



**RENAULT NISSAN**

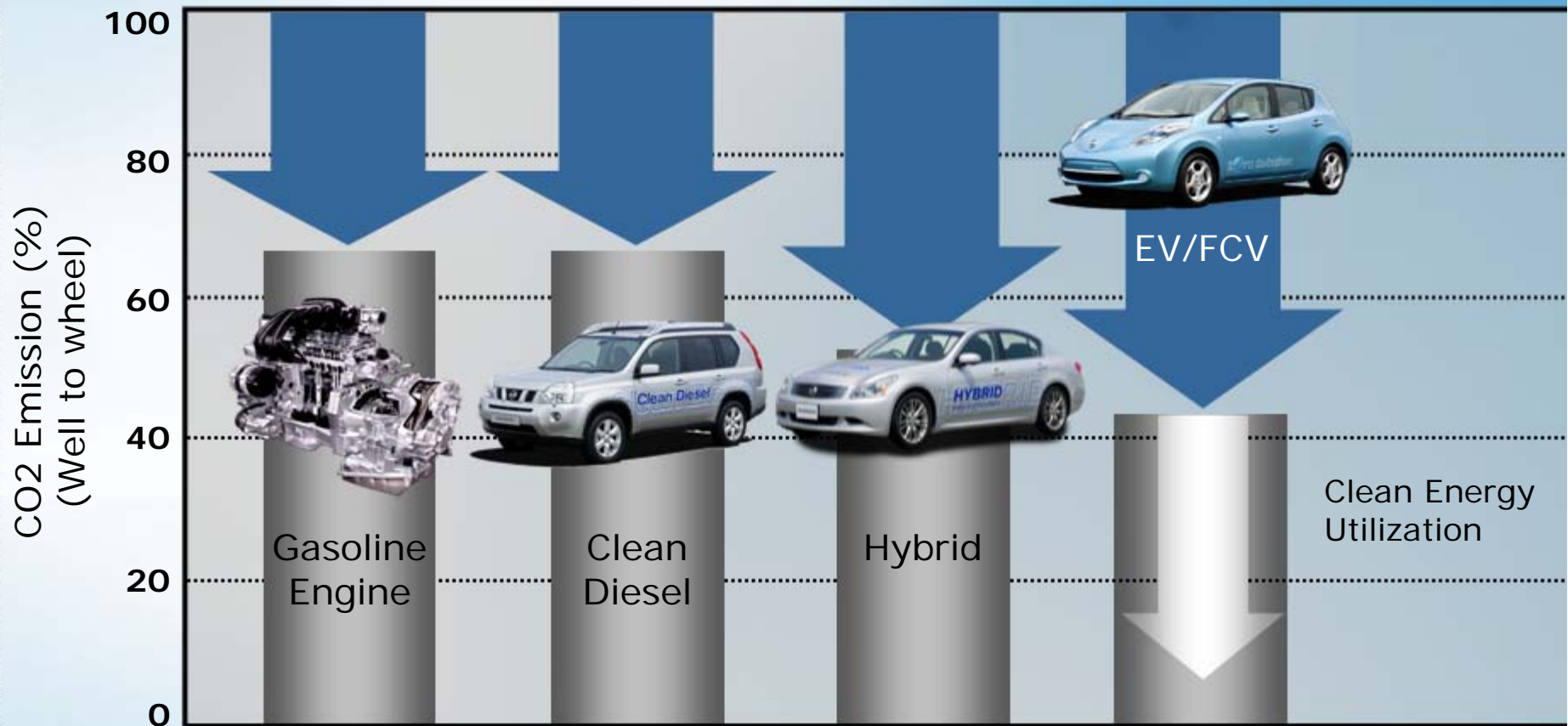
**CREATING A FUTURE OF  
ZERO-EMISSION MOBILITY**



# POTENTIAL FOR REDUCING CO2



EV/FCV are the ultimate solution for zero-emissions



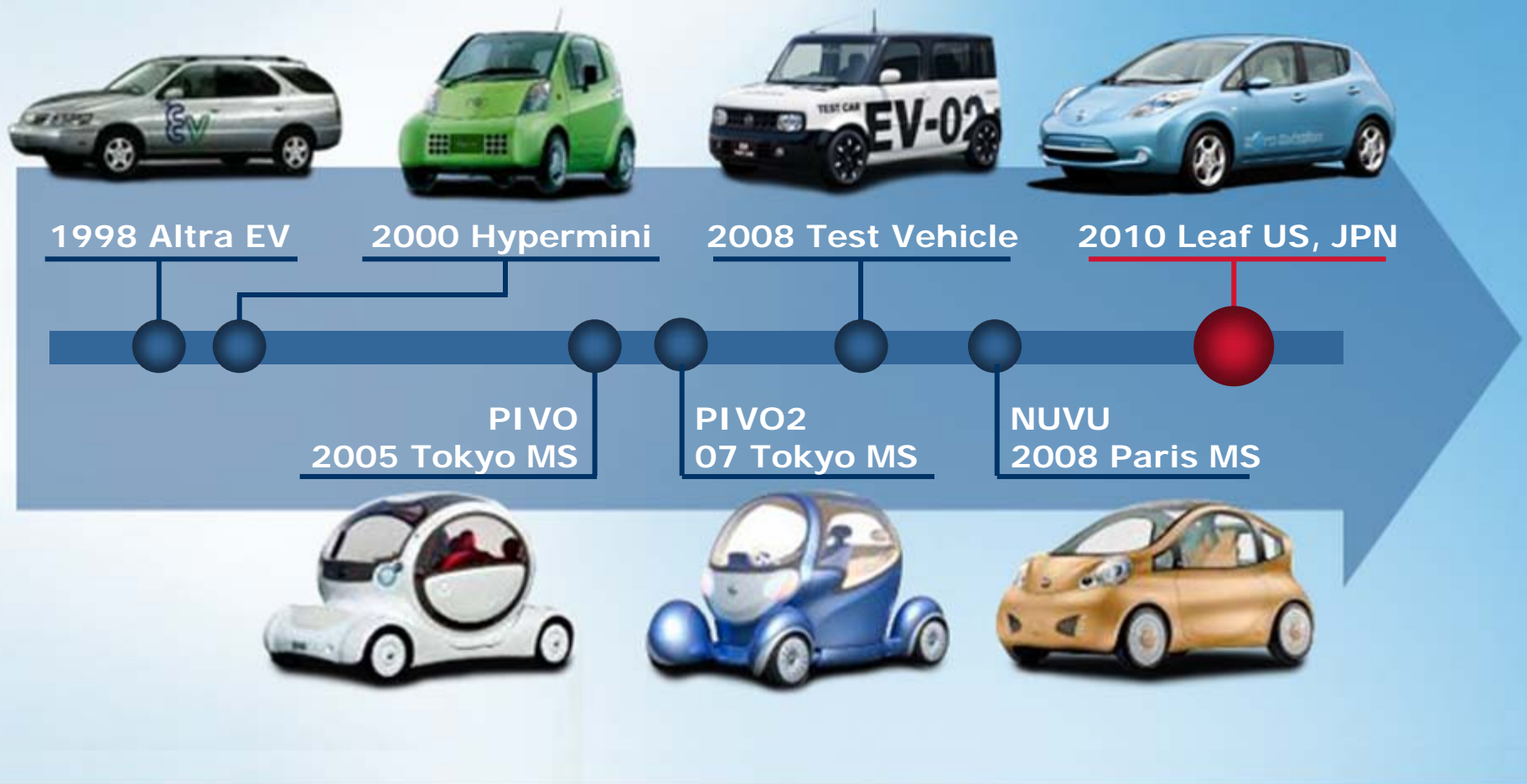
**Zero Emission**





# HISTORY OF NISSAN'S EV

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



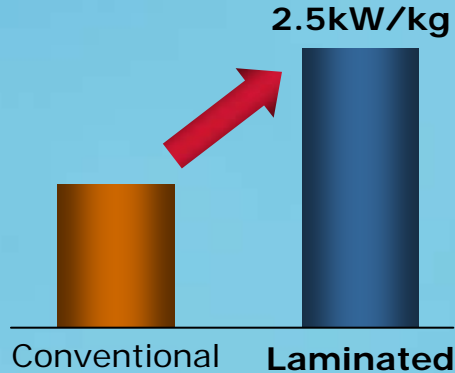
Zero Emission



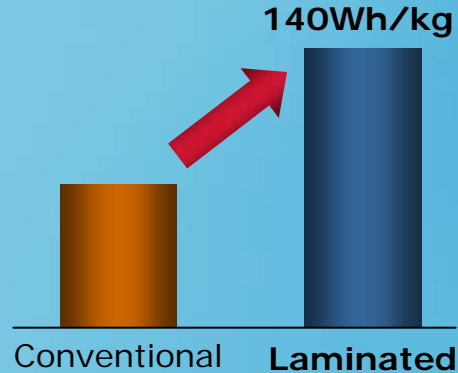
# LITHIUM-ION BATTERY

- High reliability in automotive applications
- Ready for mass production

## 2X POWER



## 2X ENERGY

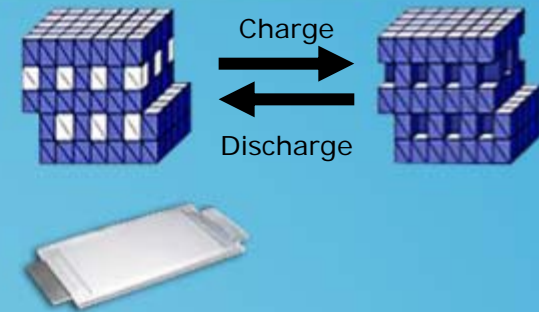


## 1/2 SIZE



## Achieved High Reliability

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



# THE NISSAN EV - LEAF

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All the feature customers have come to expect:

Compact  
Car Size

Space For  
5 People

160 km  
Range

Advanced  
Safety  
Features

Unique  
Design

Premium  
Amenities



# NISSAN LEAF



zero Emission



# NISSAN LEAF



61.0 in/  
1550 mm

69.7 in / 1770 mm

**Zero Emission**



# THE NISSAN EV - LEAF

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# Driving with Peace of Mind

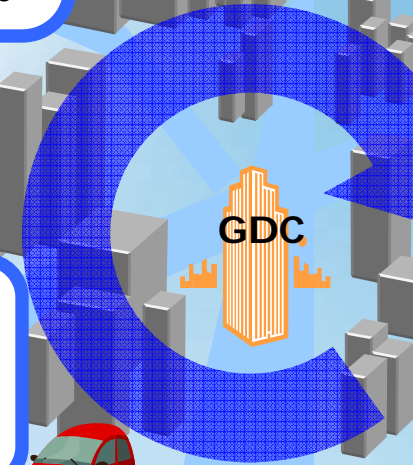
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## What does EV-IT do?

- Navigation System
- Remote control of vehicle functions through cellular phone/internet
- Show nearby charging spots
- Show how far driver can go
- Check charging status
- Map updates for charging locations

## Bundled Features:

- Navigation
- BTHF
- DCM
- Radio, CD
- USB/iPod adapter
- SAT Radio
- MP3 player



## BENEFITS TO THE CONSUMER



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- True zero-emission vehicle
- No price premiums
- Lower Total Cost of Ownership than a comparable Internal Combustion Engine
- Lower maintenance costs than an ICE vehicle (Less complexity, no engine, no oil changes)



### Annual driving cost comparison (20K km):

- Car (good 8L/100km, \$1/L) = \$1,600/yr
- EV (high \$0.10 kWh) = \$360/yr

Advantage exists even if gasoline drops to \$0.50/litre

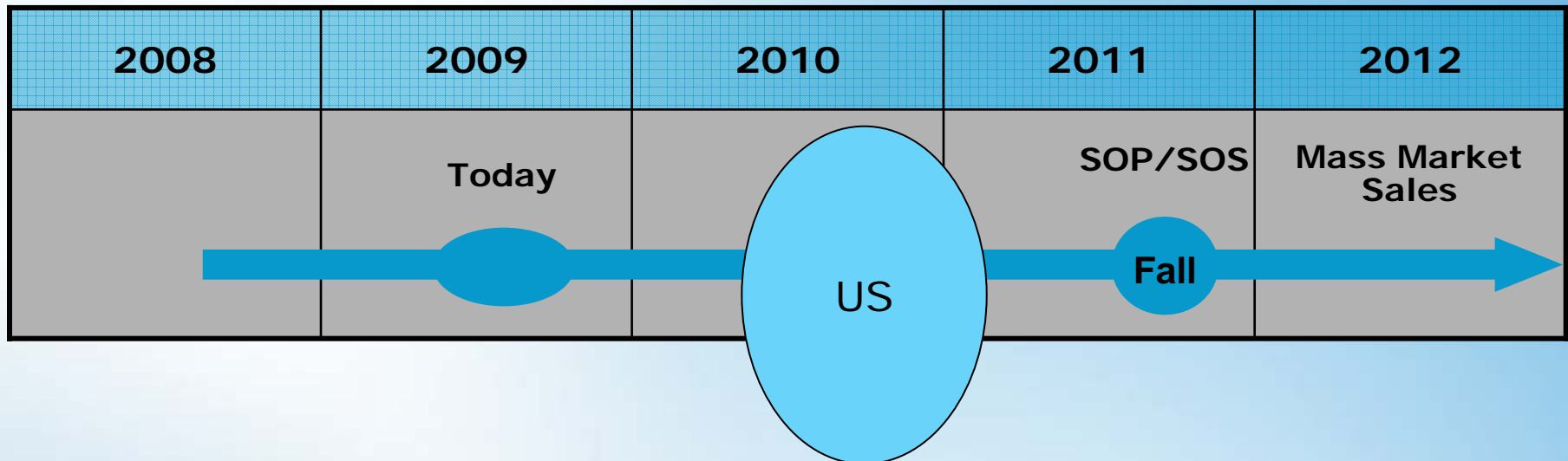


# WHEN WILL NISSAN'S EV BE AVAILABLE?

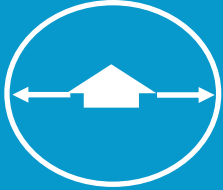
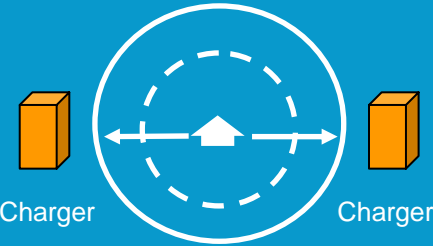
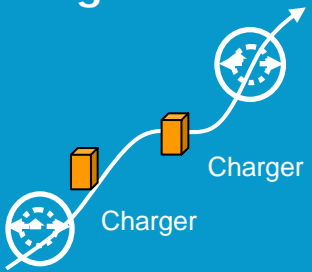


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- Nissan will partner with select public and private organizations to make EVs available for fleet/commercial use in 2011 and 2012
- Regionally, individual retail sales may begin as soon as late 2011 if the infrastructure is ready
- EVs will be mass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



# CHARGING NETWORK CONCEPT

	Home Charging	Charging Network	
		Destination Charging	Pathway Charging
EV Usage	<b>Short Distance</b> 	<b>Mid Distance</b> 	<b>Long Distance</b> 
Charger Type	Normal	Normal or Quick (depends on stay time)	Quick
Charging Site	Home Office	Super Market, Mall Restaurant or Parking Lot	Major Road Highway Service Area



# EACH PARTNER'S STRENGTHS CAN BE LEVERAGED

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## Nissan

- Electric vehicle
- Battery
- EV knowledge & support

## Province

- Promote EV awareness
- Infrastructure support
- Legislation/Incentives
- Public education
- EV fleet vehicles

A SUSTAINABLE  
FUTURE REQUIRES  
ALL STAKEHOLDERS  
WORKING TOGETHER

## Companies

- EV fleet vehicles
- Infrastructure support
- EV awareness

## Utilities

- Expand renewable electricity sources
- Capacity expansion



# NISSAN LEAF



## Highlights

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



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

**Zero Emission**



# RENAULT NISSAN



## NISSAN GREEN PROGRAM 2010

Nissan's environmental ideal is a society where there is a 'symbiosis of people, vehicles and nature.' In working towards this goal, Nissan has established specific targets in its eco-action plan: 'Nissan Green Program 2010.'

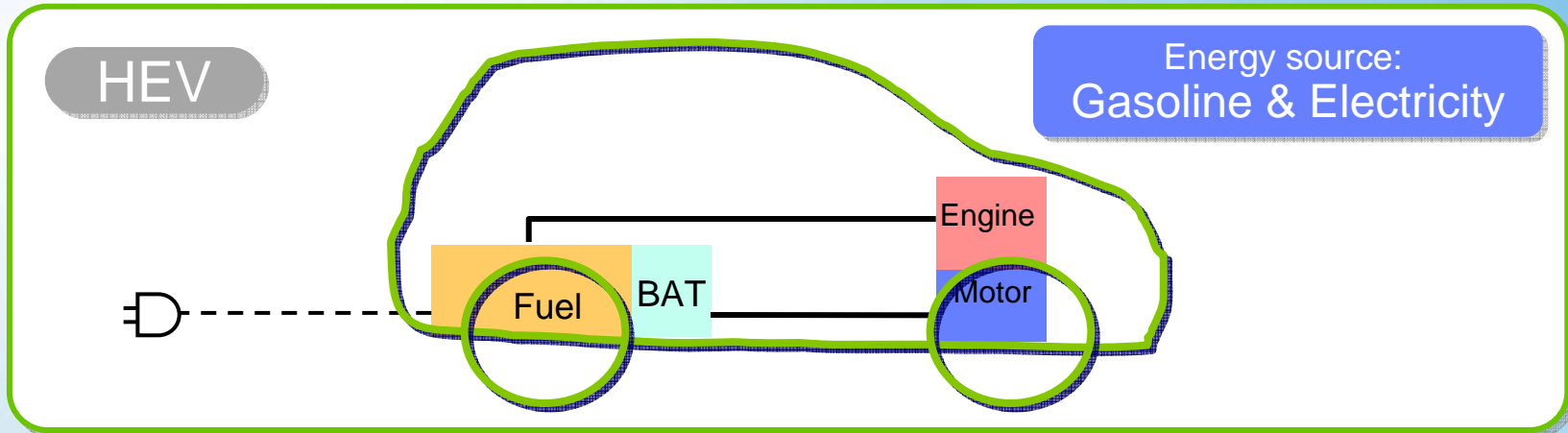
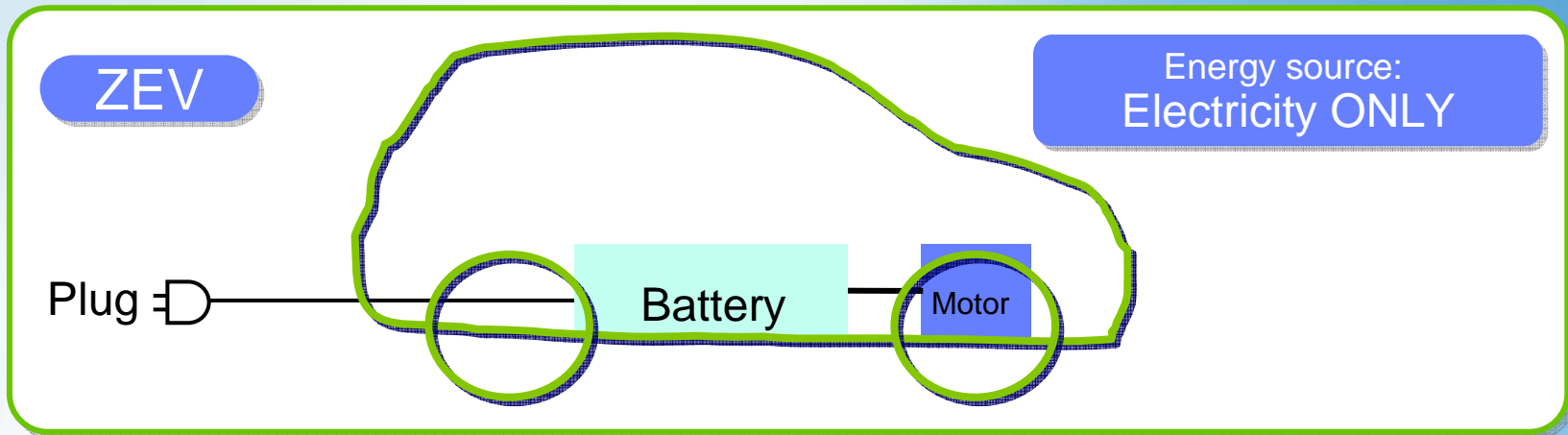


NISSAN  
GREEN PROGRAM



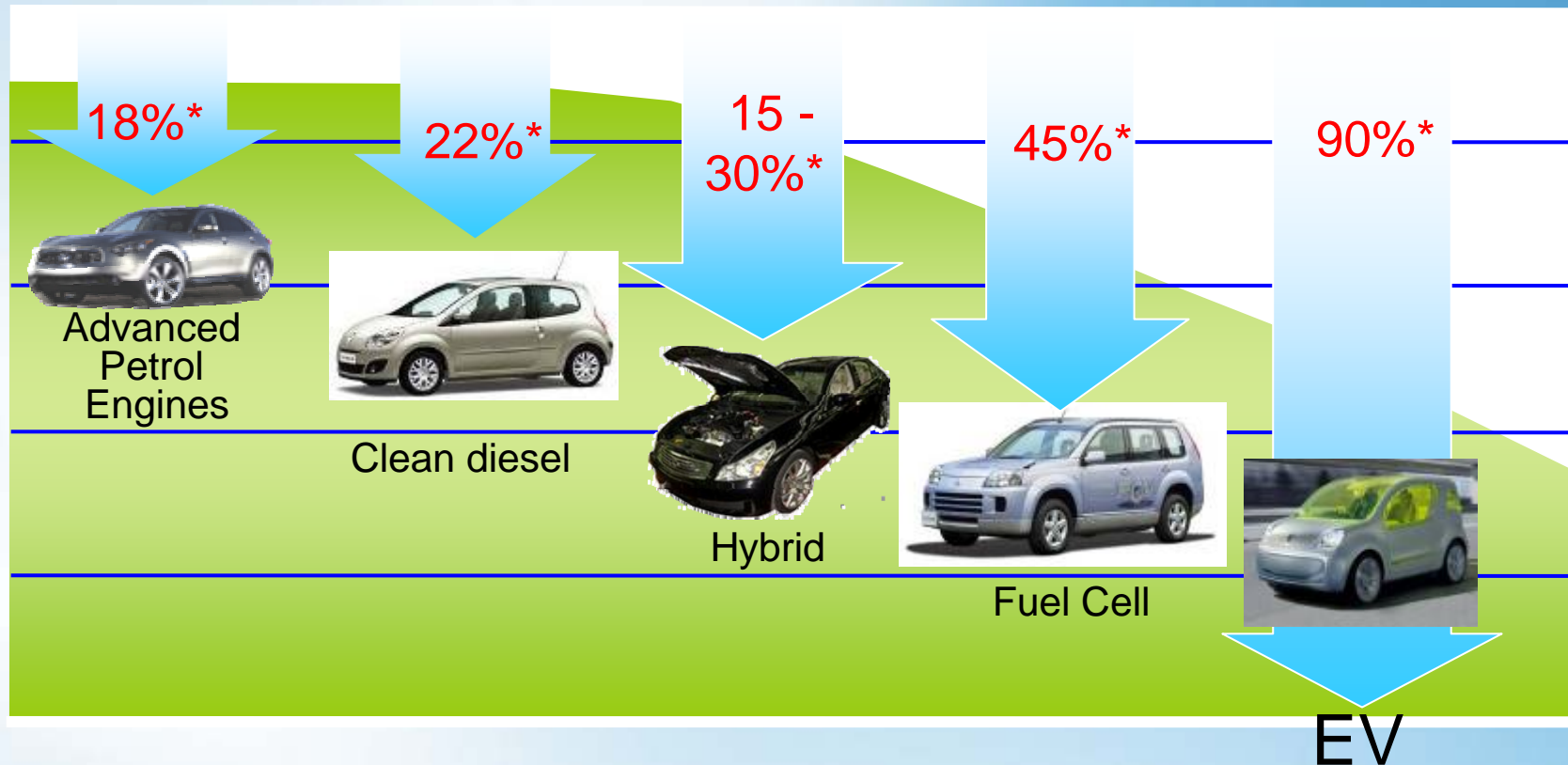
# ZEV VS. HEV

● ZEV = Zero CO2



# ON BOARD FUEL EFFICIENCY

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**\*Maximal tank to wheel energy conversion rate** (Hybrid depends on drive mode)

The EV has the highest on-board **fuel efficiency**

