Best Practices from Japan: charge point planning for urban and suburban areas

Fast Charging Europe Conference 2014 in Munich

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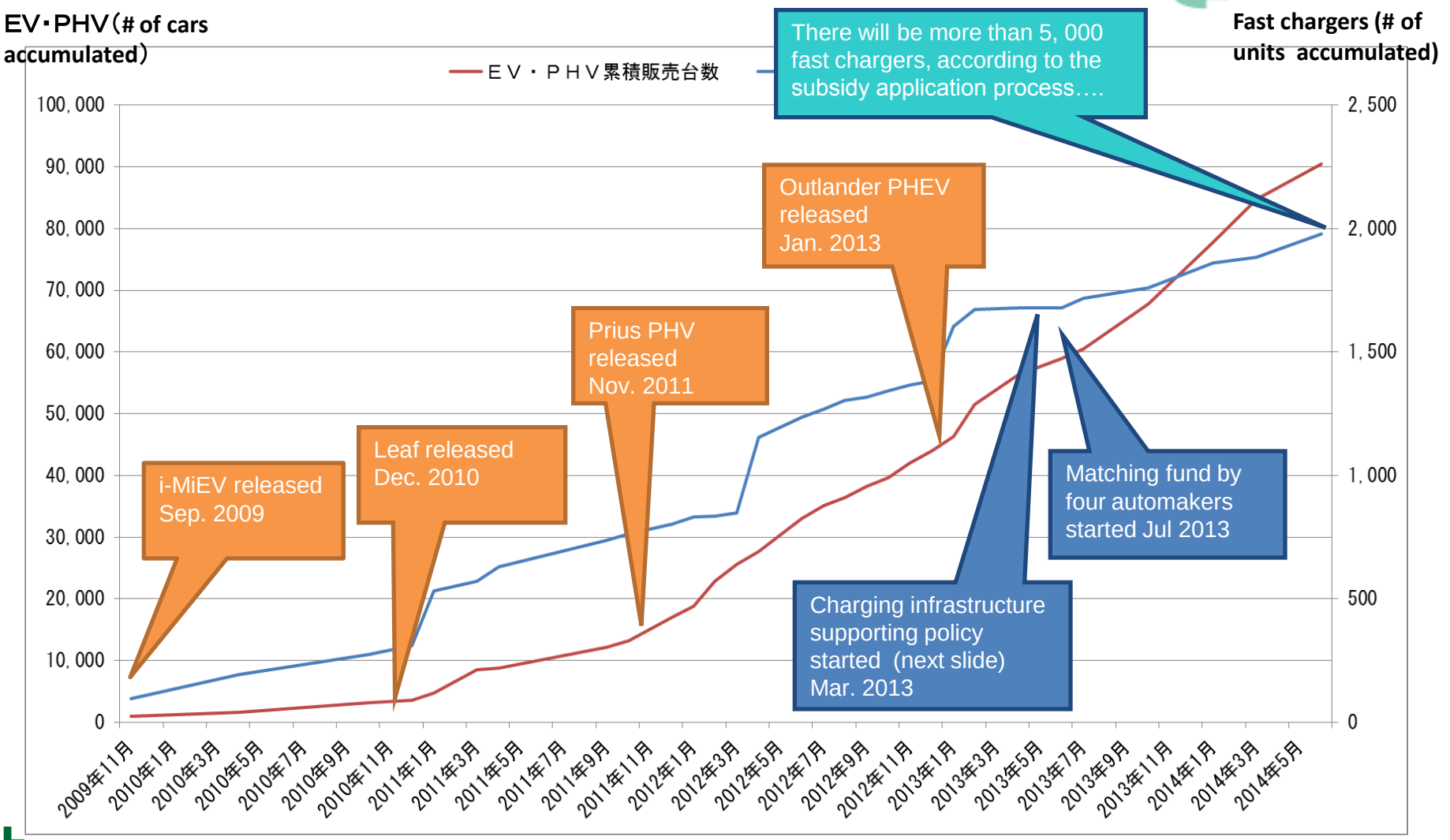
of Fast chargers/EV and PHV in Japan



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Charging infrastructure supporting policy in Japan

Role of government

- Fundamental Strategy

Fast charge : Express motorways, Convenience stores, Gas stations

Normal charge : Hotels, Amusement Parks, Apartments

- Budget: 100 billion yen

Role of municipals

- Implementation Vision

Locations, types and numbers of chargers are investigated to meet regional circumstances

Role of private sector

- Installation & Operation

Business model

Application for gov. subsidies

- Matching fund supported by automakers also available

ラグーナ蒲郡(愛知県)

東名高速道路
海老名サービスエリア(下り)

茅ヶ崎 市営駐車場(神奈川県)

道の駅あわくらんど(岡山県)

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Requirements for different layers of subsidy

Requirements	Subsidy from the government	Matching fund from the private sector
✓Consistent with the Implementation Vision of municipalities ✓Charging service accessible for public users	2/3 of charger and its installation cost	A private entity by four automakers provides financial support for the remaining 1/3 cost, plus the maintenance cost for 8 years.
✓Charging service accessible for public users (independent from any municipality Implementation Plan)	1/2 of charger and its installation cost	
✓Parking area exclusive for apartment residents	1/2 of charger and its installation cost	
✓None of the above	1/2 of charger cost	

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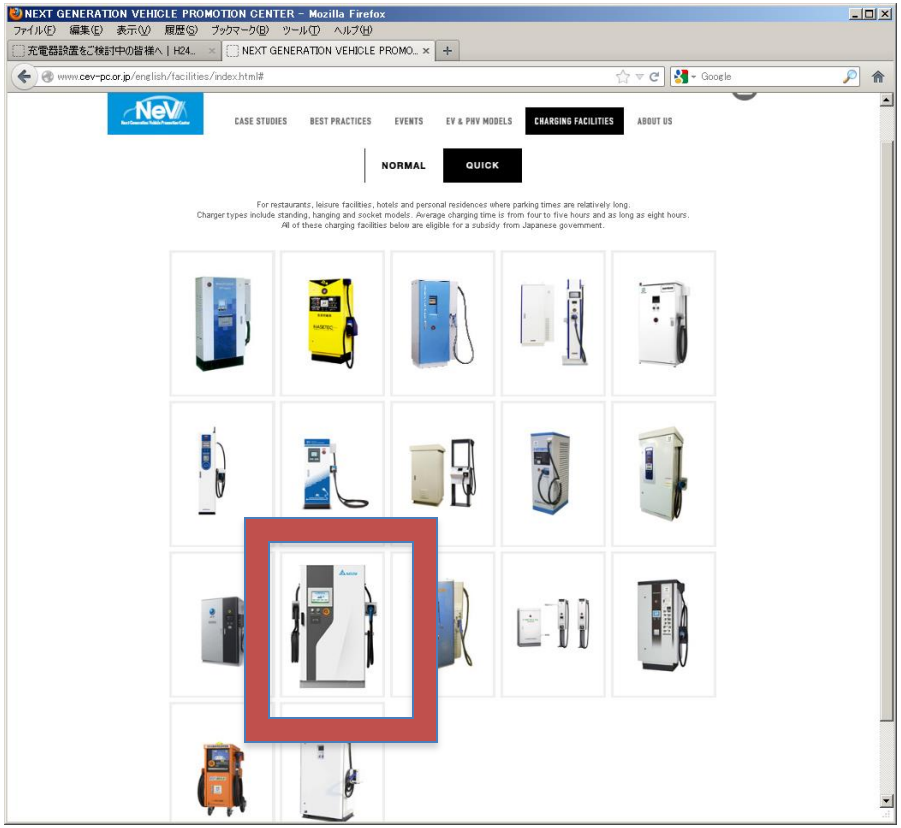
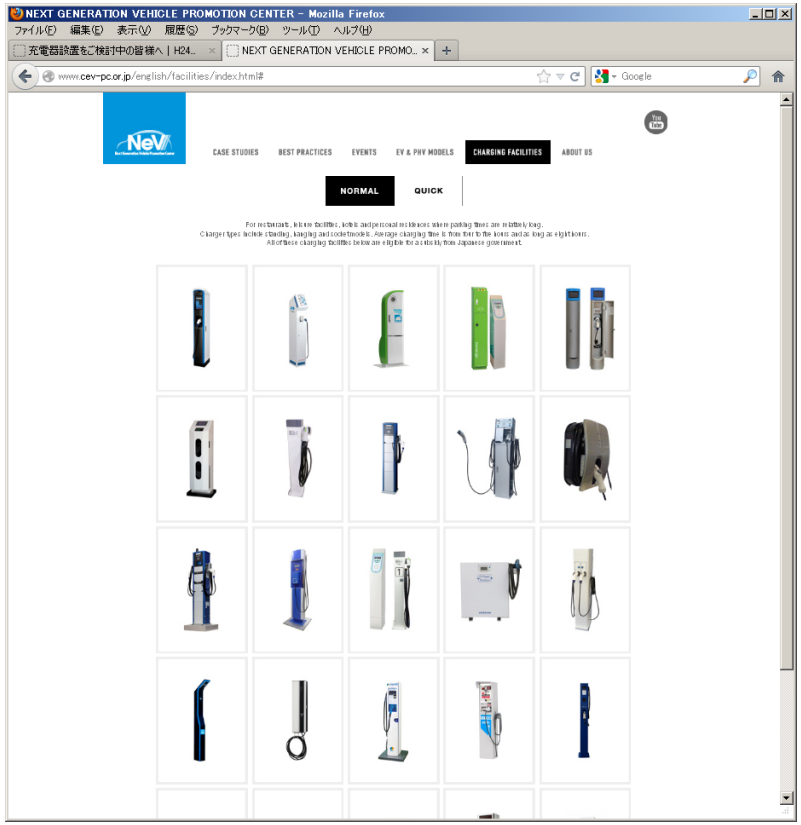
Government subsidy is admitted to CHAdeMO/Combo dual chargers

Fast Chargers



Normal Chargers



URL http://www.cev-pc.or.jp/english/facilities/index.html#

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Implementation Vision for Express Motorways （Central Nippon Expressway）

- ✓A fast charging point for every Service Area (SA), which are normally located with 30km～40km intervals.
- ✓More than one fast charger for SAs with higher turnover rates.

	Daily turnover rate
Average turnover rate of all SAs (1st and 2nd quarters in 2013)	3.2 (times per day)
Turnover rate at Ashigara SA (August 2013)	12.4 (times per day)
Peak day turnover rate at Ashigara SA (Sep 28, 2013)	26 (times per day)

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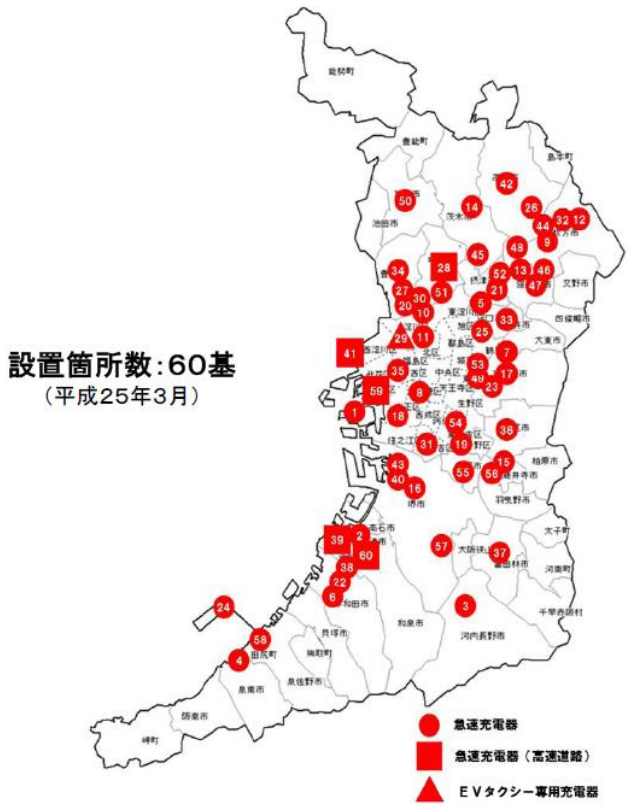
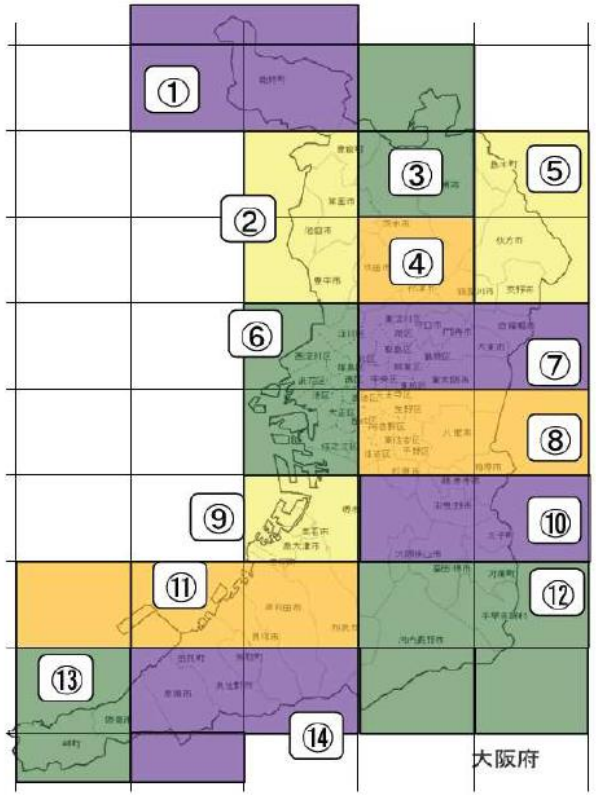
Implementation Vision of Osaka prefecture – A segmentation case for urban area

- ✓Fast charging network is under expansion since 2010, with existing 60 fast chargers as of Mar 2013.
- ✓Segment the whole area into 10km*10km square blocs. Based on the EV distribution analysis, install 10-80 fast and normal chargers in each bloc.





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Implementation Vision of Wakayama prefecture – A flow analysis case for rural area

Pathway charging; fast charger

◆Classify into three layers of traffic flow

① Express motorways (red)
SA, Local products market

② Main network roads (yellow)
Convenient store, Gas station...

③ Main local roads (green)
Convenient store, Gas station, Commercial facilities etc.

Destination charging; normal charger

◆ Select facilities where EV is likely to be parked for a certain period of time.

Commercial and public facilities, Hospital, Bank, Railway station, etc.

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