

日本の新一代汽车政策

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I -1 汽车产业战略2014概要

今后10-20年我国汽车产业面临的课题

环境和能源的制约

- 从地球环境问题的观点出发，在制度及技术两方面对汽车行业的油耗标准、排放法规的要求更加严格。
- 从能源安全的观点出发，全面采取降低含有汽车的石油依存度的举措。

人口增加、人均GDP提高

- 到2025年，世界人口将达到81亿。此后，非洲之外的人口增长趋缓，到2050年人口将持平或减少。
- 随着人口增加和经济增长，新兴国家的中产阶层逐步扩大。2025年以后，人均GDP接近发达国家。

老龄化

- 发达国家的老龄化持续到2025年，新兴国家的老龄化持续到2035年。到2050年，除非洲、印度之外都将进入老龄化，如不采取切实应对措施，有可能导致汽车保有量的减少、交通事故的增加。

大城市人口密集和地方人口减少

- 世界城市人口在2025年将达到45亿，2035年达到53亿，2050年达到63亿。城镇化推进的过程中，汽车引发的社会问题更加严峻。其中，城市基础设施、交通系统等成为重要课题。
- 地方人口日渐稀少。2025年之后可能出现，一方面地方人口减少，另一方面对汽车需求增加。

新价值观的出现

- 拥有多样且崭新价值观(数字土著、跨界、无龄感等)的消费群体成长为购买汽车的中坚力量。
- 全世界90后的人口总数，在2035年超过一半以上。(2025年达到31%、2050年达到70%)

I -1自動車産業戦略2014の概要

我が国自動車産業が今後10～20年で直面する課題

環境・エネルギー制約

- ・地球環境問題の観点から自動車産業の燃費規制・排ガス規制は、制度及び技術の両面においてより深刻化。
- ・エネルギーセキュリティの観点から、車も含めて石油依存度の低減を目指した取り組みが本格化。

人口増加・一人当たりGDPの増大

- ・2025年までに世界人口は81億人に拡大。その後アフリカ以外の人口増加は鈍化し、2050年までに横ばいか減少へ。
- ・人口成長・経済成長により新興国の中間層が増大。2025年以降、1人当たりGDPが先進国に近づく。

高齢化

- ・2025年までに先進国の、2035年までに新興国の高齢化が進展。2050年までにアフリカ・インド以外が高齢化し、的確な対応がなされなければ、自動車保有台数の減少、交通事故の増加へと繋がる可能性。

都市の過密化と地方の過疎化

- ・世界の都市人口は2025年に45億人、35年に53億人、50年に63億人へ。都市化に伴い、自動車による社会問題が深刻化する中で、都市インフラ・交通システムの在り方などの問題は重要なテーマに。
- ・過疎化も進展。2025年以降、地方において人口が減少する一方で、自動車ニーズが高まる可能性。

新しい価値観の台頭

- ・多様で新しい価値観(デジタルネイティブ、ボーダレス、エイジレス等)を持つ顧客層が主要な自動車購買層に成長。
- ・世界の90年代以降生まれの人口は、2035年に過半数を超える。(2025年に31%、2050年に70%。)

I - 2 Global Strategy (全球战略)

背景

- Due to increases in population and income, overseas motor vehicle markets will grow rapidly.
- To address environmental/energy limitations, E-powered Vehicles* introduction will be a key solution, while demand for internal combustion vehicles, with price competitiveness constant technological innovations, will grow mainly in those markets where motor vehicles are about to spread widely.

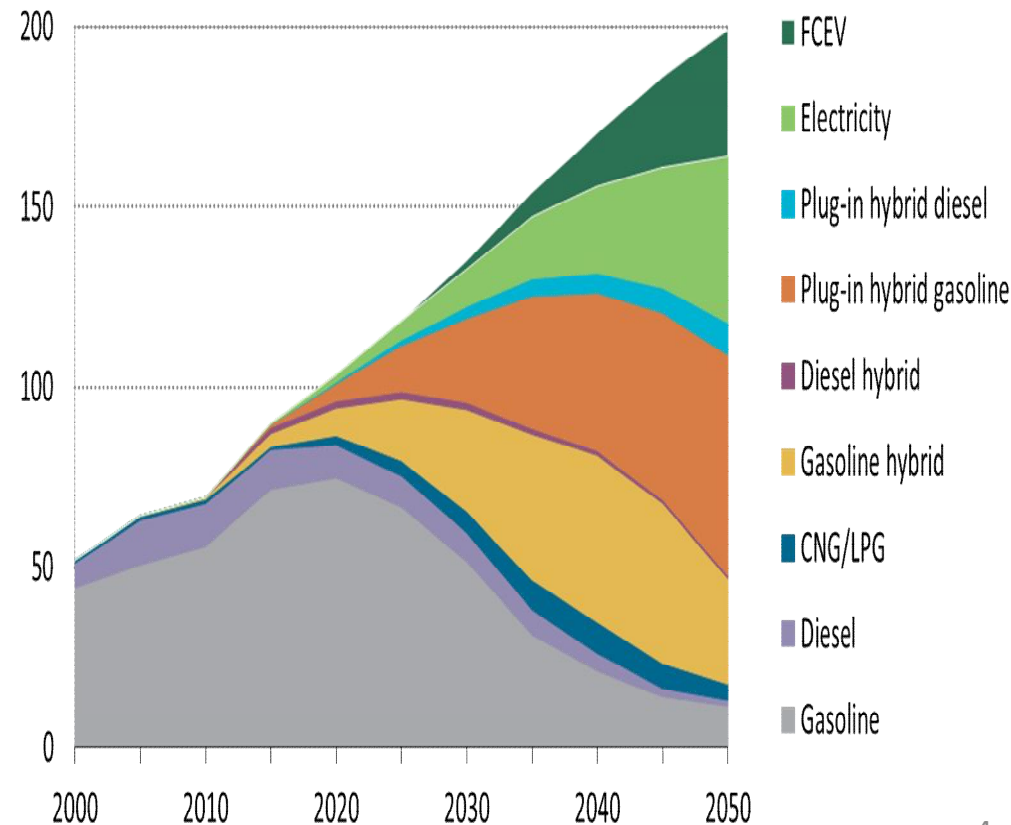


* E-powered Vehicles include HEV, PHEV, EV and FCV.

(IEA / ETP (Energy Technology Perspectives) 2012)

战略方向

- It is important to discuss strategies taking into account trends of the global market.
- In order to achieve optimal investment and trade (ability to export more complete vehicles/parts, exports from overseas bases to third countries, etc) market conditions without barriers will be developed.
- Development of advanced domestic market ahead of the global market:
 - ~ Maintain/upgrade domestic development/promotion infrastructure
 - ~ Stimulate domestic sales / market
 - ~ Pursue both E-powered Vehicles and internal combustion vehicles, taking into account trends of the global market
 - ~ Establish eco system for more added values of vehicles (used market, repair parts market, recycling, etc)



I -3 Diffusion Targets for Next-Generation Vehicles

(新一代汽车普及目标)

○ The government aims to capture **50 to 70%** of next-generation vehicles to total new car sales by 2030, to this end, the government will take measures such as creating initial demand, supporting R&D to improve performance, developing infrastructure, and so on.

⇒ Following the Next-Generation Vehicle Strategy 2010 for basic policies.

Diffusion Targets by types of vehicles (Targets set by the Government)

各类轿车的推广目标 (政府目标)

- 为了加速新一代汽车的推广，政府设定了各类车型的推广目标。
- 2020年销售的新轿车中所占比例最大为50%。
- 为了实现这个目标，要求政府出台积极的激励政策。

	2020年	2030年
传统车	50~80%	30~50%
新一代汽车	20~50%	50~70%
混合动力车	20~30%	30~40%
电动汽车 插电式混合动力车	15~20%	20~30%
燃料电池车	~1%	~3%
清洁柴油车	~5%	5~10%

(from the Next-Generation Vehicle Strategy 2010)

Basic Initiatives

Creation of initial demand

Support for R&D to improve performance

Efficient development of infrastructure

II-1 Creation of initial demand – Basic ideas for subsidy amount of CEV Subsidy in FY2013

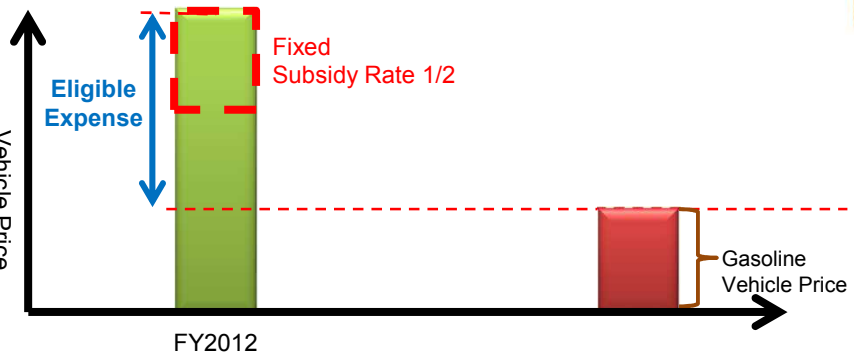
(需求初期创造的「CEV补助金」的补助率算定方式)

○A scheme that urges automobile manufacturers to reduce prices so that a solid next-generation vehicle market will be formed by around 2015 without government subsidies.

FY2012

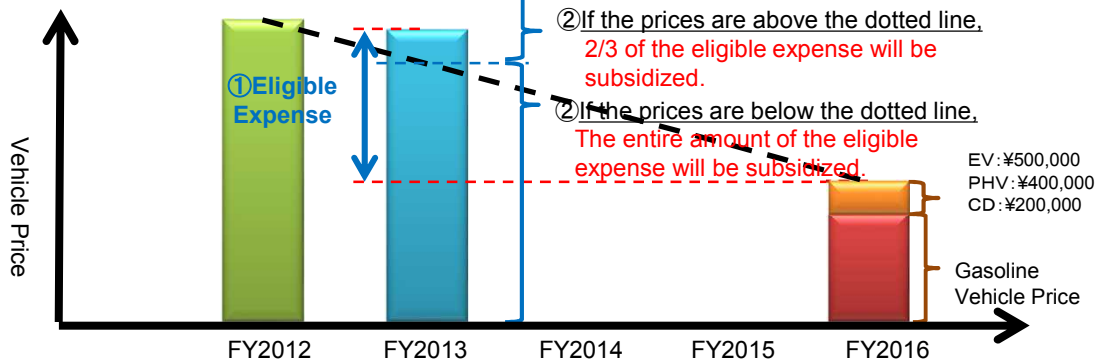
Half the price difference with a gasoline vehicle of the same class will be subsidized.
 However, the maximum subsidy amounts are ¥1 million for EVs/PHVs, and ¥400,000 for CDs.

- ※ EV: Electric Vehicles
- PHV: Plug-in Hybrid Vehicles
- CD: Clean Diesel Vehicles



FY2013

- ① Revision of the subsidy coverage taking into account the running costs (differences between fuel prices and electricity rates)
 Aiming at reducing the prices, for instance, to the amount of the present gasoline vehicle price plus ¥500,000 in case of an EV (target price) by early FY2016, the difference is considered as eligible expense.
- ② Setting of subsidy rates which would urge businesses to reduce prices
 Incentives for price reduction will be offered by subsidizing (i) 2/3 if the price in FY2013 is above or (ii) the entire amount if the price is below the straight line (black dotted line below) which traces the expected price reduction at a certain rate each year leading to the target price in early FY2016.
- ③ Reduction of the maximum subsidy amounts
 EV·PHV: ¥1 million → ¥850,000, CD: ¥400,000 → ¥350,000



II -2 Clean Energy Vehicle Promotion Subsidy

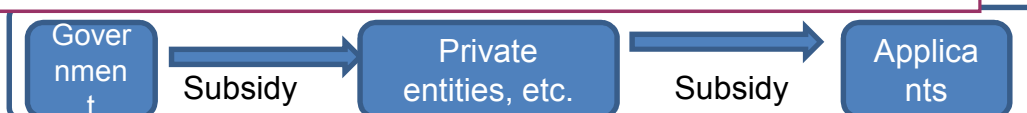
Requested Budget Amount for FY2014 **¥30 billion**

Project Details

Outlines / Purposes

- From a standpoint of measures against environmental and energy constraints, it is important to diffuse next-generation vehicles such as electric vehicles in the transportation sector which accounts for 20% of the nation's CO2 emission.
- In addition, next-generation vehicles are the field which is expected to grow in the future. Automobile manufacturers from various countries are planning to enter into the business, which intensifies the international competition.
- Furthermore, expectations are building up for another role of EVs and other vehicles as part of an energy management system where they can contribute to peak-shift by utilizing high capacity storage batteries.
- Meanwhile, they are in an early introductory stage with various issues including high costs. Therefore, we will create initial demand through measure to reduce burdens on vehicles, promote price reduction as a result of mass production, and ultimately establish a self-reliant domestic market before any other countries.

Conditions (Eligible entities, Eligible acts, Subsidy rates, etc.)



Eligibility

○ Vehicles

- Electric Vehicles
- Plug-in Hybrid Vehicles
- Clean Diesel Vehicles (Passenger cars) etc.

Electric Vehicles



Photo Gallery



Plug-in Hybrid Vehicles

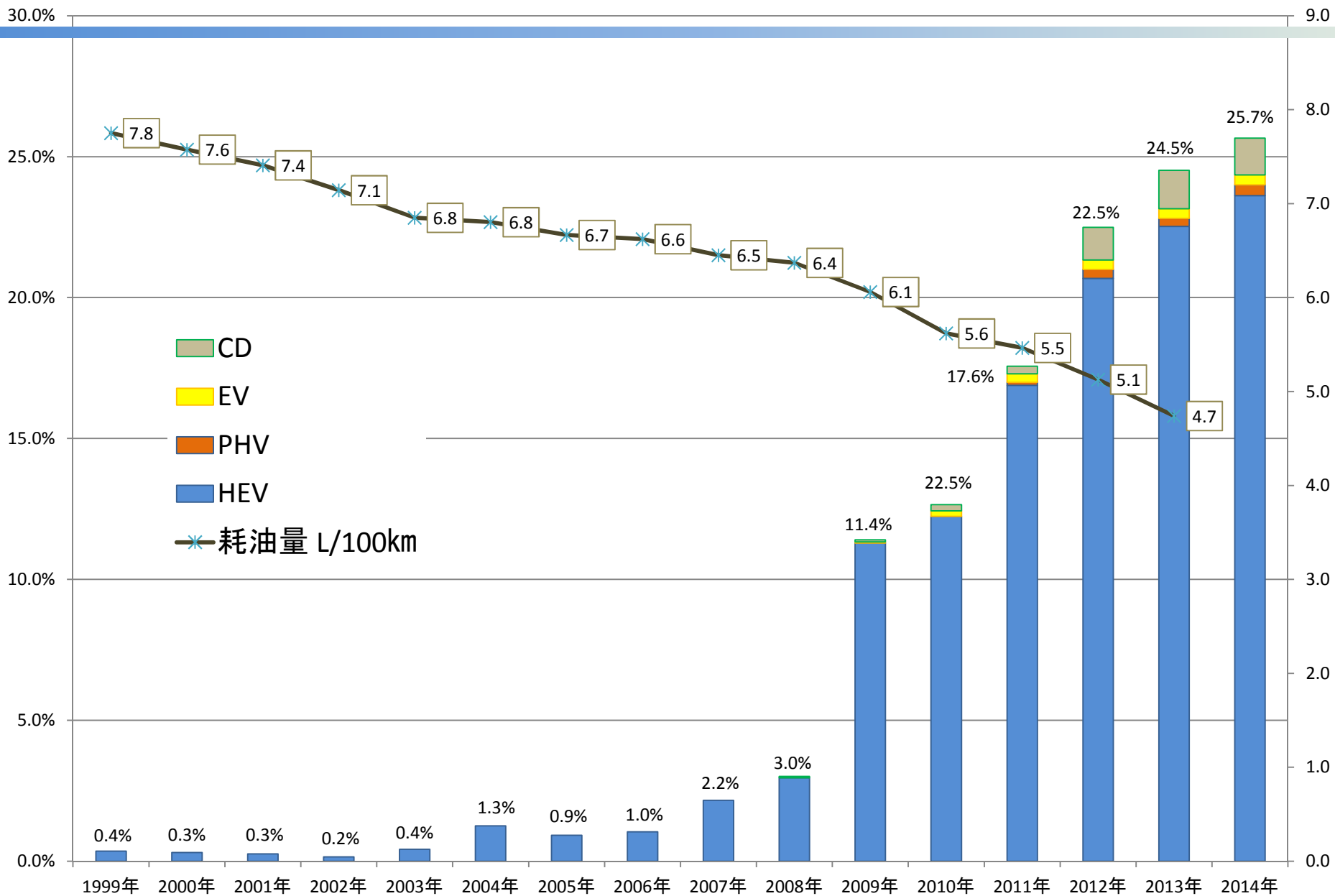


Clean Diesel Vehicles



II -3 Diffusion of Next-Generation Vehicles and improvement of the fuel consumption

(新一代汽車的普及和耗油量性能提高)



Ⅲ-1 EV & PHV Town Concept (为真正普及EV和PHV的确证实验模型事业)

- EV & PHV Town Concept is a model project for a demonstration experiment to diffuse EVs & PHVs on a full scale.
- In order to create initial demand for EVs and PHVs, it is necessary to intensively **develop charging infrastructure** and foster public awareness. With these in mind, local governments that were pioneering in efforts to diffuse EVs and PHVs were selected as model areas.
- Each EV & PHV Town tries to establish its own diffusion model by intensively introducing EVs and PHVs and improving environment through cooperation with local businesses, aiming to make **the diffusion models spread throughout the nation**.

福井県 岐阜県 新潟県 青森県

京都府 栃木県

鳥取県 埼玉県

岡山県 東京都

佐賀県 神奈川県

長崎県 静岡県

熊本県 愛知県

大阪府 沖縄県

(i-MiEV) (助っ人EV)

III-2 Clarified challenges and measures

(通过EV/PHV城市试验抽出过来的，充电基础设施整备的课题和对应策略)

○Three challenges in charging infrastructure development, extracted from EV & PHV Town Initiatives
○"Promotion Project to Develop Charging Infrastructure for Next-generation Vehicles" based on the challenges.

Challenge 1: Necessity of systematic and efficient development

- Absence of efficient development methods
- Few opportunities for local governments to be involved toward systematic development

Challenge 2: Installation of normal chargers

- Difficult to install in collective housing such as condominiums
- Important to diffuse normal chargers that are compatible and users can use without concerns.

Challenge 3: Securement of users' convenience

- Cluttered and confusing information to vehicle users
- Billing business

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Measures against Challenge 1

○Local governments should suggest a **model plan**, an idea of efficient and systematic development of chargers.

○Local governments will draw up "**Vision for Charger Installation**" in the Promotion Project to Develop Charging Infrastructure for Next-generation Vehicles. The subsidy rates for those that matches will be raised.

Measures against Challenges 2&3

- For collective housing such as condominiums, installation cost will be eligible for the subsidy.
- For sophisticated chargers such as those equipped with billing functions, higher subsidy limit will be applied.

III-3 Outline of Promotion Project to Develop Charging Infrastructure for Next-generation Vehicles

(促进普及新一代汽车充电基础设施事业的概要)

1. Budget Amount and Project Period

Budget Amount: ¥100.5 billion

Period of Application Acceptance: March 19, 2013 – February 27, 2015

Performance Report (Final): No later than October 30, 2015 (For those in category 3: April 28, 2017
/Different deadline applies for each application.)

2. Eligibility and Subsidy Rate

(Depending on the 4 categories below, those newly purchasing/installing chargers will be subsidized.)

Category	Outline	Eligibility	Subsidy Rate
Category 1	Installation of chargers based on the vision for charger development drawn up by local governments, and with the public nature *	Charger Purchasing Cost Installation Cost	2/3
Category 2	Installation of charges not based on the vision, but with the public nature *	Charger Purchasing Cost Installation Cost	
Category 3	Installation of chargers in car parks of multi-unit housing/monthly car parks	Charger Purchasing Cost Installation Cost	1/2
Category 4	Other installation of chargers than abovementioned	Charger Purchasing Cost	

*"Public Nature" must meet all the following requirements. (Category 1 and 2 are eligible.)

1. Chargers are located where anyone can freely access from entrance facing public roads.
2. Use of chargers is not limited to users of other services (e.g. eating & drinking).
3. Users are not limited. (If chargers are available upon payment of the fee on the site, it is regarded as meeting this requirement.)

III-4 Model Plan for developing charging infrastructure (充电网普及的榜样计划)

【Procedure for placing charging stations】

Recommended step to place the charging station(ST) in prefecture 1. Large city 2. Main road 3. medium and small cities

Procedure 1. Large city

More than 1 ST per mesh of 5-10 km

Procedure 2. Main road

More than 1 ST for 10-30 km space

Procedure 3. Medium and small cities

Proportional to population and area

【Definition of large city】

- Large population and large number of business establishment
- Relatively high concentration of population and business establishment in a prefecture
- e.g. A city having a standard deviation score of the following urbanization index more than 150

Urbanization index

$$= (\text{population density [person/km}^2\text{]}) \times (\text{business establishment density [company/km}^2\text{]}) \times (\text{area [km}^2\text{]})$$

【Definition of space of ST】

- ① Major national road(N-rd.) : 10km space
- ② Provincial N-rd. with a large city : 10km space
- ③ Provincial N-rd. with a core city : 20km space
- ④ Provincial N-rd. only with small cities : 30km space
- ⑤ Provincial N-rd. in highland area : 10-15km space

※e.g. a ST space less than estimated from the following formula

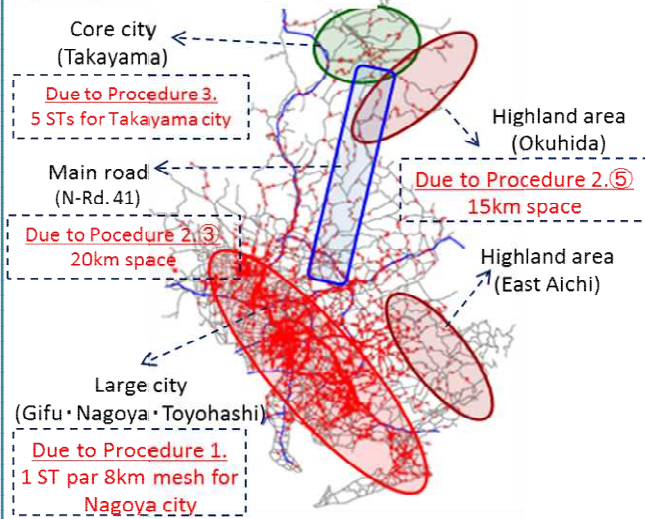
$$\text{ST space [km]} \leq -0.00064 \times (\text{traffic flow [car/day]}) + 38.8$$

【Definition of number of ST】

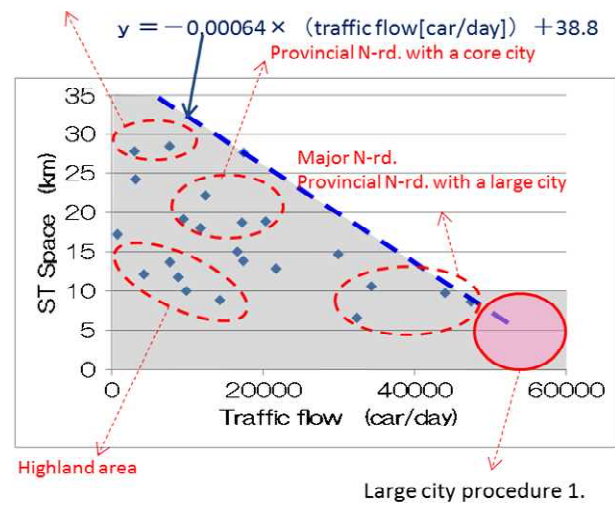
- No. of ST proportional to the are, population, and business establishment in a city
- e.g. No. of STs more than estimated from the following formula

$$\begin{aligned} \text{No. of ST in a city} &\geq 0.0006 \times (\text{ST index}) + 0.822 \\ \text{ST index} &= (\text{area [km}^2\text{]})^{0.68} \times (\text{population [person]})^{0.2} \times (\text{business establishment [company]})^{0.19} \end{aligned}$$

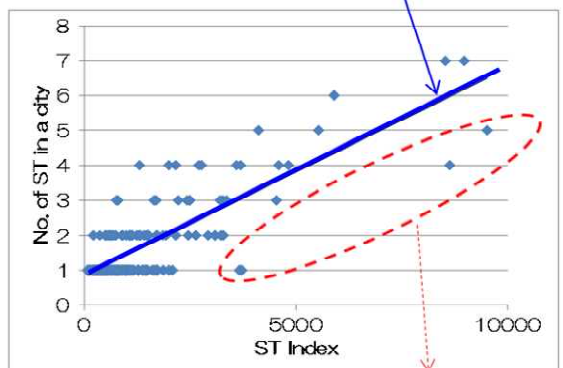
【Example for Gifu-Aichi pref.】



Provincial N-rd. only with small cities



$$y = 0.0006 \times (\text{ST index}) + 0.822$$



Note that a city having a large area due to merger with other cities is exceptional

Note: This model plan is proposed by Ministry of Economy, Trade and Industry based on "Analysis research on optimized layout of charging station" which Next Generation Vehicle Promotion Center commissioned Central Research Institute of Electric Power Industry in the framework of the clean energy vehicle promotion program. This analysis research is based on a simulation result to minimize the No. of EVs running out of electric power under an assumption. Hence, this model plan does not always ensure the charging station layout enough to keep EVs from running out of electric power. Other strategy for developing charging infrastructure is also acceptable, because this model plan is based on just one simulation result.

感谢各位聆听！



我们衷心欢迎 JARI与CATARC的共同研究！！

日本自动车研究所与中国汽车技术研究中心
关于日中新能源汽车和充电基础设施共同研究
(一部摘录)

组织框架

在发改委、能源局和经产省的支持下，日方由日本自动车研究所(JARI)、中方由中国汽车技术研究中心(CATARC)分别担任该项研究的牵头组织单位，分别代表两国共同签署谅解备忘录。

缔结谅解备忘录之后，根据日中双方牵头组织单位制定的方法确定参与共同研究的机构和企业。

总体合作目标

参与方探索适合新能源汽车产业可持续发展的充电基础设施政策措施和技术路线，结合1-2个典型城市的实证试验，深入研究用户的车辆使用行为和充电规律，以及有利于各个参与方且可持续的商业模式。共同研究成果为新能源汽车的推广和使用提供借鉴，为日中两国政府制定相关支持政策提供参考。

2014年12月27日于北京