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Update of Strategy for Energy and the Environment ,and Cool Roof & pavement in Japan

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Topic3:Update of Cool Roof related situation Standardization, Statistics,

Topics 1

Interim report of Reestablishing the energy & environment strategies in Japan

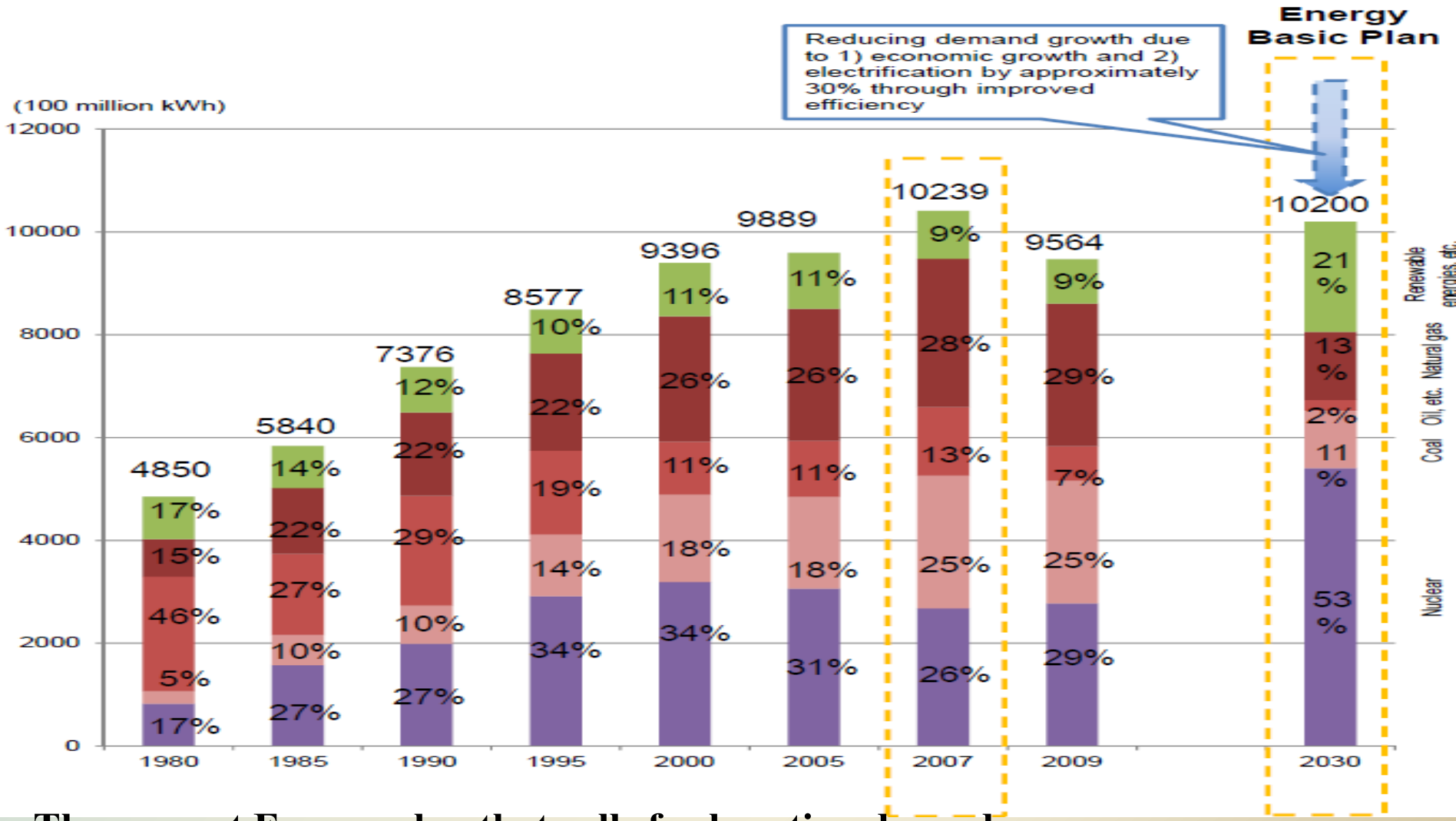
1. Four energy challenges after the Great East Japan Earthquake.....6

(1) Construction of strategies from scratch

(2) Verification without exception

(3) Constrution of energy market where invention and competition of various actors are encouraged

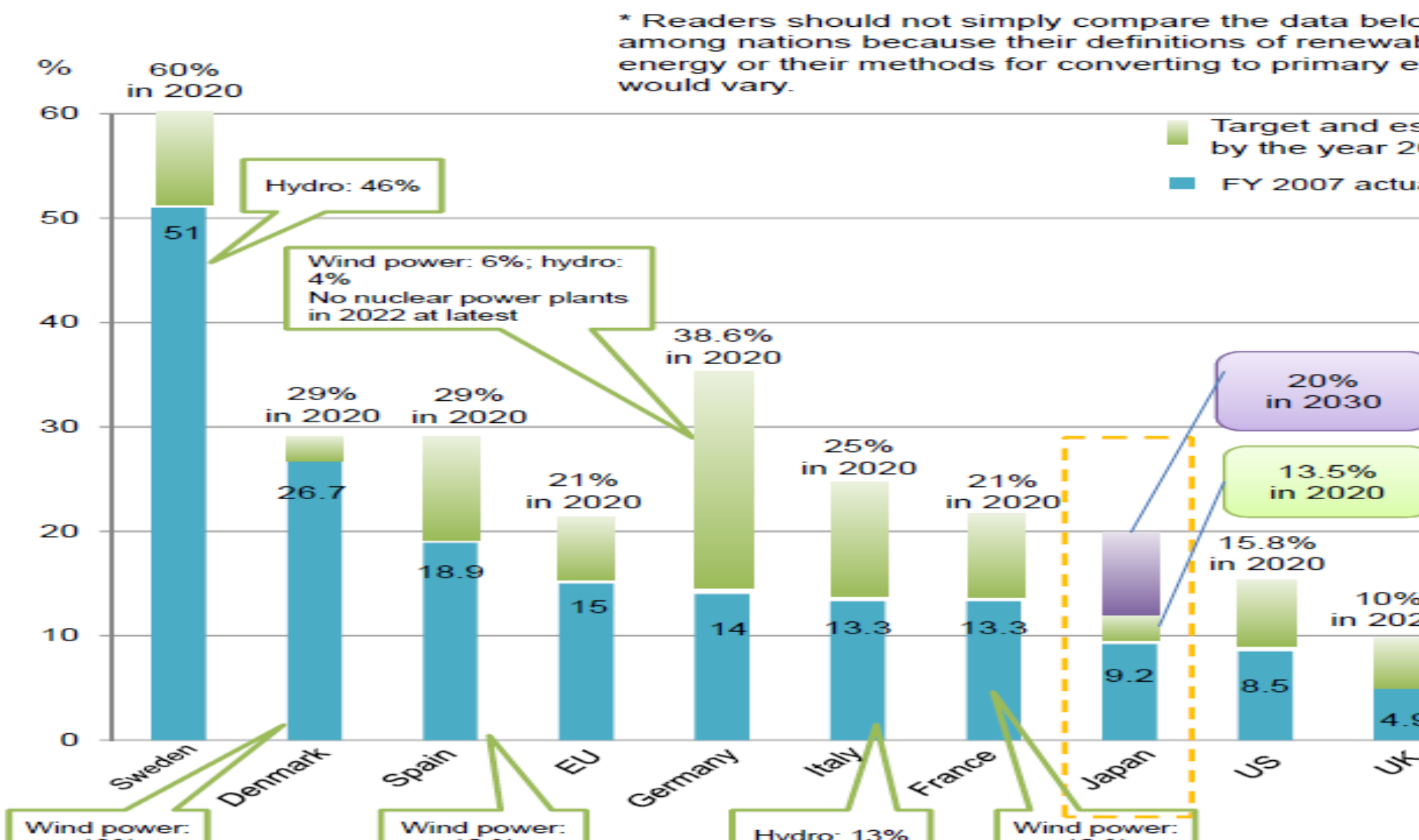
(4) Construction of strategies from various points of view



The current Energy plan that calls for boosting dependency on nuclear power generation to over 50% in 2030.

Original planning has been fixed in mid 70th and accelerated in 90th .

4) Actually installed capacities and target on renewable energy-based power generation



Source: The Materials for Energy Supply Working Group, Long/Medium-term R
Study Committee on Global Warming, Ministry of Environment, dated January
<http://www.env.go.jp/earth/ondanka/mlt_roadmap/comm/com05-01/mat02

Strategies' basic philosophy

(1) Basic Philosophy I: Three principles for the realization of a new best-mix of energy sources

Principle 1: Draw up a scenario of reduced dependence on nuclear energy

Principle 2: Utilize a clear and strategic schedule in order to avoid energy shortfalls and price rises

Principle 3: Conduct a thorough review of nuclear power policies and operate under a new framework

Basic Philosophy II

(2) Basic Philosophy II: Three principles for the realization of new energy systems

Principle 1: Seek to realize distributed energy systems

Principle 2: Seek to make an international contribution as an advanced problem-solving nation

Principle 3: Take a multifaceted approach to the realization of distributed energy systems

Basic Philosophy III

(3) Basic Philosophy III: Three principles for the formation of national consensus

Principle 1: Stimulate national discussions overcoming the confrontation between the opposition to nuclear power generation and its promotion

Principle 2: Verify objective data

Principle 3: Formulate innovative energy and environmental strategies while maintaining dialogue with a broad range of national people

Strategy processes

4. Strategy processes.....14

(1) Short-term (actions in the upcoming three years)

Conduct energy structural reform ahead of initial schedule

Deepen national discussions for reducing dependency on nuclear energy before making decisions

For the immediate future, making all efforts to stabilize demand and supply

(2) Medium-term (toward 2020)

Aim at a new best mix of energy sources and new energy systems

(3) Long-term (toward 2030 or 2050 from 2020)

Realize outcomes from a new best-mix of energy sources and new energy systems

6 Important issues

Cool Roof can play important role

(1) Energy saving
(2) Renewable energies
(3) Resources and fuel
(4) Nuclear energy
(5) Electric power system
(6) Energy and environment industry

Topic2:Establishing the Energy conservation effect of Cool Roof Paint by METI

METI adopted Cool Roof Demonstration project proposed by JPMA in 2012 (fiscal year)public offering program.

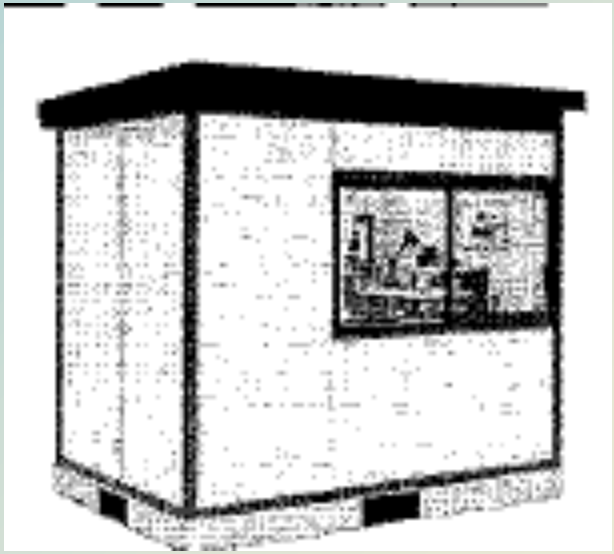
The aim of demonstration experiment

To provide a number of prefabricated experimental house coated by energy saving roof paints and normal paints in a low latitude venue with high insolation throughout year.

Collect comparative data for a certain period on temperature increase in various areas of experimental house.

Heat flow and energy used for air conditioning are essential parameter for the analysis

Model house specifications



屋根回り寸法(mm)	幅2880×高さ(傾斜部最大)2452(傾斜部最小)2390×奥行2238
柱外寸法(mm)	幅2765×奥行1882
有効室内寸法(mm)	幅2578×高さ2100×奥行1794
建築面積	4.95㎡(1.50坪)
耐荷重	床： 3000N/平方m(300kgf/平方m) 屋根：1200N/平方m(120kgf/平方m) ＊積雪:約60cm 雪の重さは、状況により変化します。早めに雪降ろしをして下さい。
重量	420kg
標準	ドア1・小窓1・トイ・コンセント付きパネル1付
壁(断熱材30mm厚入り)	外壁(プレコートカラー鋼板 グレーベージュ・エンボススタッコ柄) 内壁(アイボリー系抽象柄MDF)
天井	プリント合板貼パネル アイボリー系抽象柄
天井高さ	2100mm
床	パーティクルボード
軒トイ	鼻隠しと一体(プレコートカラー鋼板)

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JPMA`s future schedule

JPMA will start experiment from late October 2012

JPMA will hold Seminar for first year result on next Feb. and March (Bangkok, Tokyo)

Topic3: Update of Cool Roof related situation
Standardization, Statistics,

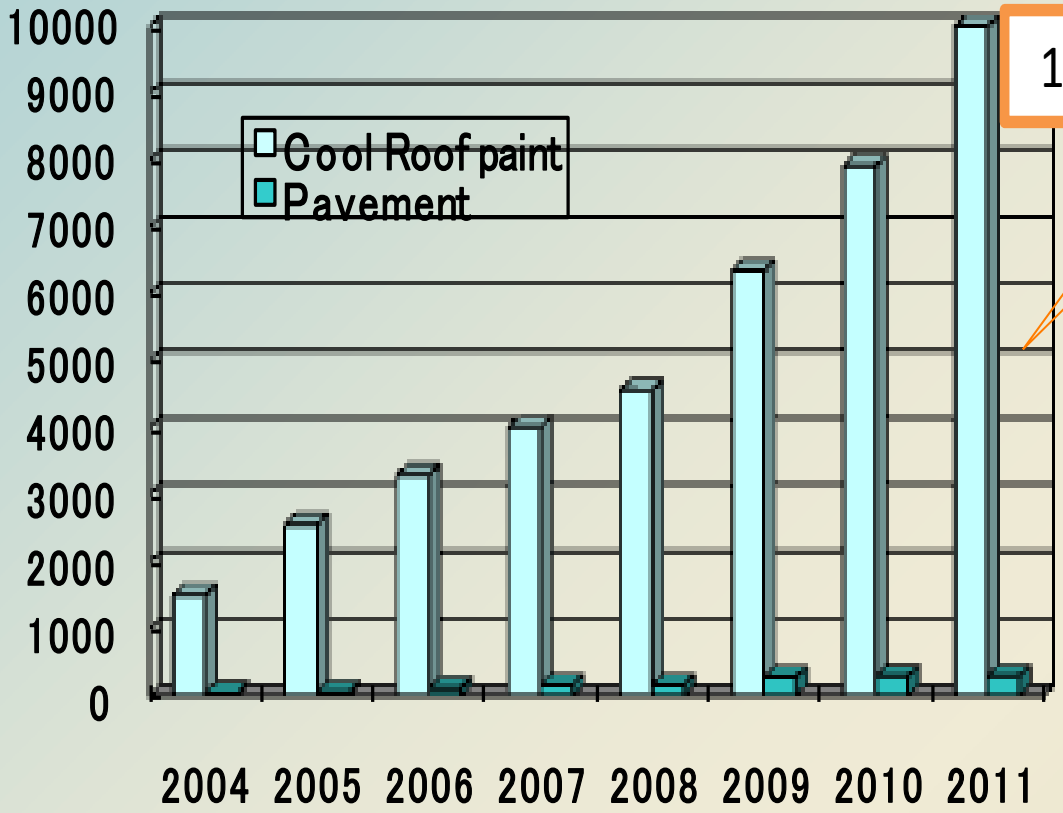
1.Standardization

a) Cool Roof paint product standard (2011)
Introduction of JIS registered products has just started.

b) Cool Roof precoated Metal products standard will be filed in 2012-13

c) Waterproof roof seat association will apply Cool Roof seat product standard in 2012-13

2. Cool Roof paint Grows in Japan



27% up from 2010

0.08	0.13	0.17	0.21	0.26	0.44	0.71

(for total production)

13	15	16	21	22	23	24	26

(Number of Paint Companies which join in JPMA)

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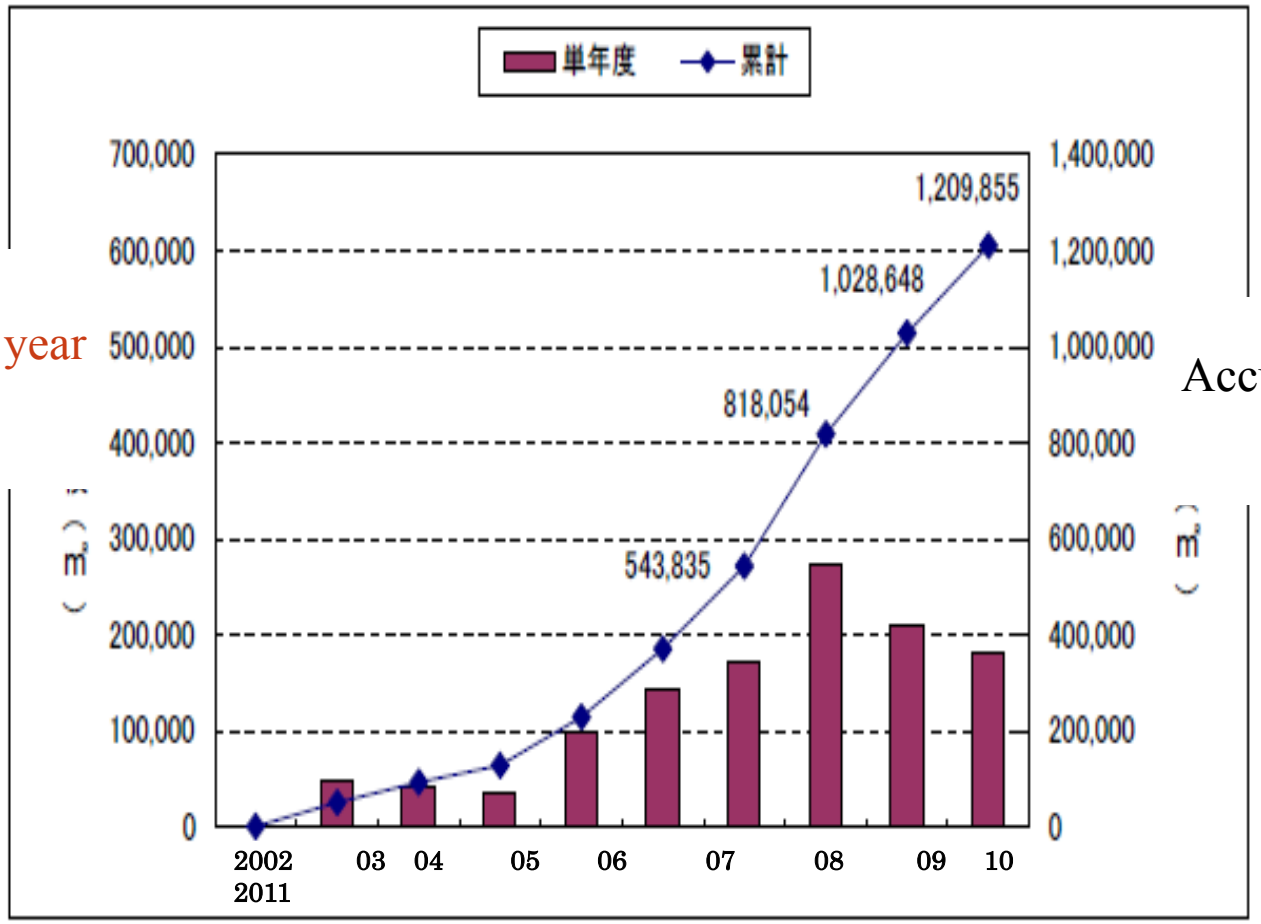
3. Cool pavement application statistics in Japan



Single year

Accumlated

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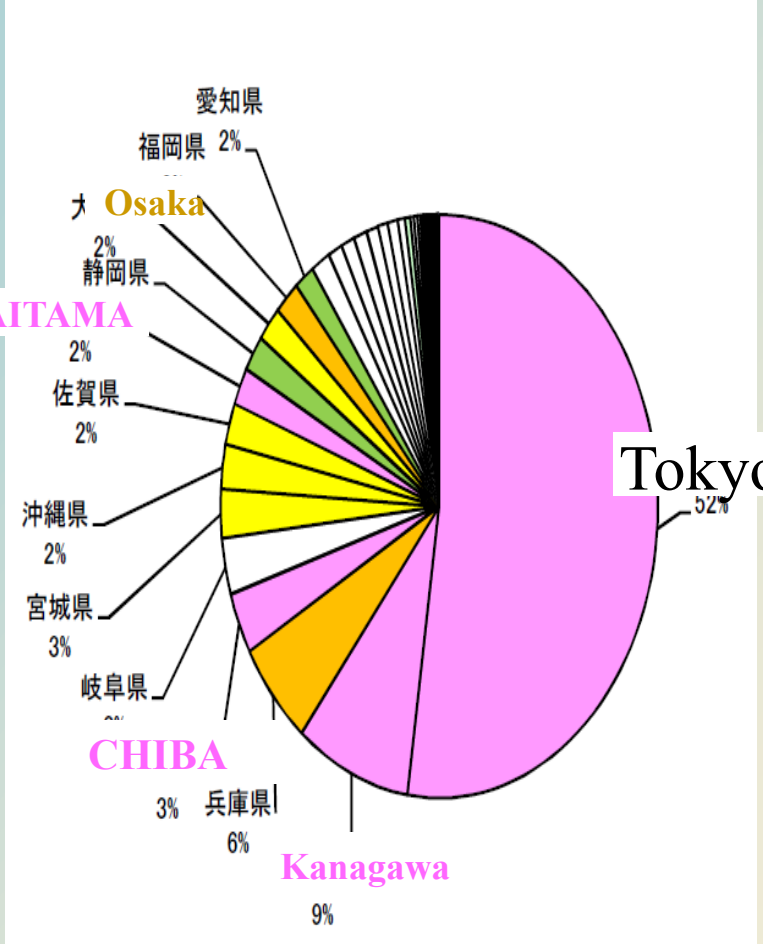
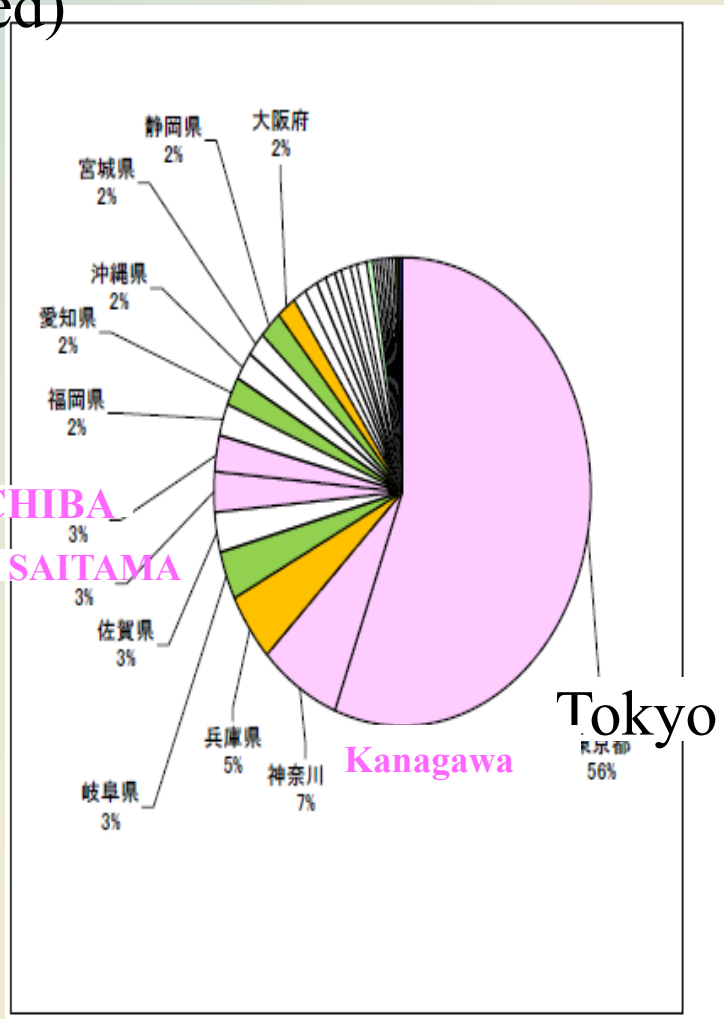
4. Application area analysis in Japan (2003~2011 accumulated)





Adjacent prefectures to Tokyo

Data from 2012 Japan Cool pavement technical research coun

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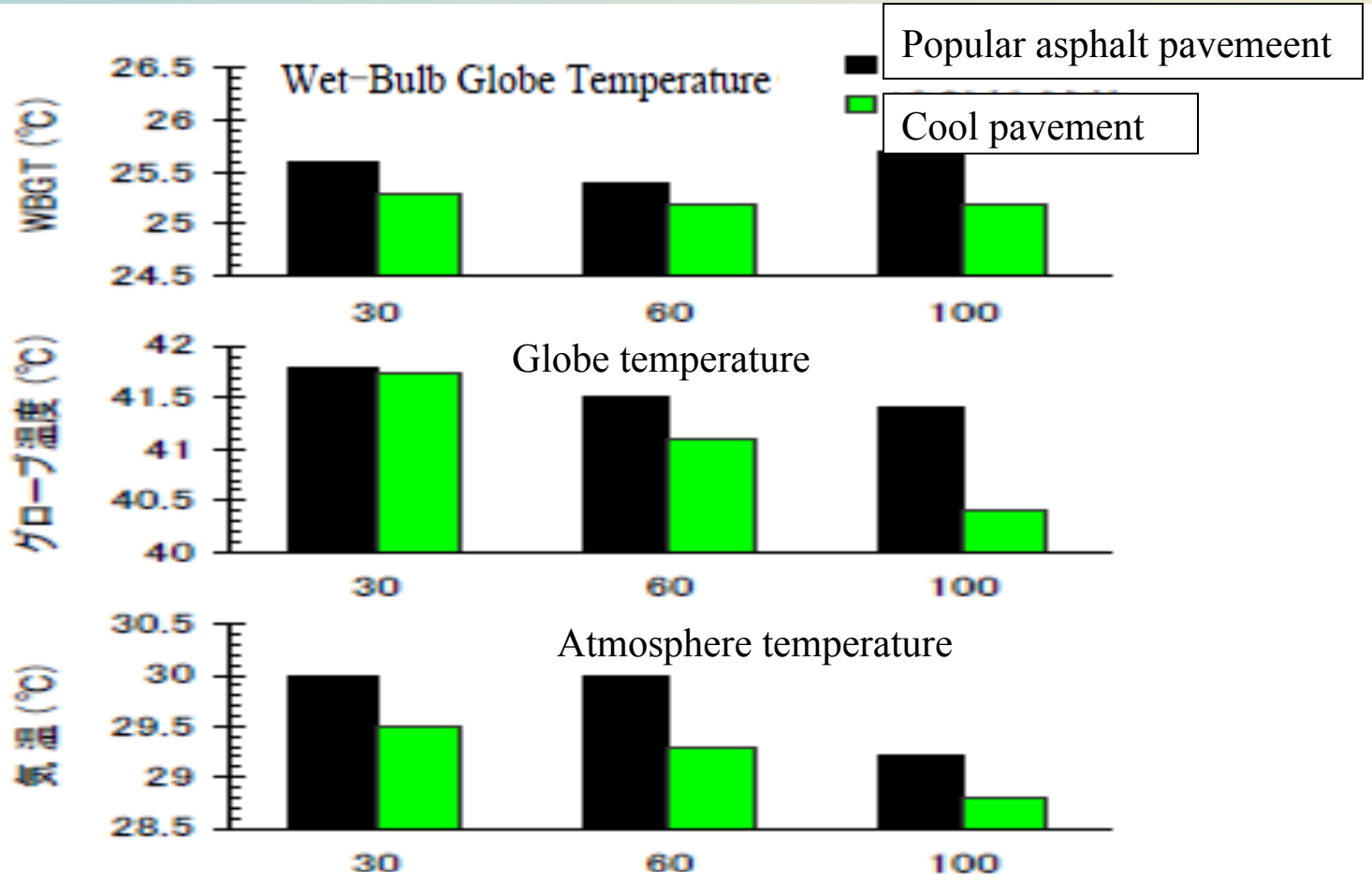
Popular asphalt pavemeent
Cool pavement
Wet-Bulb Globe Temperature
WBGT (℃)
26.5
26
25.5
25
24.5
30
60
100
Globe temperature
グローブ温度 (℃)
42
41.5
41
40.5
40
30
60
100
Atmosphere temperature
気温 (℃)
30.5
30
29.5
29
28.5
30
60
100
Sencer position from pavement surface (cm)
測定時間帯
12:30～12:53 : 密粒H=100, 12:54～13:14 : 遮熱H=100
13:15～13:31 : 遮熱H=60, 13:32～13:49 : 密粒H=60
13:50～14:08 : 密粒H=30, 14:09～14:27 : 遮熱H=30

Thank you for your attention

We are very much grateful for the international support after the tragic disaster hit Japan on last March.