis of people, vehicles, and nature"

With a goal of sustainable mobility, Nissan is taking a proactive approach to finding solutions to environmental challenges.

Reducing CO2 emissions is a major focus of the Nissan Green Program.



NISSAN
GREEN PROGRAM

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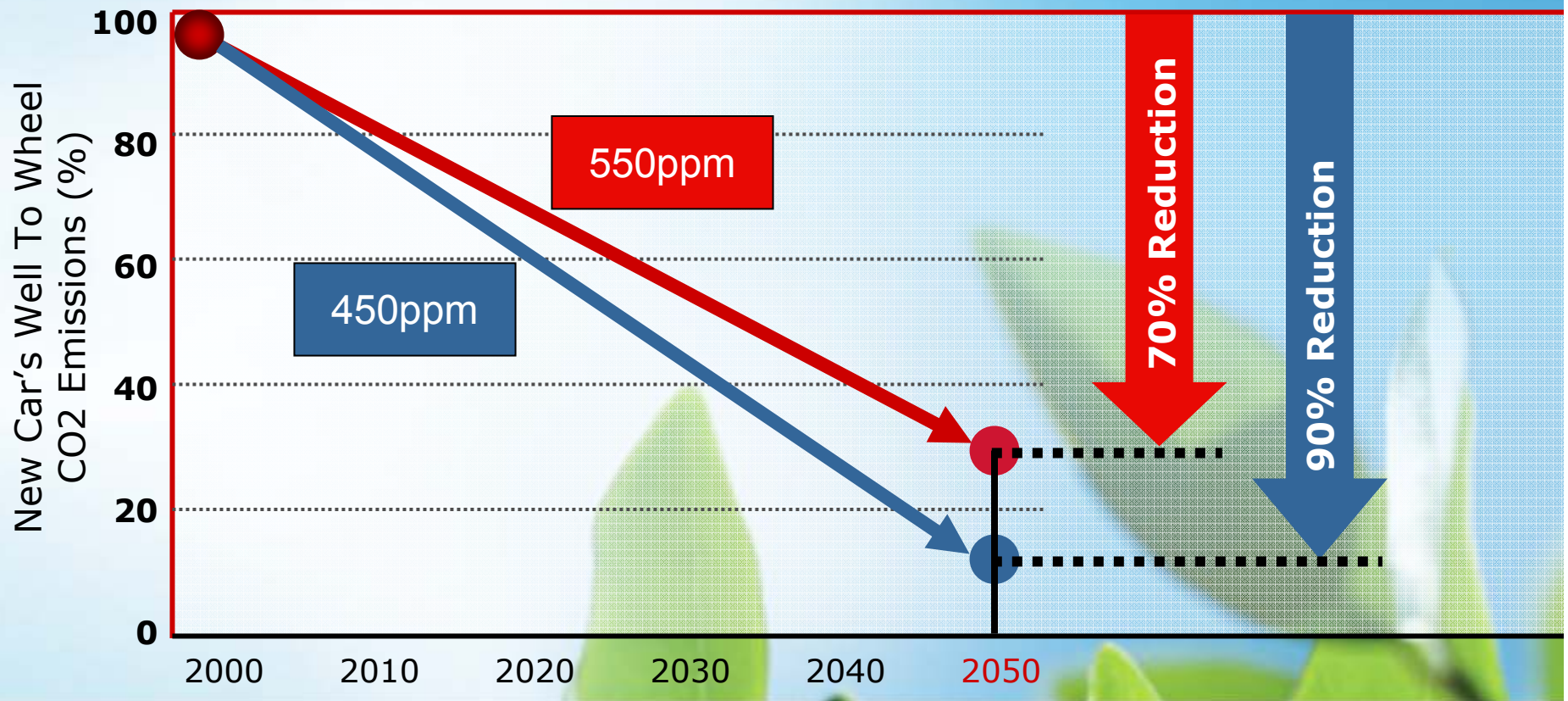


LONG-TERM GOAL FOR REDUCING CO2



Intergovernmental Panel for Climate Change (IPCC) study:

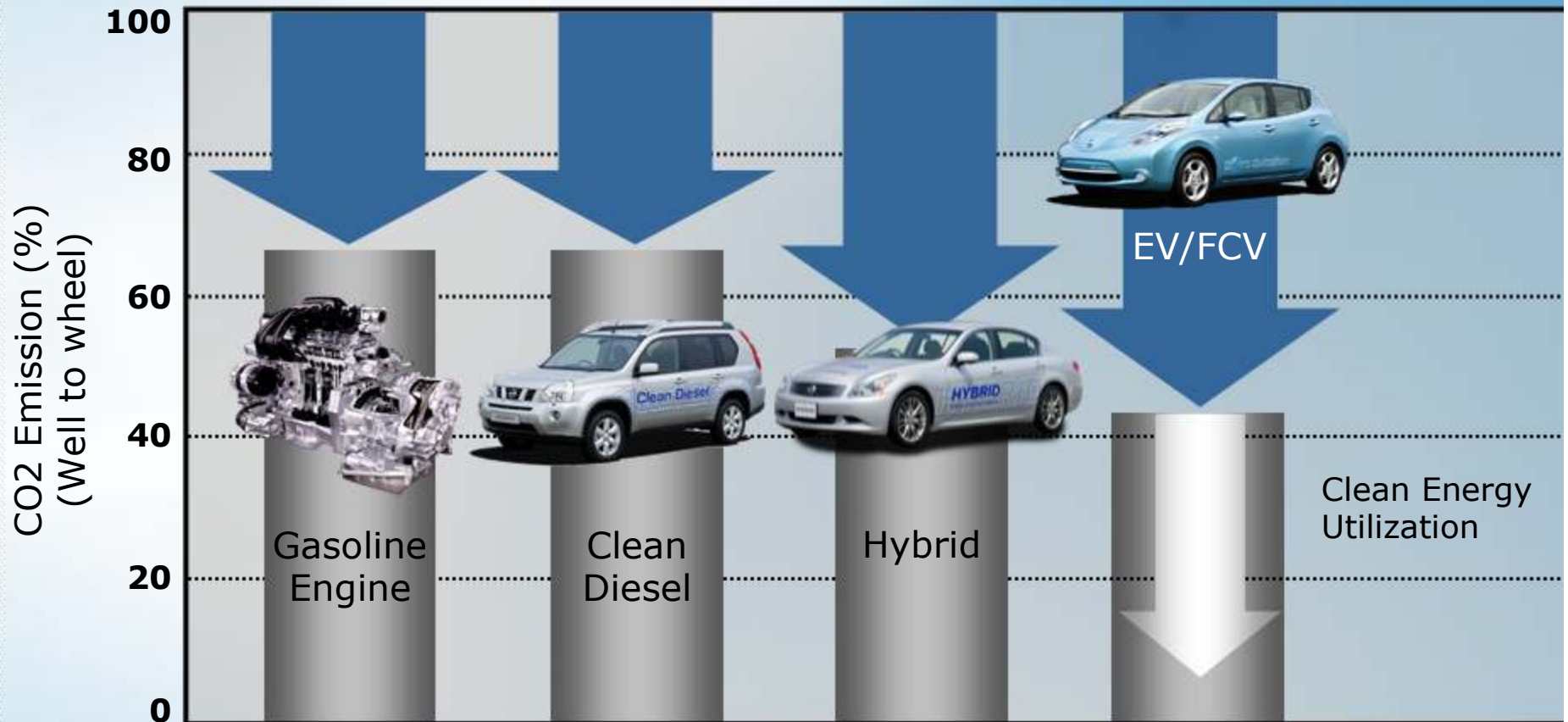
- By 2050 CO2 emissions must be reduced by 70%~90% vs. 2000 levels



TECHNOLOGY POTENTIAL FOR REDUCING CO2



EV/FCV are the ultimate solution for zero-emissions



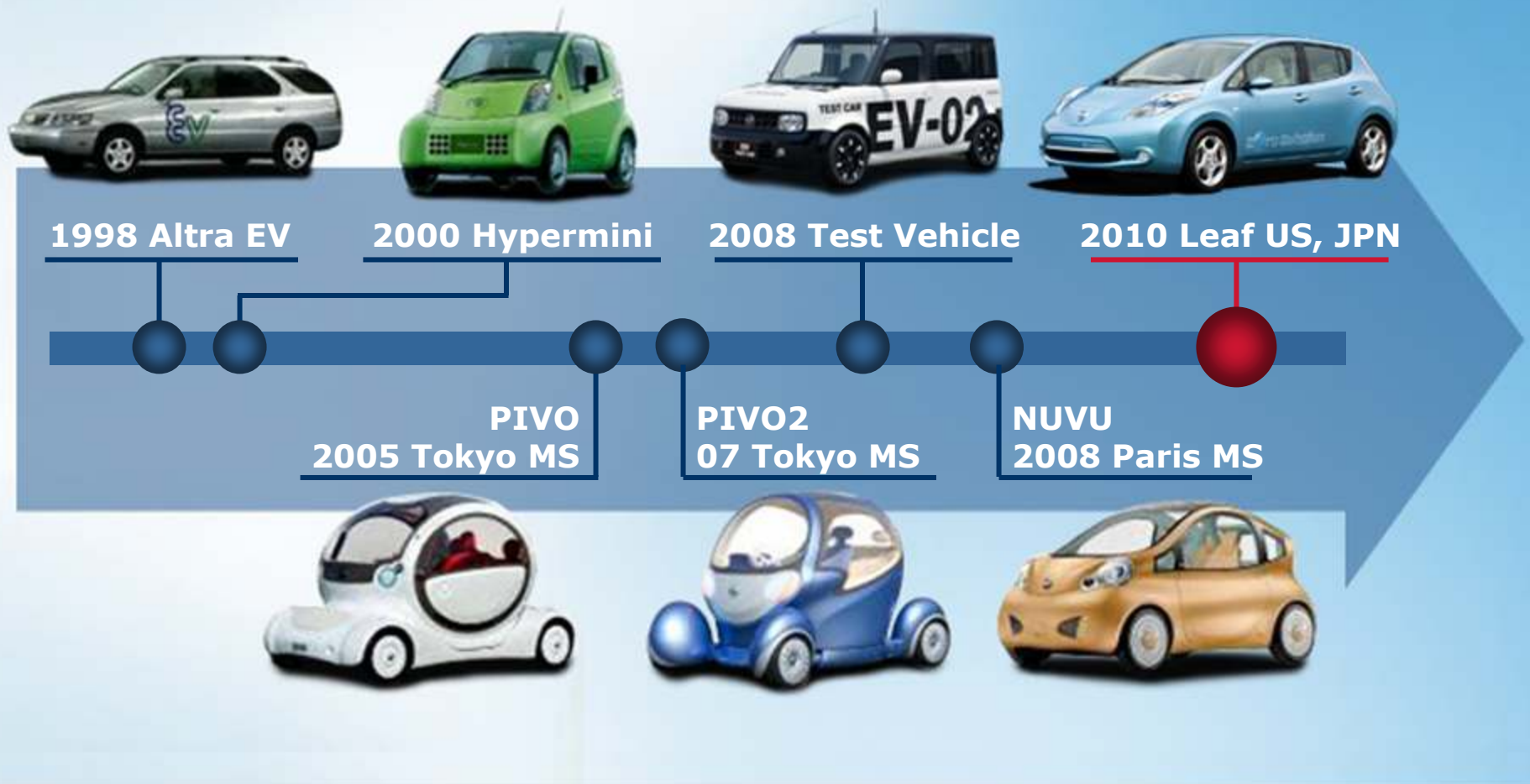
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HISTORY OF NISSAN'S EV



- 17 years of experience in lithium-ion battery/car application
- Late CY2010 launch all new pure electric vehicle



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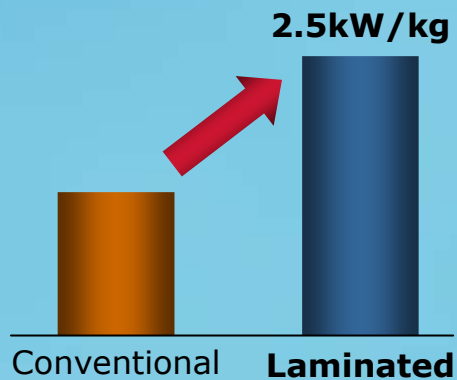


LITHIUM-ION BATTERY

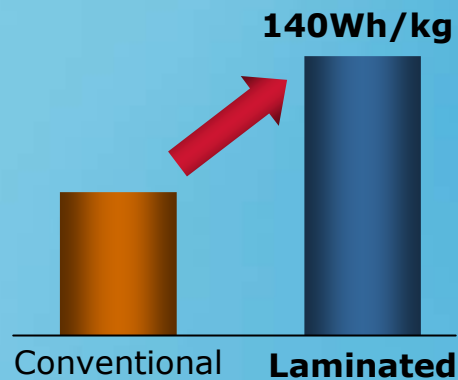


- High reliability in automotive applications
- Ready for mass production

2X POWER



2X ENERGY

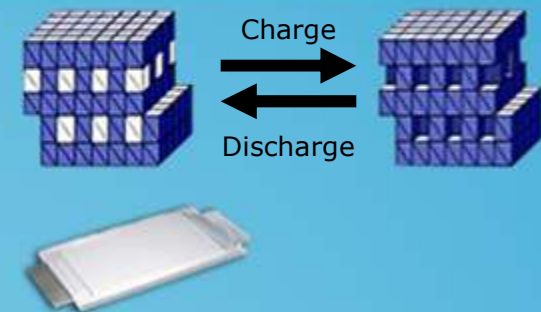


1/2 SIZE



Achieved High Reliability

- High heat stability with the use of manganese positive electrodes
- Enhanced cooling performance by lamination



MAJOR INVESTMENT IN BATTERY TECH



Material



Cell



Module



Pack



Vehicle



NEC
NEC/TOKIN



Automotive Energy Supply Corporation

NISSAN

NISSAN AND NEC JOINT VENTURE - AESC - STARTS OPERATIONS **12.0 billion yen investment to mass produce** **advanced lithium-ion batteries**

TOKYO (May 19, 2008) – Nissan Motor Co., Ltd., NEC Corporation, and its subsidiary NEC TOKIN Corporation, today announced that its joint-venture company – Automotive Energy Supply Corporation (AESC) – has begun full operations. AESC's start of operation follows the announcement of the joint-venture in April 2007.

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NISSAN LEAF



All the feature customers have come to expect:

**Compact
Car Size**

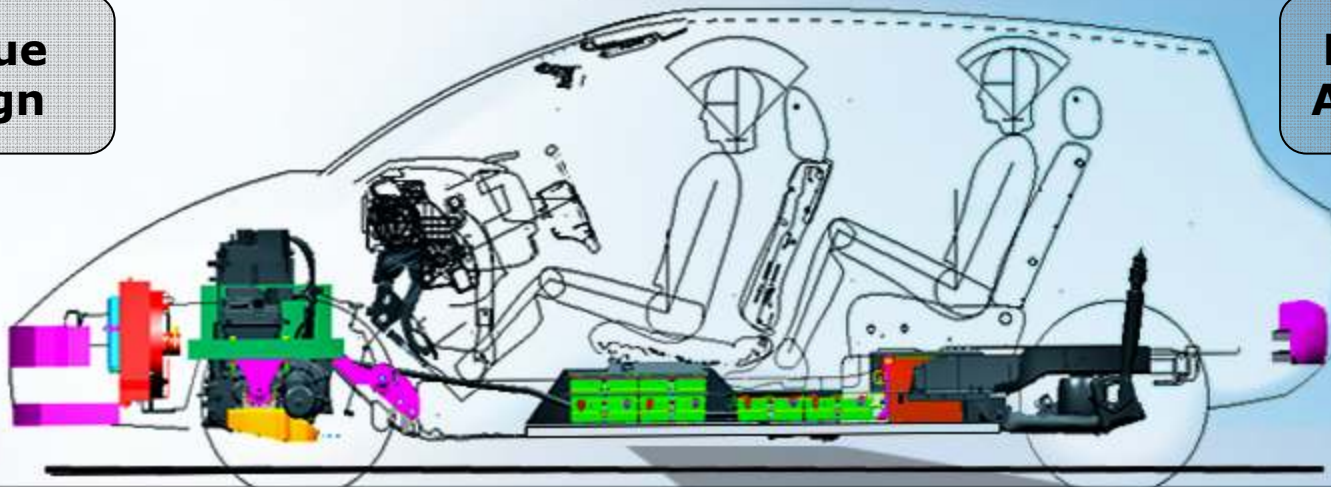
**Space For
5 People**

**100-Mile
Range**

**Advanced
Safety
Features**

**Unique
Design**

**Premium
Amenities**



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NISSAN LEAF PLATFORM



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Highlights

- Zero emission
- Affordable
- Stimulating acceleration
- Quietness
- 100-mile range sufficient for daily use
- Advanced intelligent transportation (IT) system



Size	5-door compact hatchback
Capacity	4 ~ 5 Adults
Range	100 miles (US LA4)
Top Speed	~88 mph
Battery	Laminated Li-ion (Manufactured by AESC)
Capacity/Power	24 kWh/over 90kW
Motor	High-response synchronous AC Motor 80kW/280Nm
IT System	Integrated communication system

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NISSAN LEAF IT SOLUTIONS



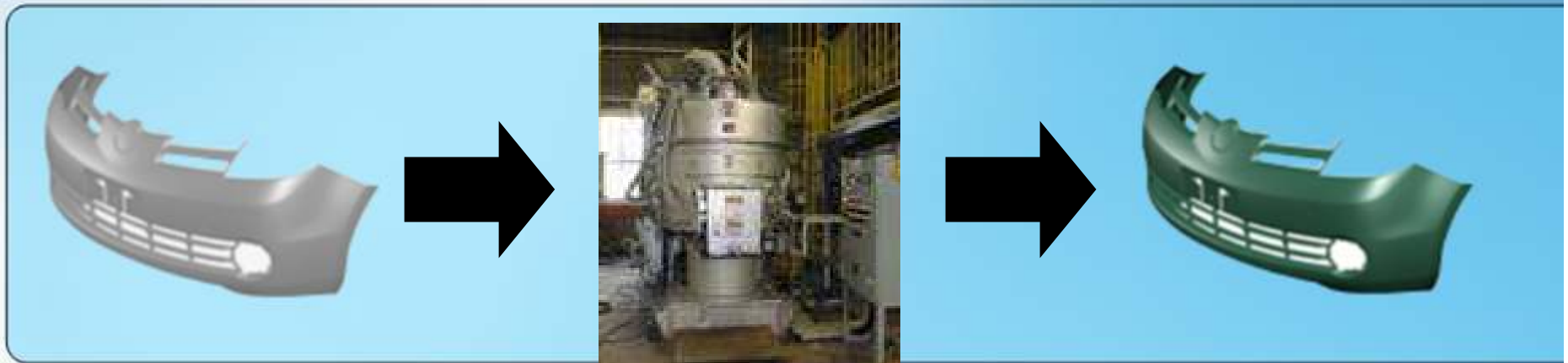
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RECYCLABILITY/RECOVERABILITY



- Up to 99% recyclable
- Made with recycled materials, designed for recoverability



BENEFITS TO THE CONSUMER



- True zero-emission vehicle
- Affordable pricing
- Lower Total Cost of Ownership than a comparable Internal Combustion Engine vehicle
- Lower maintenance costs than an ICE vehicle
 - Less complexity
 - No engine, transmission, exhaust system
 - No oil changes



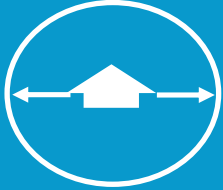
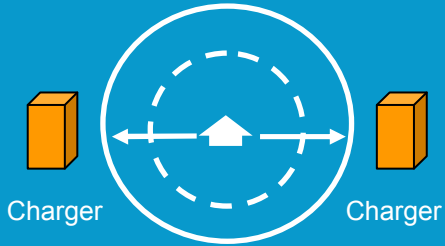
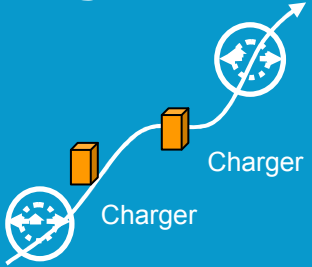
Cost per mile comparison (15k miles):

- Car (25mpg, \$3/gal) = \$0.12 per mile / \$1,800
- EV (\$0.11 kWh - US Avg) = \$0.026 per mile / \$396

Cost per mile of EVs can be 20-30% of the cost of fuel for a comparable internal combustion engine vehicle

CHARGING NETWORK CONCEPT



	Charging Network		
	Home Charging	Destination Charging	Pathway Charging
EV Usage	Short Distance 	Mid Distance 	Long Distance 
Charger Type	Normal	Normal or Quick (depends on stay time)	Quick
Charging Site	Home	Workplace, Movie Theatre, Mall, Restaurant, or Parking Lot	Major Road Highway Service Area



WHEN WILL NISSAN'S EV BE AVAILABLE?



- Nissan will partner with select public and private organizations to make EVs available for fleet/commercial use in 2010 and 2011
- Regionally, individual retail sales may begin as soon as late 2010 if the infrastructure is ready
- EVs will be mass marketed to individual consumers in 2012

2008	2009	2010	2011	2012
	Today	SOP/SOS		Mass Market Sales



WHERE WILL NISSAN'S EV BE AVAILABLE?



- Nissan is selecting early markets, not as a trial, but as real markets of opportunity.
- Early markets are selected via favorable demographics, environmental mindset, public/private support, and cooperative utilities to work together on market readiness and infrastructure rollout.
- Current partnerships include:
 - State of Tennessee
 - State of Oregon
 - San Diego
 - Sonoma County, Calif.
 - Phoenix-Tucson metro area
 - Raleigh, N.C.
 - Seattle
 - Washington, D.C.



EACH PARTNER'S STRENGTHS CAN BE LEVERAGED



Nissan

- Electric Vehicle
- Battery
- EV knowledge & support
- EV service and maintenance

State or Region

- Promote EV awareness
- Infrastructure
- EVSE Permit Process
- Legislation/Incentives
- Public education
- EV fleet vehicles

A SUSTAINABLE
FUTURE REQUIRES
ALL STAKEHOLDERS
WORKING TOGETHER

Companies

- EV fleet vehicles
- Workplace Charging
- Promote EV awareness
- Incentives for employees

Utilities

- Expand renewable electricity sources
- Capacity expansion
- Time of use rates
- Demand Response
- Infrastructure





- **Incentives for consumers**

- Financial (tax deduction, free permitting, subsidized charger installation)
- Non-financial (HOV lane access, preferential parking, etc.)

- **Streamlined EVSE permit process**

- Fast, easy permit application process (online permitting)
- Expedient installation approvals or installer self certification

- **Charging Infrastructure**

- Home
- Workplace
- Public

- **Education and Public Outreach**

- Educate the public on environmental, social, and financial benefits of zero emission vehicles



ECONOMIC STIMULUS PACKAGE



- Up to \$7,500 tax credit for first 200,000 vehicles/OEM
- Up to \$2,000 tax credit for individuals (50% for businesses) to purchase and install chargers
- \$1.6B loan from U.S. Department of Energy
 - Nissan to invest in its Smyrna, TN Manufacturing facility
 - New battery production facility
 - Retool plant for EV manufacturing
 - Potential capacity for 150,000 vehicles / 200,000 batteries
 - Production to begin in 2012
- \$99.6M Dept. of Energy Grant to deploy charging network:
 - State of Tennessee
 - State of Oregon
 - San Diego
 - Phoenix/Tucson
 - Seattle
- State Incentives



NISSAN LEAF



- **Real Car**
- **100 Mile Range**
- **Launching in 15 months**
- **What are you doing to get "Plug In" Ready?**

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THANK YOU!

Zero Emission

