

Report of Field Test Results Using Electric Vehicle and Plug-in Hybrid Vehicle Prototypes

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ABSTRACT

With the aim of realizing the joy and freedom of mobility and a sustainable society where people can enjoy life, Honda intends to produce electricity from the sunlight and other forms of renewable energy, manufacture next-generation mobilities that use this electricity as energy, and provide these mobilities to users. As the first stage of these efforts, courses were set domestically in Kumamoto and Saitama Prefectures and overseas in Guangzhou City in the People's Republic of China, and driving tests were performed. As a result of these tests, data of the actual electric vehicle driving range and actual plug-in hybrid vehicle all-electric range was obtained, and CO₂ emissions and annual fuel cost reduction effects were confirmed. In addition, based on the results of these driving tests, the next stage of joint field tests with local governments was determined to be feasible.

1. Introduction

Automobile manufacturers are currently promoting the research and practical use of alternative energy in order to reduce CO₂ emissions aimed at prevention of global warming, and in consideration of depletion of petroleum resources. These efforts include the market introduction of electrified vehicles such as plug-in hybrid vehicles (PHEV), electric vehicles (EV) and fuel cell electric vehicles (FCV) in place of internal combustion vehicles such as gasoline vehicles and diesel vehicles. However, these electrified vehicles are more expensive than internal combustion vehicles such as gasoline vehicles, and sufficient social infrastructure including charging stations and hydrogen stations has not yet been constructed, so popularization of such vehicles is lagging.

In April 2010, the Japanese Ministry of Economy, Trade and Industry (METI) announced six strategies (Overall strategy, Battery strategy, Resource strategy, Infrastructure strategy, Systems strategy, International Standards strategy) as its Next Generation Vehicle Strategy, and set the goal of increasing the ratio of EV and PHEV as a percentage of new vehicle sales to 15% to 20% by 2020 and 20% to 30% by 2030. In conjunction with this, METI also set the goal of installing two million standard chargers and 5,000 quick chargers throughout the country by 2020. Furthermore, following the 2011 Great East Japan Earthquake, EV and

FCV have come to be considered as a means of emergency energy storage, and methods of use other than as a simple means of transportation are gathering attention.

The Chinese government announced its “Ten Cities Thousand Vehicles” program in September 2008. This program slated for 2008 to 2012 aimed to install charging facilities in major metropolises in parallel with having 1,000 or more new energy vehicles (EV, PHEV and FCV) operating in each city⁽¹⁾. Furthermore, the Auto Industry Development Program (2009-2011) announced in March 2009 presented goals of expanding the electric vehicle (EV, PHEV, hybrid vehicles (hereafter, HEV)) production scale (500,000 units/year) and increasing the ratio of new-energy vehicles as a percentage of passenger car sales (5% of the total). In addition, the Automobile Development Plan (2010-2012) for energy-saving vehicles (HEV) and new-energy vehicles (EV, PHEV, FCV) announced in April 2012 also stated the goal of over five million new-energy vehicles on the road by 2020.

Amidst these circumstances, Honda commenced social field tests using EV and PHEV from 2010 with the aim of realizing the joy and freedom of mobility and a sustainable society where people can enjoy life. As the first stage of these efforts, driving courses were determined and driven by Honda staff to gather vehicle data and other necessary data. These results confirmed the EV and PHEV ranges and the CO₂ emissions reduction and driving cost reduction

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effects in actual traffic environments. In addition, the next stage of tests was determined to be feasible based on these results. This next stage consists of determining specific operation procedures, loaning vehicles to local government employees and typical users, and having these users perform daily driving to collect data and verify ease of use. This paper reports the results of these driving tests conducted by Honda staff in Japan and China.

2. Overall Concept of Field Test and Vehicles Used in the Test

2.1. Overall Concept of Field Test

The overall concept of the Honda field test is Honda Electric Mobility Synergy aimed at realizing the joy and freedom of mobility and a sustainable society where people can enjoy life. This is done by using Information and Communication Technology (ICT) to link systems such as photovoltaic charging stations that produce electricity from renewable energy with the next-generation personal mobilities group as shown in Fig. 1 to enable the ideal energy management for both separate regions and society overall.

EV and PHEV were used as the personal mobilities in the tests, ICT was used as assist technology, and electricity was supplied from photovoltaic charging stations and other facilities. The goal was to understand the actual performance and issues of each technology, propose optimum methods of use based on those results, and to verify technologies and systems that can lead to new business in the coming electric vehicle popularization period and also create new value following popularization.

2.2. Position of Field Test Using Prototype Vehicles

Driving by Honda staff was performed from May 2011 to May 2012, and focused on the following items:

- (1) Understanding actual vehicle performance such as actual driving distances; and
- (2) Confirming the feasibility of field tests performed by local governments, which are planned next.

The following results were obtained.

2.3. Vehicle Specifications

Figure 2 shows external views of the vehicles used, and Table 1 and Table 2 list the specifications. The EV prototype vehicle was created by installing an electric

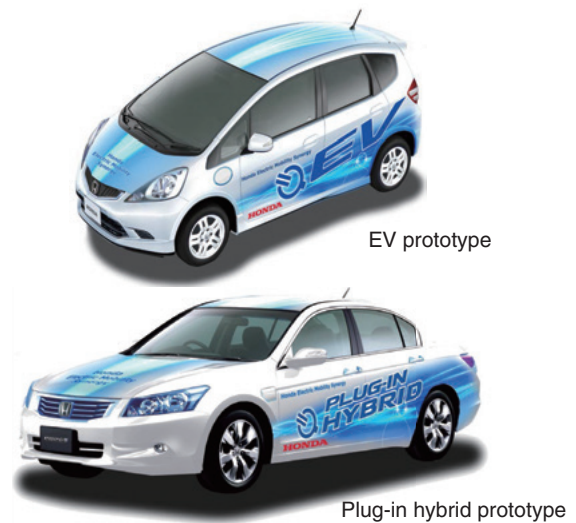


Fig. 2 Test vehicle external view

Honda Electric Mobility Synergy

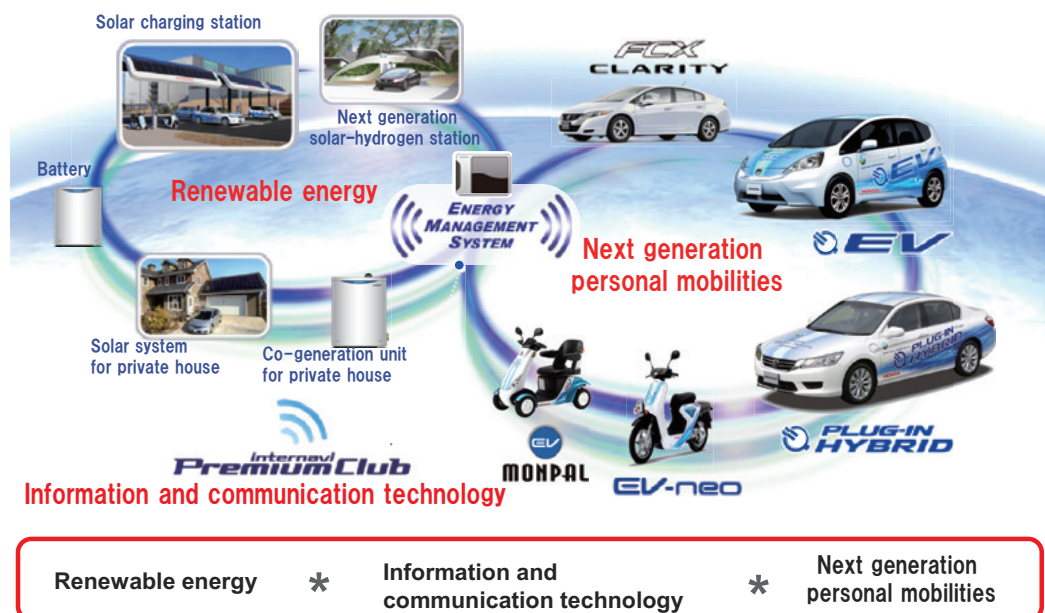


Fig. 1 Honda concept

Table 1 EV specifications

	Japanese model	Chinese model
Motor type	Coaxial motor with gear box (same as FCX Clarity)	Same as Japanese model
Motor max. output	92 kW	Same as Japanese model
Motor max. torque	256 Nm (26.1 kgfm)	Same as Japanese model
Driving range	Over 160 km * ¹	Over 150 km * ³
Max. vehicle speed	144 km/h	Same as Japanese model
Battery type (manufacturer)	Lithium-ion battery (TOSHIBA)	Same as Japanese model
Charging time	100 V: less than 12 hours, 200 V: less than 6 hours, Quick charge * ² : approximately 20 min	220 V: less than 6 hours

*¹ Honda test result in JC08 mode*² CHAdeMO specification*³ Honda test result in NEDC mode

Table 2 PHEV specifications

Engine	Atkinson cycle 4-cylinder 2.0 L with i-VTEC
Transmission	Electric CVT
Motor	Two-motor system (drive and regeneration / generation)
Motor max. output	120 kW
Battery type (manufacturer)	6 kWh lithium-ion battery (Blue Energy)
Max. driving range	Over 1,000 km * ¹
All electric range	25 km * ²
Max. vehicle speed as EV	100 km/h
Charging time	100 V: less than 4 hours, 200 V: less than 1.5 hours

*^{1, 2} Honda test result in JC08 mode

vehicle system in a mass-production FIT body, and the PHEV prototype vehicle was created by installing a plug-in hybrid vehicle system in a mass-production INSPIRE body. Vehicle registration plates were obtained through modified vehicle application, and the vehicles were driven on ordinary roads. The Chinese field test was conducted using only EV. Like the Japanese field test, the EV prototype vehicle was created by installing an electric vehicle system in a mass-production FIT body. A vehicle permit was obtained and driving was performed as a product sample.

3. Field Tests in Japan

Saitama Prefecture and Kumamoto Prefecture were selected as field test partners as these prefectures are the locations of Honda factories and were also selected as second-phase regions for the “EV & PHEV Town Initiative” directed by METI’s Automobile Division. In addition, an agreement was concluded and field tests were also conducted with Saitama City, which is a government ordinance city that is promoting its own E-KIZUNA Project and electrification.

3.1. Driving Courses

3.1.1. Saitama Prefecture and Saitama City area

In Saitama Prefecture and the government ordinance city of Saitama City, the area inside the Saitama City limits that is part of the metropolitan area, the area around Kagohara Station as a residential suburb of the greater metropolitan area, and the expressways used to travel to resort areas on weekends, were thought to represent typical metropolitan areas. Therefore, the following driving courses were set.

- (1) Two daily use courses used by the residents of the greater metropolitan area (Saitama City) to drive through urban areas
- (2) One park-and-ride use course used by suburban residents to drive to the nearest station in order to commute to the greater metropolitan area
- (3) Two weekend use courses used by residents of the greater metropolitan area to travel to resort areas on weekends using expressways

Table 3 shows the driving distance and major via points of each course.

3.1.2. Kumamoto Prefecture area

In Kumamoto Prefecture, Kumamoto City, which is

Table 3 Driving routes and distance in Saitama Pref.

(1) Commuting driving routes in Saitama City area

Route Name	Driving Route	Distance	Via Points
Saitama urban route 1	Saitama ward offices, North-South area	54 km	Chuoou, Kita and Minami ward offices
Saitama urban route 2	Saitama ward offices, East-West area	57 km	Sakura, Iwatsuki and Midori ward offices

(2) Park-and-ride driving routes in Kagohara Station area

Route Name	Driving Route	Distance	Via Points
Kagohara route	Park-and-ride	30 km	Yoriichou, Kagohara Station

(3) Weekend highway driving routes

Route Name	Driving Route	Distance	Via Points
Highway route 1	Tokyo Gaikan Expressway	64 km	Wako IC, Souka IC, Koshigaya Lake Town
Highway route 2	Metropolitan Expressway	76 km	Wako IC, Itabashi JCT, Gaiken IC

Table 4 Driving routes and distance in Kumamoto Pref.

(1) Commute driving routes in Kumamoto City area

Route Name	Driving Route	Distance	Via Points
Urban route	Inside Kumamoto City	52 km	Pref. office, castle, station
Suburban route	In and around Kumamoto City	61 km	Kumamoto University, Mt. Kinpou

(2) Sightseeing driving routes in Aso City area

Route Name	Driving Route	Distance	Via Points
Mountain route 1	Mt. Aso winding road (870 m elevation, 3.9% gradient)	65 km	Road station Aso, Aso farm land
Mountain route 2	Mt. Aso winding road (1057 m elevation, 4.8% gradient)	70 km	Top of Mt. Aso
Mountain route 3	Mt. Aso winding road (1057 m elevation, 4.6% gradient)	80 km	Top of Mt. Aso

(3) Daily driving routes in Amakusa island area

Route Name	Driving Route	Distance	Via Points
Amakusa urban route	Inside Amakusa City	16 km	Amakusa City office
Suburban route 1	North area to Amakusa City area	66 km	Itsuwacho branch, City office
Suburban route 2	Mid area to Amakusa City area	80 km	Amakusacho branch, City office
Suburban route 3	South area to Amakusa City area	96 km	Ushibukacho branch, City office
Suburban route 4	Southeast offshore area to Amakusa City area	101 km	Shinwachou branch, City office
Suburban route 5	Kamishima island south area to Amakusa City area	44 km	Kumumotocho branch, City office
Suburban route 6	Honda base suburban area residence	75 km	Ariakecho branch, City office

the location of the prefectural office and also a hub city for the prefecture at the time of the field test; Aso City, which includes many sightseeing spots such as Mt. Aso; and Amakusa City, which is an isolated island and has established a life sphere within a limited area were thought to represent typical Japanese local areas. Therefore, the following driving courses were set.

(1) Two commuting use courses used by residents of a

regional urban center (Kumamoto City) to drive to work places within the city and surrounding areas

(2) Three sightseeing courses used by tourists and others to drive from the airport within the area centering on Aso City

(3) Seven daily use courses used by residents of an isolated island to drive within the island for daily life.

Table 4 shows the driving distance and major via points of each course.

3.2. Driving Results and Observations

Figures 3 and 4 show the driving results. The total driving distance from May 2011 to May 2012 for two EVs (one EV each in Saitama Prefecture and Kumamoto Prefecture) reached 35,000 km, and for four PHEVs (two PHEVs each in Saitama Prefecture and Kumamoto Prefecture) reached 71,000 km.

The EV range per full charge averaged 132 km, which is more than 80% of the in-house test result of 160 km in JC08 mode. The PHEV all-electric range (AER) averaged 17.5 km, which is approximately 70% of the in-house test result of 25 km in JC08 mode. The EV range results were good in consideration of the effects of changes in actual outdoor temperatures and road conditions compared to JC08 mode driving. Figure 5 shows the PHEV driving distances in AER and HEV modes. This shows that the AER was shorter for sightseeing use (climbing Mt. Aso) and city driving in Saitama City compared to other driving routes. This is inferred to be due to the effects of uphill gradients and the frequency of stopping due to traffic congestion, which are

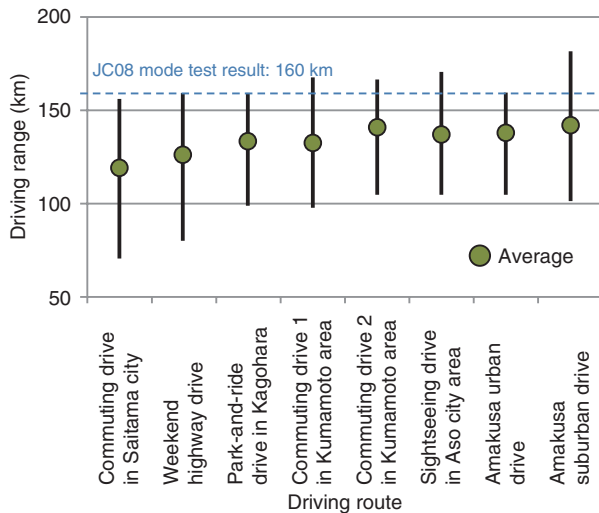


Fig. 3 EV driving range test result

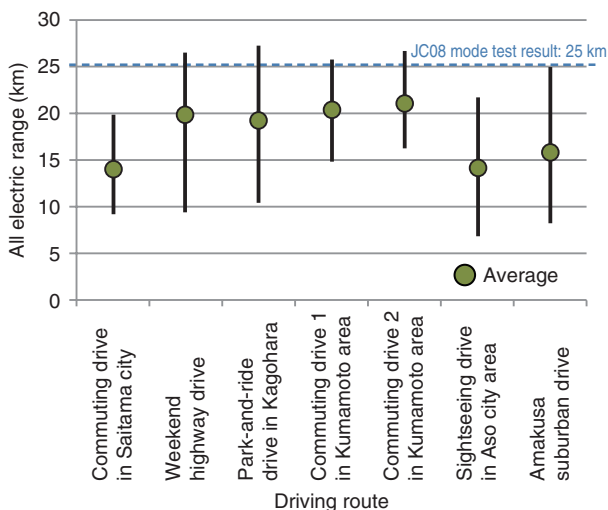


Fig. 4 PHEV AER test result

not present in JC08 mode. As such, the PHEV AER result is also thought to be reasonable.

Figures 6 and 7 show the results of estimating the EV CO₂ emissions and driving cost reduction effects, and Figs. 8 and 9 show the results of estimating the PHEV CO₂ emissions and driving cost reduction effects based on these driving results.

Assuming an annual driving distance of 10,000 km, EV provide CO₂ emissions reduction effects of 55% compared to a 2000 year model FIT inertia weight class gasoline vehicle, which is equivalent to the amount of CO₂ absorbed

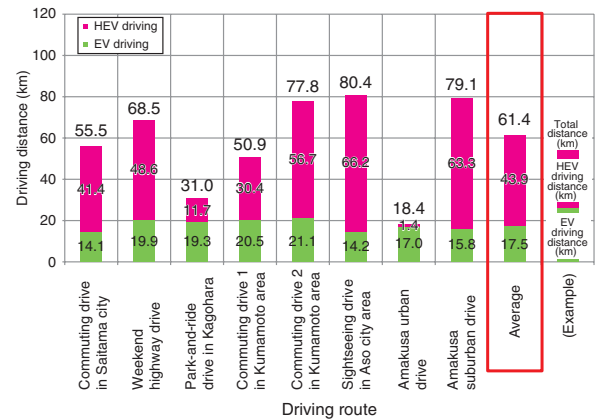
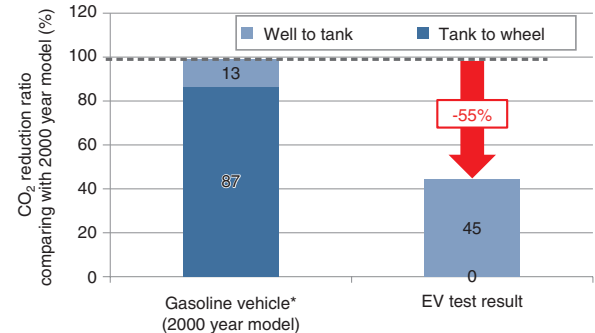


Fig. 5 PHEV EV and HEV mode driving comparison



* Driving distance 10,000 km/yr,
Inertia weight 1,000 kg (FIT) class vehicle

Fig. 6 CO₂ reduction ratio by EV

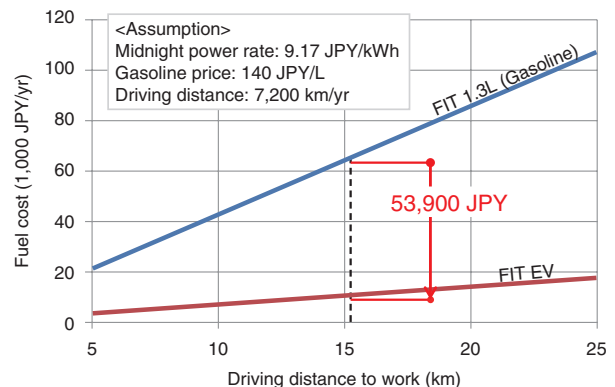


Fig. 7 Fuel cost reduction by EV

by approximately 68 cedar trees in one year. In addition, there are also fuel cost reduction effects of approximately 54,000 yen assuming a commuting distance of 15 km each way and 240 days of use per year (annual driving distance 7,200 km).

Likewise assuming an annual driving distance of 10,000 km, PHEV provide CO₂ emissions reduction effects of 42% compared to a 2000 year model Accord inertia weight class gasoline vehicle, which is equivalent to the amount of CO₂ absorbed by approximately 69 cedar trees in one year. In addition, there are also fuel cost reduction effects of approximately 56,000 yen assuming a commuting distance of 15 km each way, 240 days of use per year, and charging only at night. When charging is also performed at the workplace during the day in addition to at night, the fuel cost reduction effect increases to approximately 60,000 yen. If the price difference between an EV and a gasoline vehicle is to be recovered by only the fuel cost over six years of use, a vehicle price difference of approximately 320,000 yen in the FIT class is thought to be a realistic number. A similar calculation for PHEV yields a vehicle price difference of

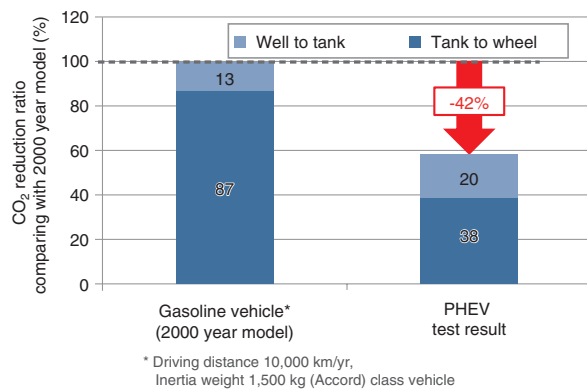


Fig. 8 CO₂ reduction ratio by PHEV

approximately 360,000 yen in the Accord class. In reality, however, price differences with gasoline vehicles of the same class currently exceed 1.5 million yen, which makes it a challenge to recover the price difference by only the fuel cost, even in consideration of government and other subsidies (1 million yen or less).

The test results show that the average EV range per full charge is approximately 132 km, but in consideration of even harsher driving conditions (road congestion, road gradient, air conditioner (A/C), lights and other power consumption) and assuming return to the start (departure) point, it is necessary to install a quick charger every approximately 70 to 80 km.

Many public quick chargers and general quick chargers have already been installed in Saitama Prefecture centering on Saitama City and National road No. 17 as shown in Fig. 10, and can cover driving within the prefecture. In Kumamoto Prefecture, drawing approximately 80 km-radius circles centering on currently (as of the end of fiscal year 2011) installed public quick chargers and quick chargers operated by automobile dealers and others as

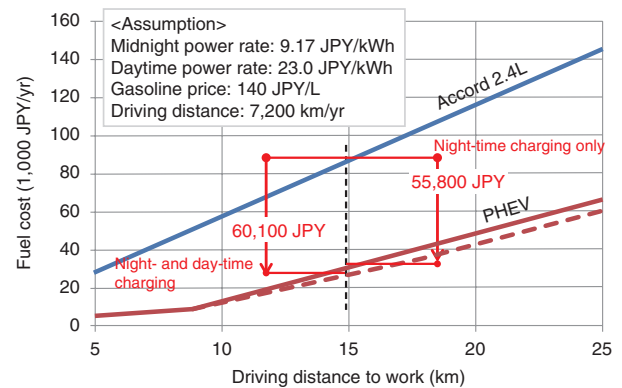


Fig. 9 Fuel cost reduction by PHEV

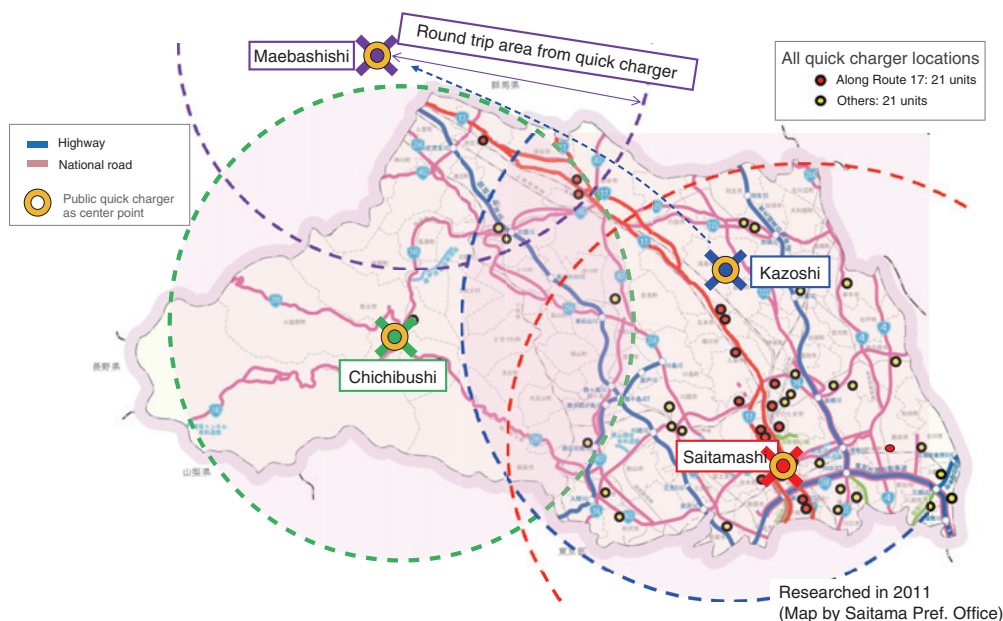


Fig. 10 Quick charger covered area in Saitama Pref.

shown in Fig. 11 shows that the entire prefecture can be covered except for one part along the border with Miyazaki Prefecture. Furthermore, almost the entire prefecture can be covered simply by installing public quick chargers in the Hitoyoshi and Yatsushiro districts in the future. However, quick chargers require approximately 20 minutes (charging time after the charge warning lamp lights until 80% of the battery capacity is reached), so as the number of EV increase, consideration should also be given to increasing the number of chargers installed in each location.

There were approximately 37,000 gas stations throughout Japan as of the end of fiscal year 2011⁽²⁾. In contrast, the number of charging stations is much less at approximately 1,700 quick chargers and approximately 6,200 standard chargers⁽³⁾, and business hours are short (many public charging stations operate from 09:00 to 18:00). Furthermore, many public quick chargers are installed at prefectural offices, ward offices and other public facilities, which cannot be said to be good location conditions compared to gas stations located alongside roads. Therefore, urgent measures that address this inconvenience due to a lack of charging infrastructure are thought necessary in consideration of future EV popularization.

3.3. Photovoltaic Charging Station

Photovoltaic charging stations such as shown in Fig. 12 were constructed within the Honda Wako Head Office Building premises and the Honda Kumamoto Factory premises to demonstrate the use of renewable energy in this field test.

The goal for these photovoltaic charging stations was to generate the electric energy needed to drive four EVs 40 km per day from the sunlight, and to supply this energy for 365 days. Each charging station uses 84 pieces of 125W-CIGS thin-film solar cells made by Honda Soltec Co., Ltd., and

has three 200 V standard chargers and one 50 kWh quick charger. The goal was to generate photovoltaic power of approximately 30 kWh per day and 11,000 kWh over one year, and the amount of generated power was confirmed for the one-year period from August 2011 through July 2012. Figure 13 shows the results. The average daily generated

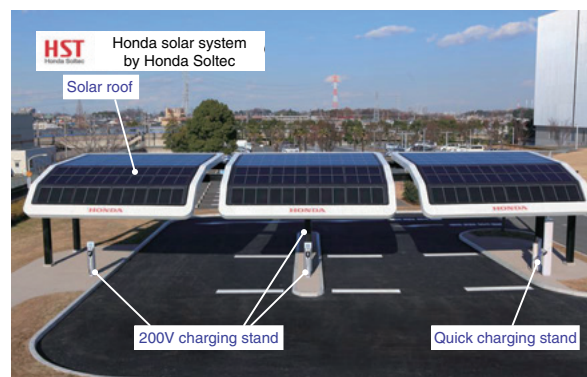


Fig. 12 Photovoltaic charging station in Wako

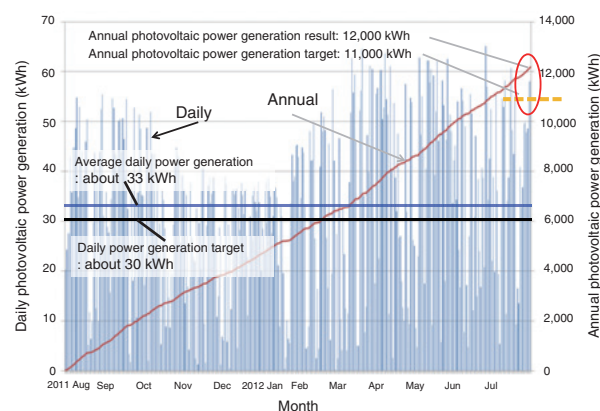


Fig. 13 Photovoltaic power generation result

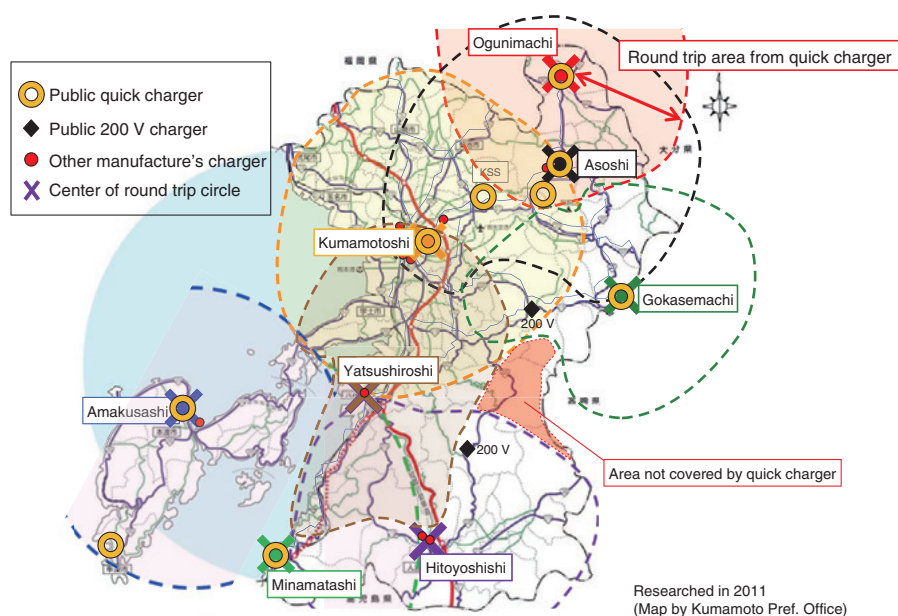


Fig. 11 Quick charger covered area in Kumamoto Pref.

Table 5 Driving routes and distance in Guangzhou area

(1) Traffic jams routes in Guangzhou City

Route Name	Driving Route	Distance	Via Points
Traffic jam route 1	Inside Guangzhou City area	20 km	Pearl River
Traffic jam route 2	Inside Guangzhou City area	14 km	Garden hotel
Traffic jam route 3	Inside Guangzhou City area	31 km	LiuHuaHu Gong Yuan, Pearl River
Traffic jam route 4	Inside Guangzhou City area	32 km	LiuHuaHu Gong Yuan, Garden hotel

(2) Commuting to work place

Route Name	Driving Route	Distance	Via Points
Commuting route	Guangzhou City to work place	58 km	Guangzhou Honda factory

(3) Guangzhou Baiyun Airport via highway

Route Name	Driving Route	Distance	Via Points
Airport route 1	Guangzhou City to Baiyun Airport via highway	76 km	Garden hotel, Baiyun Airport
Airport route 2	Guangzhou City to Guangzhou Honda factory via Baiyun Airport on highway	130 km	Garden hotel, Baiyun Airport, Guangzhou Honda factory

energy was approximately 33 kWh, which achieved the target, and the annual generated energy was approximately 12,000 kWh, which also achieved the target. However, this graph shows that the daily generated energy varies greatly according to the weather and other factors, so it is thought that an energy storage system such as a stationary battery is also needed to augment the driving energy provided only by electricity obtained by photovoltaic power generation.

4. Field Test in China

Agreements were concluded with the Guangzhou Automobile Group Co. Ltd. (GAC Group), which operates a joint venture with Honda, and with Guangzhou City, which is home to the GAC Group factory, as the field test partners in China, and the field test was commenced from December 2011 using only the EV planned for local production.

4.1. Guangzhou City Area

Urban areas in China experience chronic traffic congestion, and many factories and other work places are located in the suburbs, so much commuting is done by car. An additional special circumstance is that foreigners with international driving licenses cannot drive an automobile in China, so people are frequently driven to and from airports. Therefore, the following driving courses were set as typical driving courses in China.

- (1) Four courses driving through congested urban areas
- (2) One course commuting from the inner city to the suburbs
- (3) Two courses driving back and forth between the inner city and the airport using highways

Table 5 lists the driving distances on each course.

4.2. Driving Results and Observations

Figure 14 shows the driving results. The total annual driving distance for three EV reached 41,600 km. The EV range per full charge indicated an average value of 169 km, compared to the in-house test result of 150 km in the New European Driving Cycle (NEDC) mode. This value is better than the driving result in Japan (132 km), and is thought to be due to the following three factors.

- (1) There is relatively little congestion when commuting to the suburbs or driving to the airport via the highway, so driving could be performed smoothly.
- (2) Guangzhou is warm throughout the year (outside temperature 10°C to 40°C), so the heater power consumption during the winter is low as shown in Fig. 15. In addition, the summer is hotter than in Japan, but the cooler power consumption becomes saturated at 0.5 kW as shown in Fig. 16, so there is little increase in

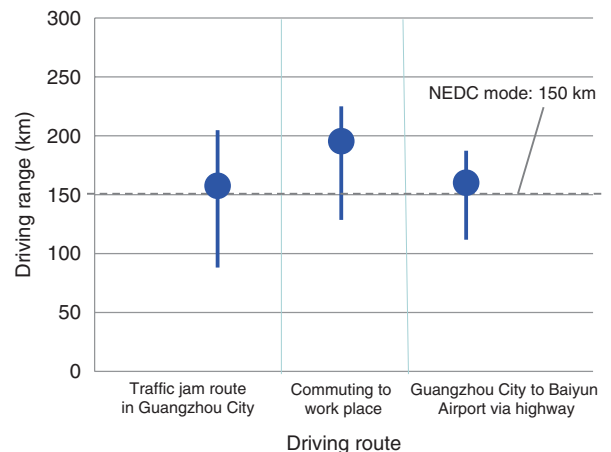


Fig. 14 EV driving range test result

power consumption due to air conditioning.

- (3) Most of the roads around Guangzhou City are flat and there was no driving course with a large gradient such as the Mt. Aso winding road driving courses in Japan.

Figures 17 and 18 show the results of estimating the CO₂ emissions and driving cost reduction effects in China based on these driving results. EV provide CO₂ emissions reduction effects of 64% compared to a 2008 year model FIT 1.3 L gasoline vehicle, which is equivalent to the amount of CO₂ absorbed by approximately 88 cedar trees in one year. In addition, there are also fuel cost reduction effects of approximately CNY 5,600 assuming a commuting distance of 30 km each way and 240 days of use per year (annual driving distance 14,400 km). CO₂ emissions intensity, electricity rates and gasoline prices differ from those in Japan, but this shows that EV can also contribute to reducing CO₂ emissions and fuel costs in China.

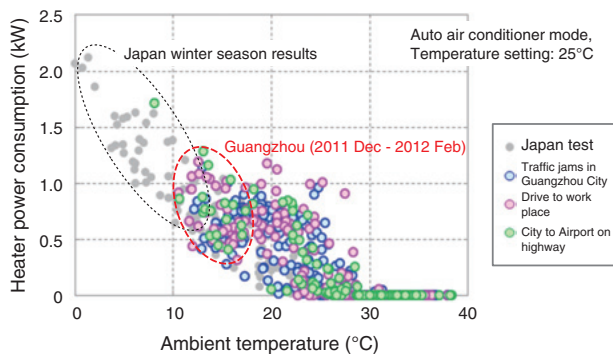


Fig. 15 Heater power consumption

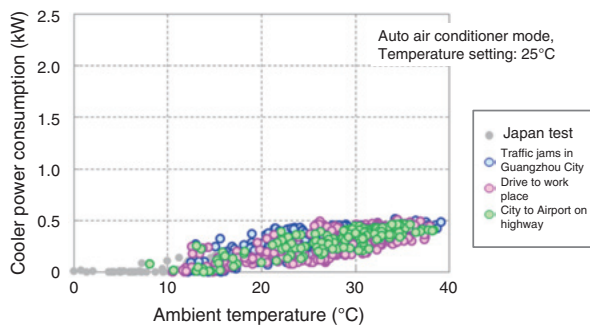


Fig. 16 Cooler power consumption

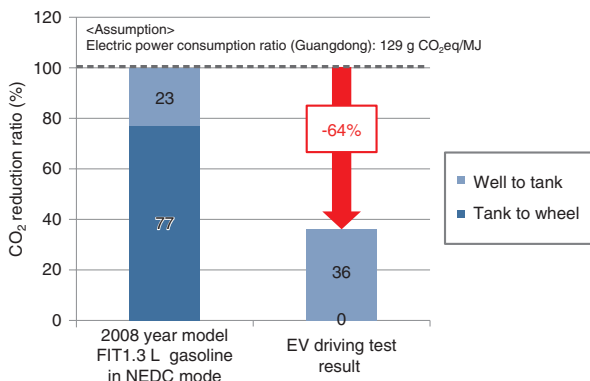


Fig. 17 CO₂ reduction ratio by EV in China

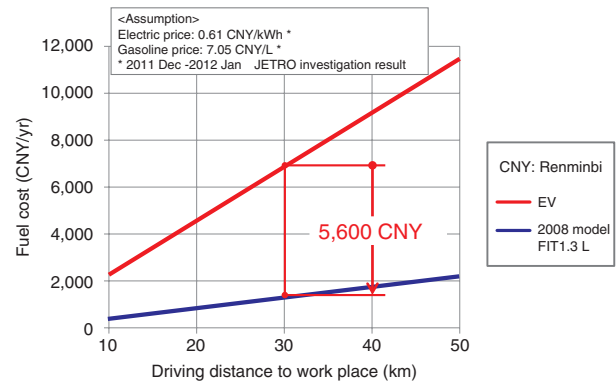


Fig. 18 Fuel cost reduction by EV in China

5. Field Tests by Local Governments

5.1. Proposal for Field Tests by Local Governments

Saitama Prefecture has set a goal of using EV and PHEV to promote measures to prevent global warming and increase the convenience of movement. In accordance with this goal, the prefecture has proposed the following four items.

- (1) Sharing use as official local government vehicles by government employees based at prefectural offices and other locations
- (2) Park-and-ride use combined with photovoltaic charging stations
- (3) Rail and ride-type rent-a-car use in sightseeing areas centering on Chichibu
- (4) Owner-type sharing use that assumes personal ownership

In addition, Saitama City has proposed the following three items with the aim of demonstrating the receptivity of EV in a metropolitan area through cooperation with stakeholders centering on Saitama City and realizing a low-carbon society.

- (1) Sharing use that combines personal vehicle use by local government employees with official local government vehicle specifications
- (2) Verification of lifestyle enhancement through use of next-generation mobilities that employ ICT in combination with other companies spanning different industrial sectors
- (3) Use of a free-range system whereby different vehicles are used according to the driving distance, with EV used for normal driving and gasoline vehicles used for longer distances

Kumamoto Prefecture has set a goal of using EV and PHEV to reduce CO₂ emissions and to vitalize and enhance the quality of life (QOL) of provincial cities. In accordance with this goal, the prefecture has proposed the following four items.

- (1) Sharing use as official local government vehicles by government employees based at prefectural offices and other locations
- (2) Rent-a-car use for sightseeing that makes the most

of sightseeing facilities around Aso City and within Kumamoto City

- (3) Elderly welfare bus use in the form of ride sharing by multiple people in isolated island areas
- (4) Sharing use within hot springs associations as tourist courtesy cars

5.2. Feasibility Judgment for Field Tests by Local Governments

The abovementioned field test items to be performed by local governments assume a driving distance of 10 km to 120 km per day, and presuppose charging partway along the route or at night when driving for longer distances. This means that sufficient driving can be performed given the EV range per full charge and the PHEV AER obtained from the field tests reported in this paper. In addition, a quick charger is installed every approximately 80 km in both Kumamoto and Saitama Prefectures, and 200 V standard chargers or quick chargers are also installed at locations that serve as vehicle sharing bases, so it was judged that each field test could be performed without running out of electricity.

6. Conclusion

EV and PHEV were actually driven in Japan (Saitama Prefecture and Kumamoto Prefecture) and China (Guangzhou City), and the following results were obtained.

- (1) Actual vehicle performance such as actual driving distances was understood.

The EV ranges in actual traffic environments were as follows.

Japan: 132 km (JC08 mode in-house measurement value: 160 km)

China: 169 km

In addition, the PHEV AER was as follows.

Japan: 17.5 km (JC08 mode in-house measurement value: 25 km)

The EV range is short at approximately one-third the gasoline vehicle range, but can be said to be a level that enables market use if the applications are narrowed down sufficiently. In addition, the PHEV AER can also be said to be a sufficiently effective range for short-distance applications such as commuting.

The CO₂ emission reduction effects were as follows.

Japan: EV: 55% reduction (compared to a 2000 year model FIT inertia weight class gasoline vehicle)

PHEV: 42% reduction (compared to a 2000 year model Accord inertia weight class gasoline vehicle)

China: EV: 64% reduction (compared to a 2008 year model FIT 1.3 L vehicle)

CO₂ emissions of both EV and PHEV are approximately one-half those of gasoline vehicles and renewable energy can also be used, so EV and PHEV are effective means of preventing global warming and reducing use

of petroleum resources.

The annual fuel cost reduction effects were as follows.

Japan: EV 53,900 yen (compared to a 2008 year model FIT 1.3L vehicle)

PHEV 55,800 yen (charging only at night) (compared to 2008 year model Accord 2.4L vehicle)

60,100 yen (charging two times: once during the day and once at night)

China: EV CNY 5,600 (compared to a 2008 year model FIT 1.3L vehicle)

- (2) Feasibility of subsequent field tests by local governments
Each planned field test can be performed within the actual ranges without running out of electricity, and sufficient CO₂ reduction effects can also be expected, so field tests by local governments were judged to be feasible.

7. Acknowledgements

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