

Green Car Roadmap

36th EGNRET

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Green Car Roadmap

Definition of Green Car

A **green vehicle** or environmentally friendly vehicle is a road motor vehicle that **produces less harmful impacts to the environment than comparable conventional internal combustion engine vehicles** running on gasoline or diesel, or one that uses alternative fuels.

Presently, in some countries the term is used for any vehicle surpassing the Euro6-norm such as LEVs and ULEVs, and also more informally it is used for California's **zero emissions vehicles** and other **low-carbon emission vehicles**.

From: http://en.wikipedia.org/wiki/Green_vehicle

Vision

Vision

Global Top 4 in 2015

Objectives

- Production: 1.2 million
- Green Car Ratio: 21%
- GHG Reduction: 1.2 million ton

Strategies

- Production Roadmap
- R&D Roadmap
- Initial Market Promotion
- Sustainable Ecosystem

Production Roadmap

Type		Start	'11	'12	'13	'14	'15
EV	Compact	'10	MP				
	Compact CUV	'11	R&D	MP			
	Midsize	'11	R&D			MP	
	Remodeled	'12		R&D		MP	
	Bus Remodeled	'10	R&D				Demo/MP
PHEV	Midsize	'08	R&D	Demo	MP		
HEV	Compact	'00	MP('10~)				
	Midsize	'06	MP('11~)				
FCEV	Midsize	'04	R&D	Demo			MP
	Bus	'06	R&D				Demo/MP
CDV	Midsize	'10	R&D	MP			
	Fullsize	'12		R&D		MP	
	Bus	'13			R&D		MP

R&D Roadmap

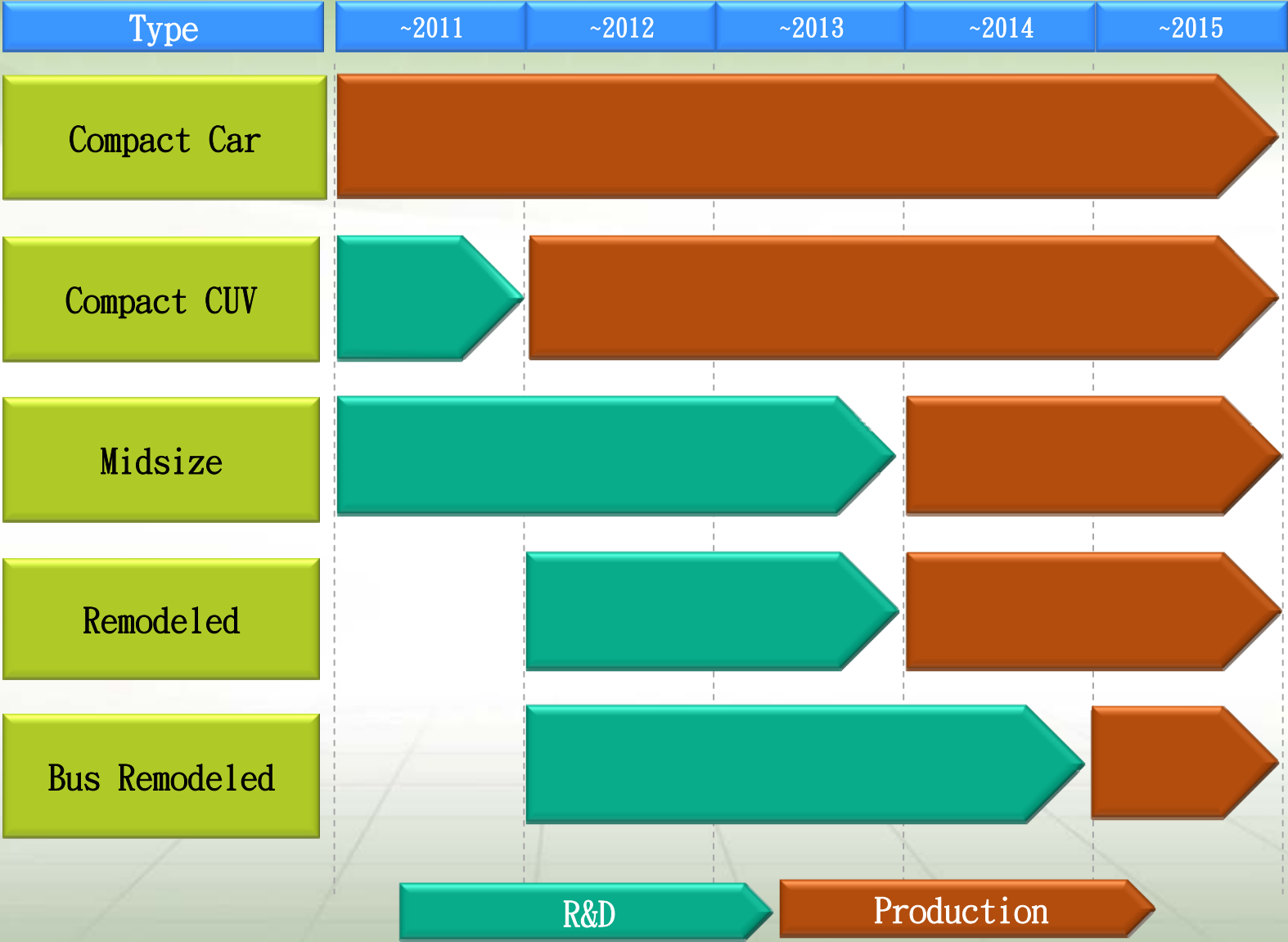
Items	'11	'12	'13	'14	'15
EV Motor System					
EV HVAC					
EV Size Reduction					
EV Battery System					
EV Charging System					
PHEV Transmission System					
FCEV Stack Module					
CDV Pre/Post Processing System					

Deployment Roadmap

Type	'11	'13	'15	'20
EV	800	13,200	85,700	1,046,200
PHEV	-	10,000	44,000	248,000
HEV	30,500	78,500	151,500	405,500
FCEV	-	50	10,100	98,800
CDV	330,600	719,800	1,104,200	1,853,500
Total	361,900	821,550	1,395,500	3,652,000

Electric Vehicle

Roadmap



R&D Targets

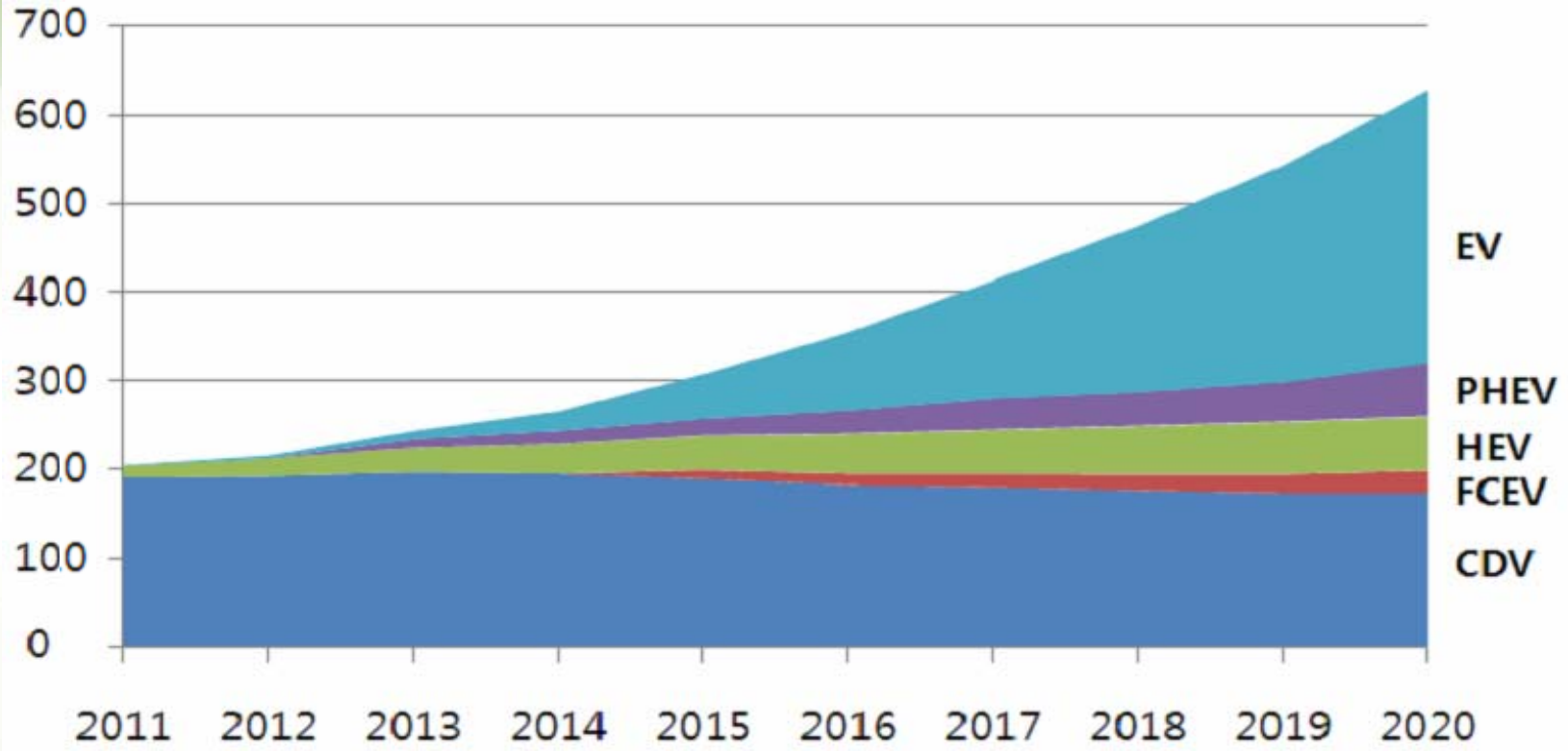
Items		'11	'12	'13	'14	'15	
EV	Motor	Output (kW/ℓ)	2.9	2.9	3.0	3.1	3.2
		Efficiency (%)	85	86.5	88	90	92
	HVAC	Loss (%)	30	22.5	15	12.5	10
	Size Reduction	Total Size (%)	100	95	90	85	80
		Parts (%)	100	100	90	85	80
	Battery	Distance (km)	140	140	150	180	200
		Price (\$/kWh)	1,000	900	800	600	500
	Charger	Slow Charge (hr)	6	6	5	4	3
		Quick Charge (min)	25	23.5	22	21	20

Charging Infrastructure Deployment

Type		'11	'13	'15	'20
Home		800	13,200	85,700	1,046,200
Public	Slow	170	3,100	4,500	8,000
	Quick	70	500	1,100	2,600
Commercial	Slow	-	2,500	11,400	1,321,100
	Quick	-	1,000	3,000	19,600
Total		1,040	20,300	105,700	2,397,500

Expected Effects

Domestic Deployment Mix



Contributions

Item	'11	'13	'15	'20	Total
Job Creation [thousand]	5	9	13	23	150
GHG Reduction [million ton/year]	0.3	0.6	1.2	4.6	18
Energy Saving [million toe/year]	0.1	0.3	0.5	2.0	7.9
Sales in Domestic Market [billion \$]	5	6	8	16	92
Sales in Global Market [billion \$]	17	20	23	33	240

Thank you!