



2008 FCIA-Japan Status

(An Organization of Japan Data Storage Forum)

***FCIA Annual Meeting
& BOD Meeting***

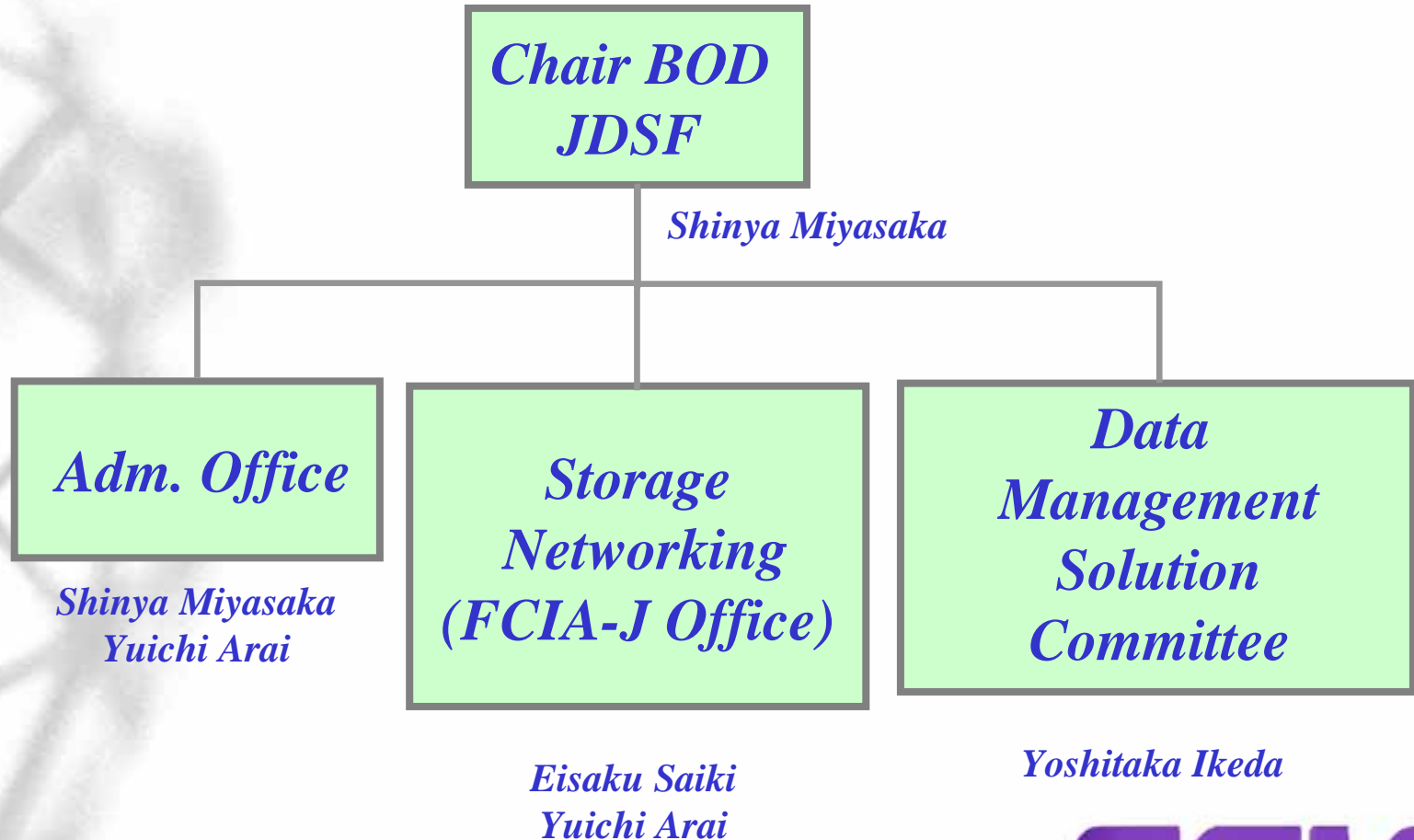
***August 5-6, 2008
Bellevue, WA USA***

***Yuichi Arai
FCIA-J
arai@netmarks.co.jp***

Agenda

- + *FCIA-J (An organization of JDSF)*
- + *JDSF / FCIA-J Events and Activities*
- + *G8 Summit -> Green IT Initiative*
- + *Green IT Approach - City of Tokyo*

JDSF Organization



FCIA-J Organization

+ FCIA-J Office

E. Saiki (Netmarks Inc.)

FCIA-J Chair

BODs of JDSF

T.Tokiwa (Sun Microsystems-J)

FCIA-J Vice Chair

Y. Arai (Netmarks Inc.)

FCIA Interface

(BOD of FCIA)

+ JDSF

Shinya Miyasaka

JDSF BOD Chair

+ JDSF / FCIA-Japan Members (49+14)

9 (Principal)

40 (Associate)

14 (Invited)

+ Annual Budget approx. 200KUSD

FCIA-J Events & Activities in 2007

1 : JDSF Data Storage World Seminar (Jan. 9~10, 2007)

Approach of “Tokyo Carbon Minus Society”



“Green IT” by City of Tokyo

FCIA-J Events & Activities in 2007

1 : JDSF Data Storage World Seminar (Jan. 9~10, 2007)

266 Visitors



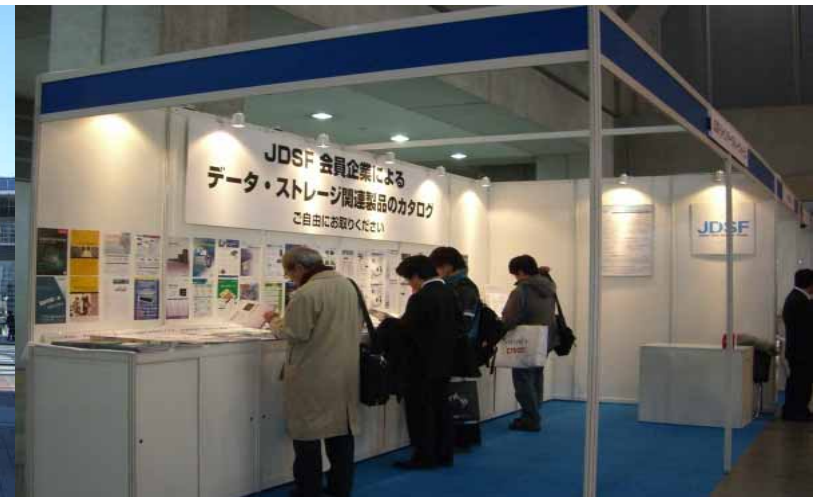
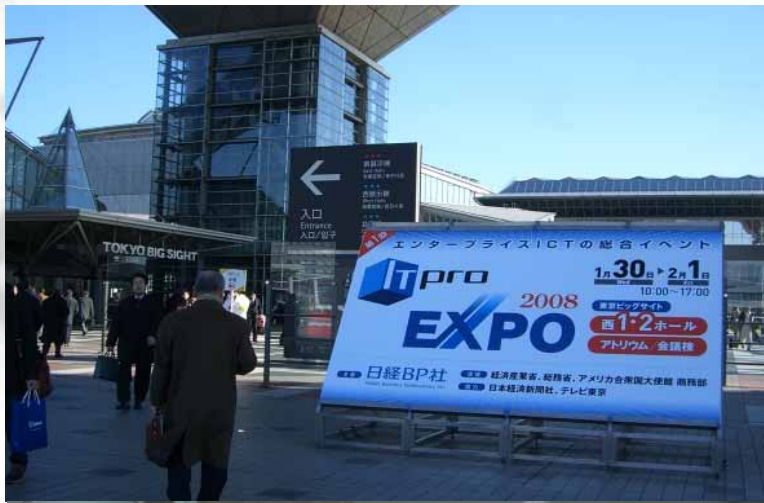
Panel discussion

Private Seminars



FCIA-J Events & Activities in 2007

2 : Nikkei ITPro EXPO-2008 (Jan. 30-Feb.-1, 2008) at Tokyo Big Sight 35400 visitors



*JDSF/FCIA-J Booth
22 Member Companies
Joined*

FCIA-J Events & Activities in 2007

3 : JDSF/FCIA-J Annual Meeting (April 20, 2008)



- 2007 Activities approved.*
- 2007 Expenditure and B/L approved.*
- 2008 Activities plan approved.*
- 2008 Budget plan approved.*

FCIA-J Technical Training Program

- *11/15/2007 SAS Technology by **Adaptec-Japan**
FAN Concept by **Brocade-Japan***
- *2/14/2008 FCoE and its Business background by **Netmarks***
- *6/18/2008 FCoE Protocol Seminar by **Netmarks***
- *7/2008 FCNV and Storage Virtualization (Planned)*

FCIA-J Mail Magazine (Started)

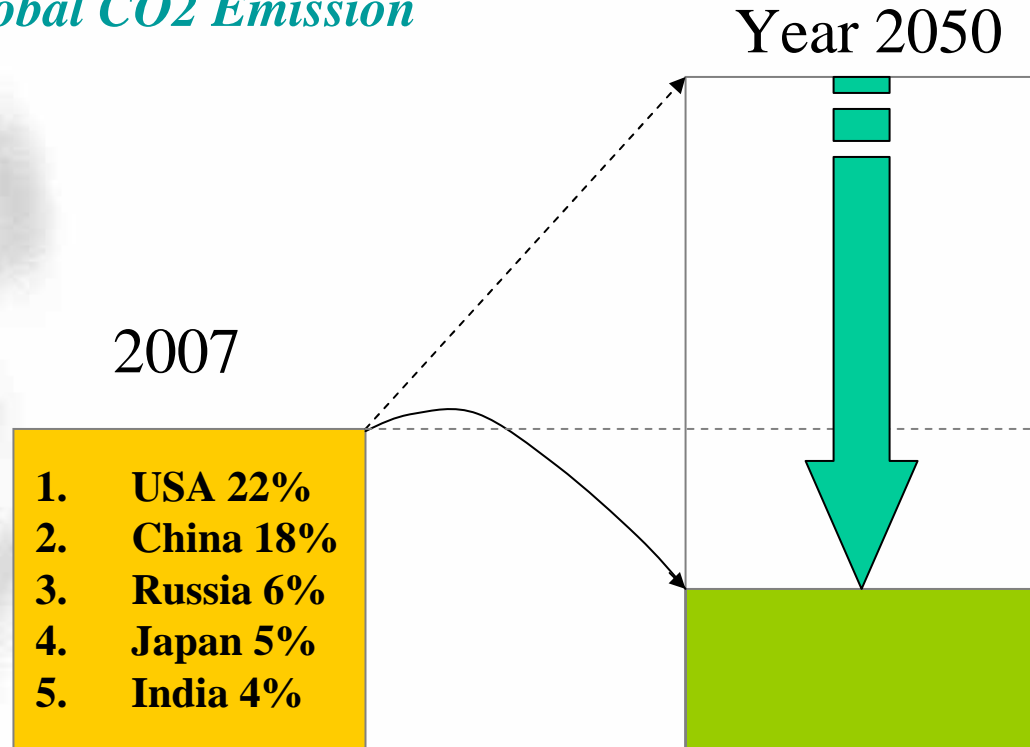
- *5/2008 Storage Virtualization by **Sunmicro Systems***
- *7/2008 SaaS Storage by **Netmarks***
- *8/2008 Position of the Data Center Fabric by **FCIA-J office***



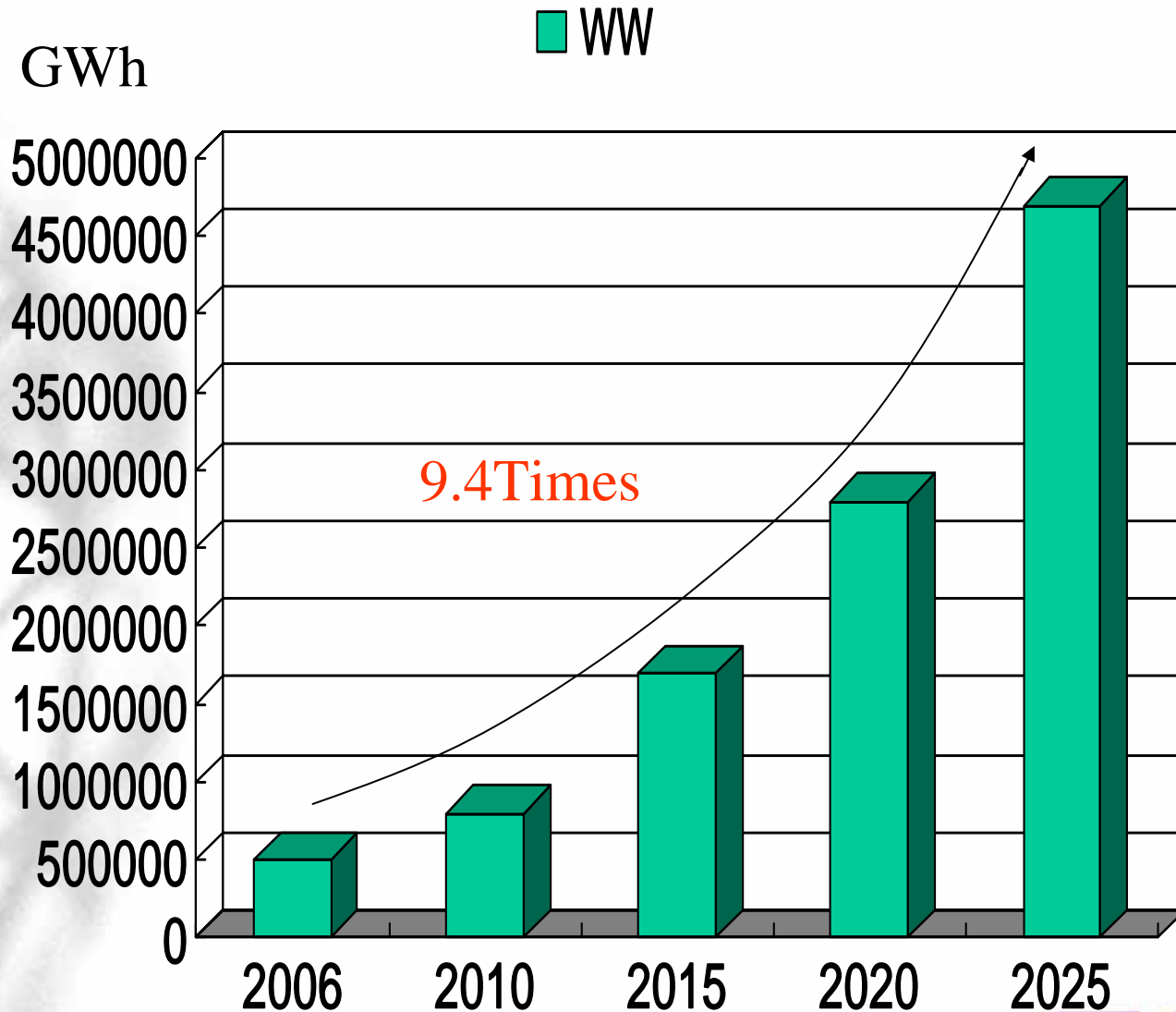
Green IT Initiative
July 2008 G8 Summit in Hokkaido

Basic agreement was made among G22 members

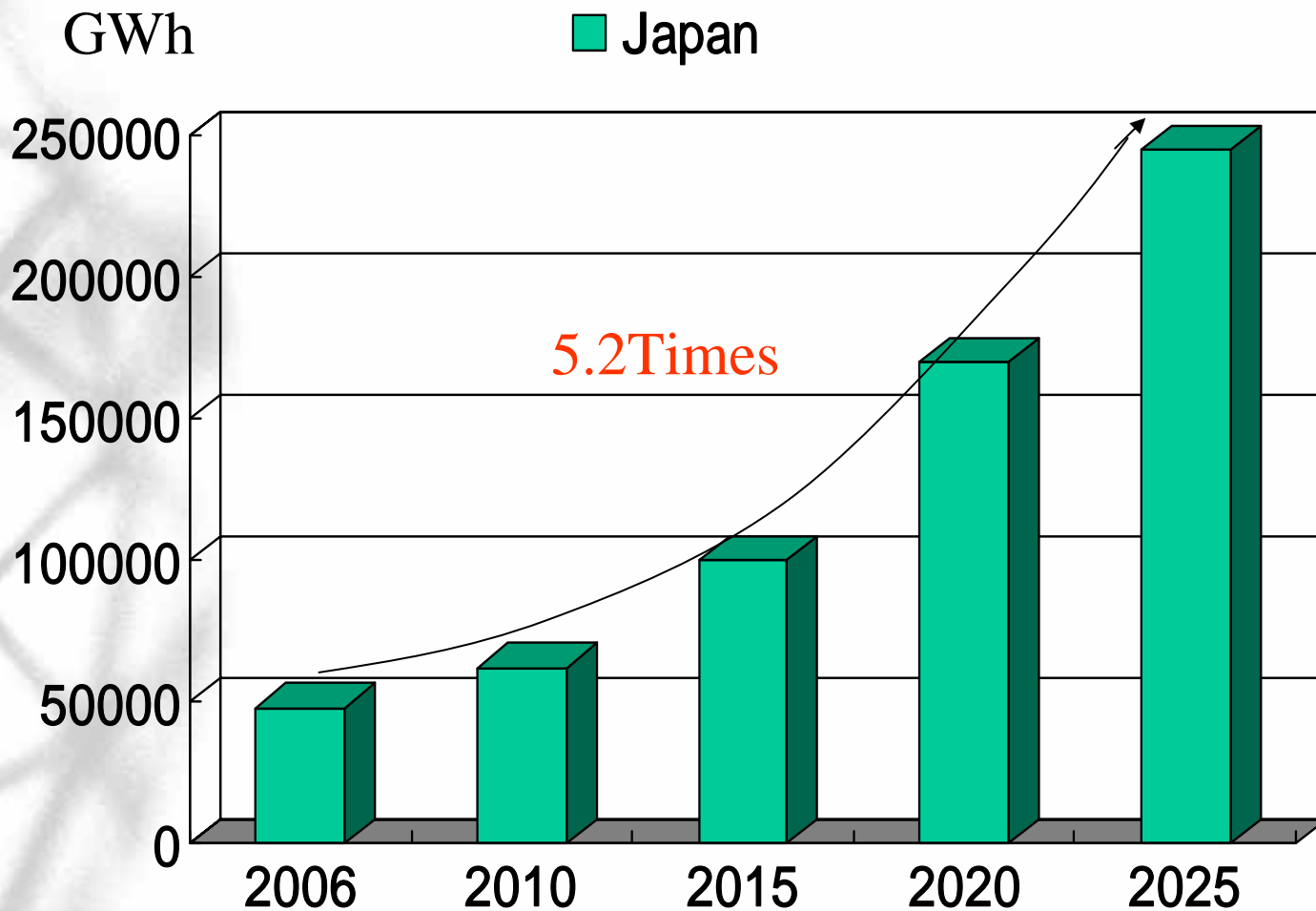
Global CO2 Emission



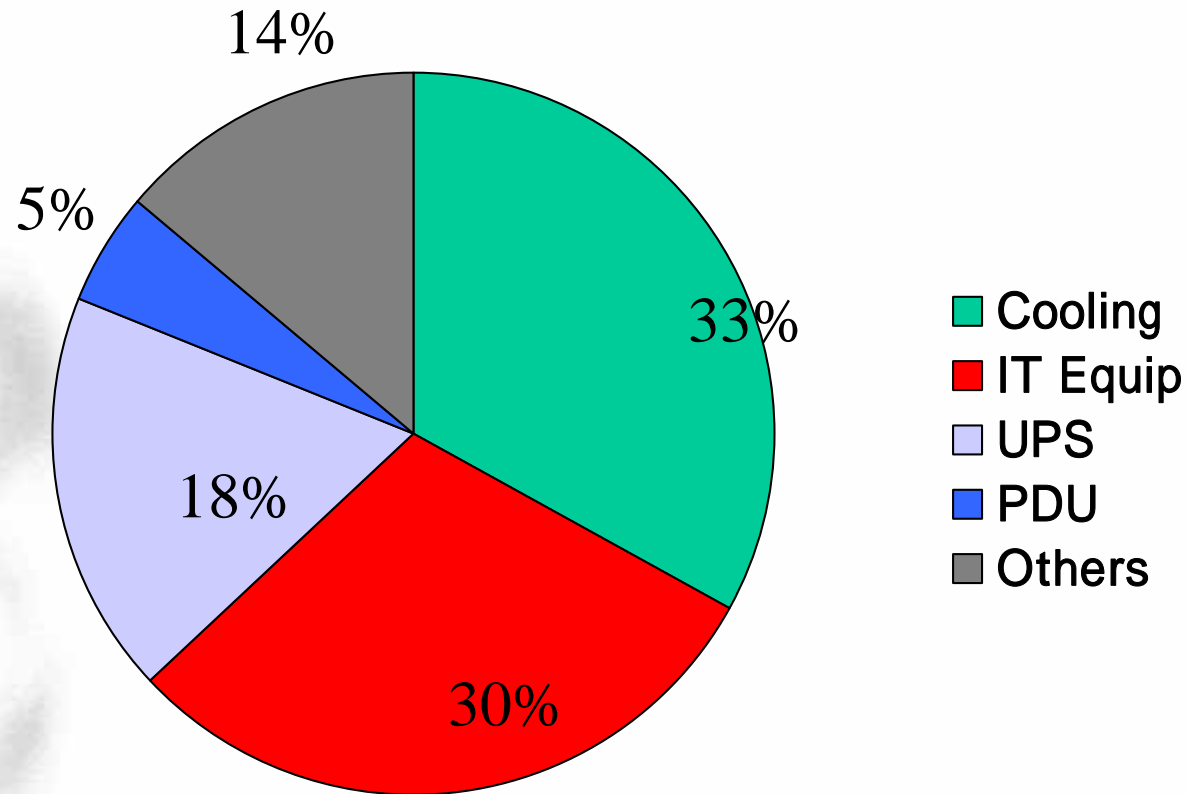
“Power Requirement for IT”



“Power Requirement for IT”



Power Consumption in Data Centers



Efficiency improvement of cooling system

Low energy consumption of Server / Storage / Network Equipment

Reduce conversion and transfer losses of AC-DC-AC

DCie=30%

Objectives

Reduction of power consumption

- *Data Center Servers / Storages > 30%*

(Water cooling technology for chips and others)

- *Network Routers > 30%*

- *Displays / Thin Clients > 50%*

(High resolution - Low power Display development)

- *Home IT (Servers / Displays)*

(Reduction of standby power)

- *Deployment of top runner's highest efficiency to followers*

- *Collaboration with the Green Grid*

and the CSCI (Climate Servers Computing Initiative)



Green IT Approach City of Tokyo

*Tokyo spends too much energy
1.5 times of NY City
6 times of Paris*

Goal image is...

*“Realize Tokyo
the smallest environment load city
in the world”*



Execute
“Carbon Minus Tokyo 10 Year Project”

As the first step...

25% CO₂ reduction
in 2020 vs 2000

25% CO₂ Reduction by 2020 (vs 2000)

Enterprise Sector

*Concludes reduction agreement with each “large 1200 sites”.
Involves SMB for allowing them to sell their CO₂ reduction.
Creates CO₂ market.*

Houses

*Replaces bulbs by fluorescent lamps or LEDs.
Supports implementation of solar panels, heat pumps and
co-generation systems .
Implementations of high efficiency home appliances, air
conditioners and etc.*

City Government

*Generation of Regulation, Promotion, Incentive, ECO TAX
System
Creation of Energy Recycle system and Reuse system among
buildings.
ECO Application to Tokyo City Government facilities
Investment for R&D*

Tokyo Electric Power Company

66.7GW generation capacity

40% by LNG+LPG Plant

36% by Nuclear Plant

24% by Others

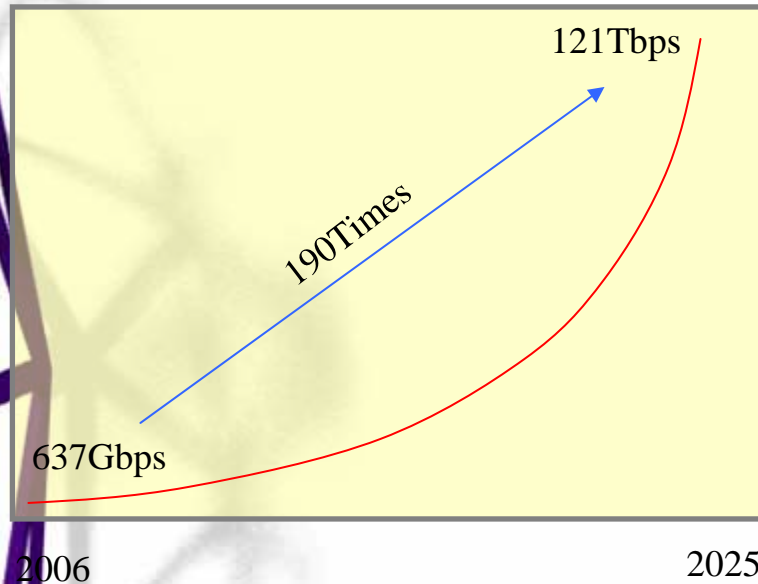
*TEPCO is experimenting their DC
to maximize DCie (55% as of today)*

DCie=Data Center Infrastructure Efficiency

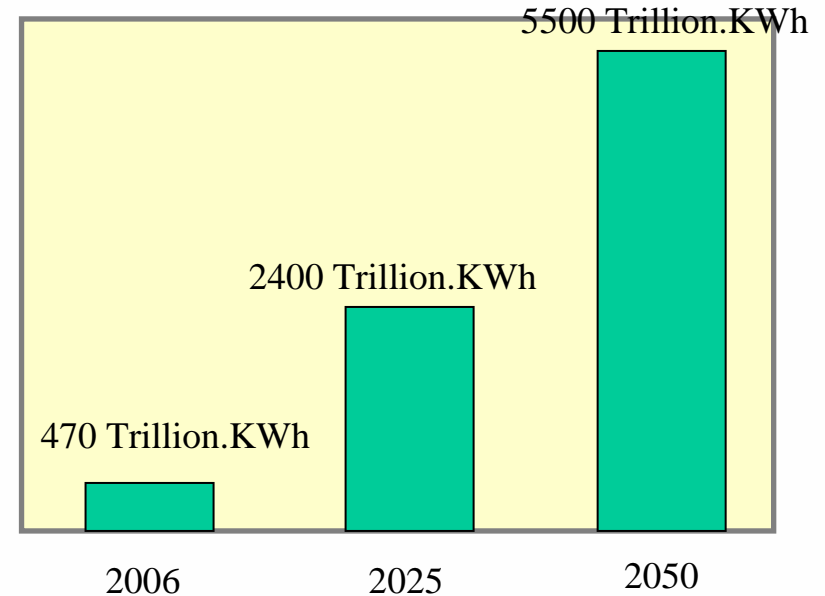
$$DCie = \frac{ITLoad}{DCInput}$$

Energy for IT (Japan)

Traffics



Energy (As is)



Data center building is the key target for CO₂ reduction

ECO IT equipment

Optimization of IT equipment

ECO data center building management

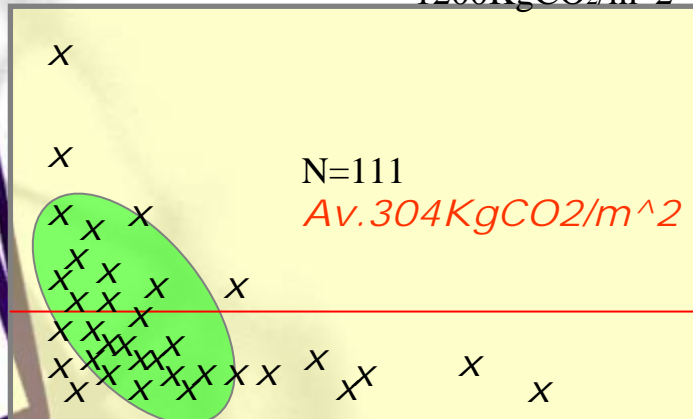
Regional cooling / heating recycling system

Green market

CO₂ Emission from Current Data Centers Tokyo

Data Centers (Own Buildings)

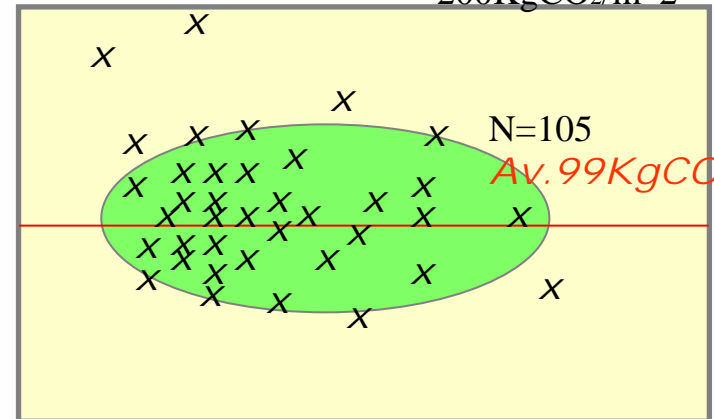
1200KgCO₂/m²



→ Floor Space 500,000m²

Offices (Own Buildings)

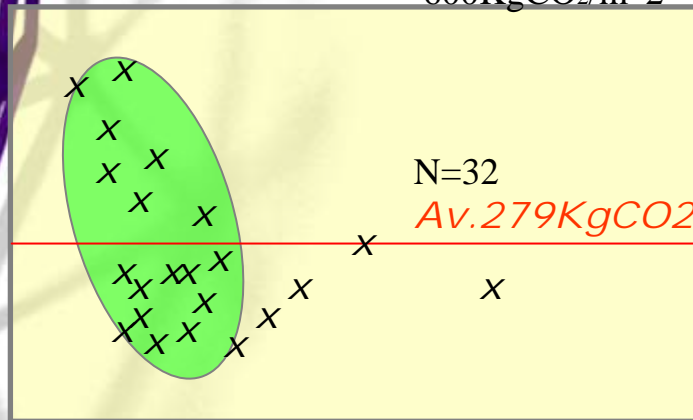
200KgCO₂/m²



→ Floor Space 200,000m²

Data Centers (Lease Buildings)

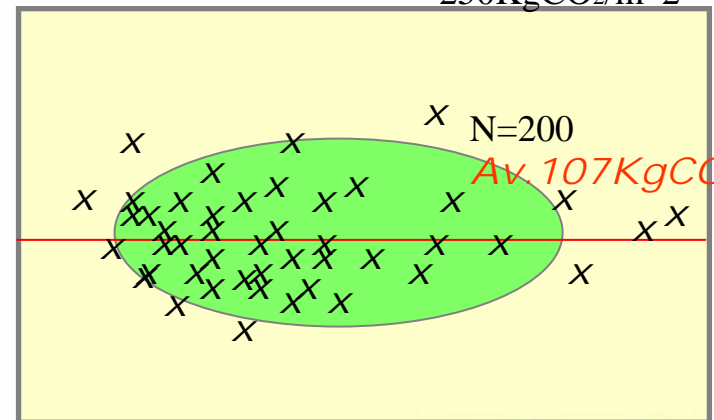
600KgCO₂/m²



→ Floor Space 200,000m²

Offices (Lease Buildings)

250KgCO₂/m²



→ Floor Space 200,000m²

Green Data Center

Consolidation of IT equipment in DC

Implementation of ECO IT equipment

Efficient use of equipment

*Efficient Power Converter, PDU and UPS
implementation including direct current*

Efficient cooling / heating system

Total DC monitoring and control



Thank you

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