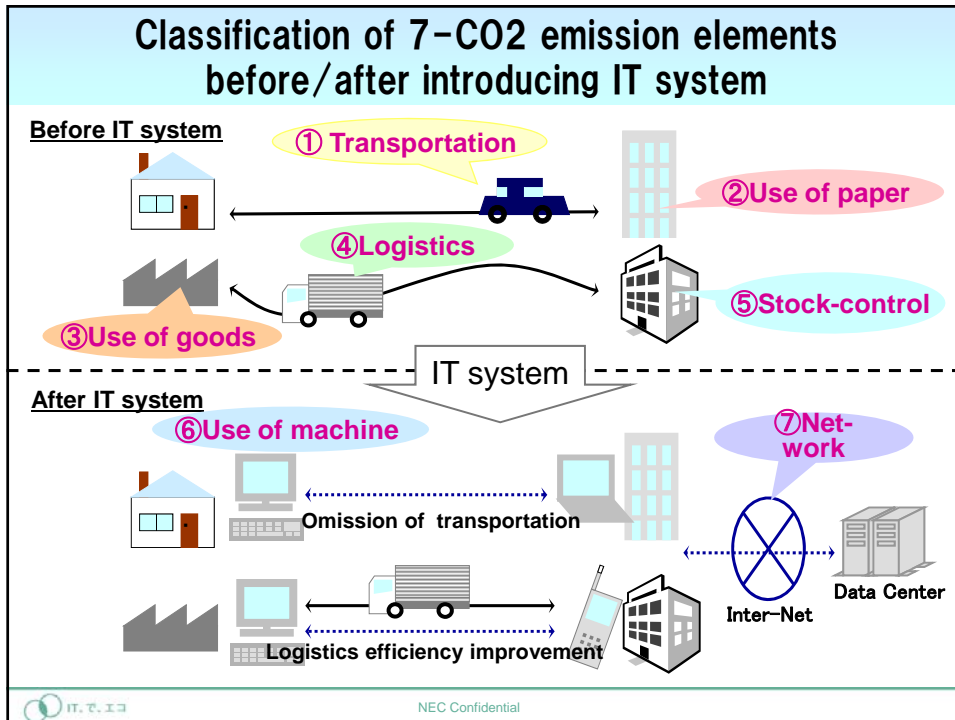


# Practice & Exercising

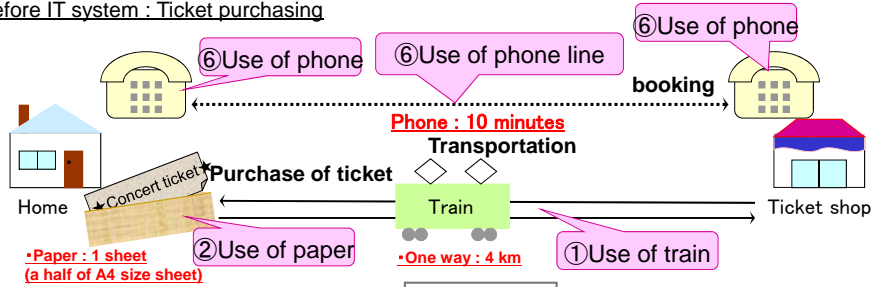
## - CO2 reduction effect of IT system -

Nov. 29, 2010  
NEC Corp.  
Env. Mng. Division  
Ryosuke UGO

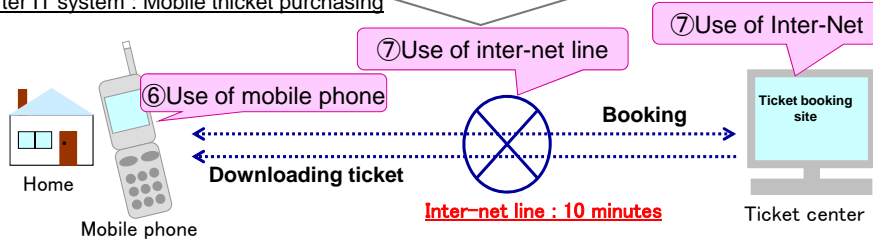


## Case study 1 : Mobile ticket purchasing service

Before IT system : Ticket purchasing

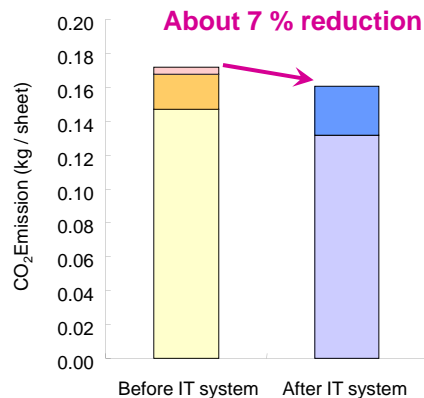


After IT system : Mobile thicket purchasing



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## Case study 1 : Mobile ticket purchasing service



(Unit : kg-CO<sub>2</sub>)

	Before IT	After IT
Ticket sheet	0.004	
Booking by phone	0.021	
Transtortation	0.147	
Use of mobile phone		0.000
Ticket booking data center		0.029
Use of inter-net line		0.131
Total	0.172	0.160



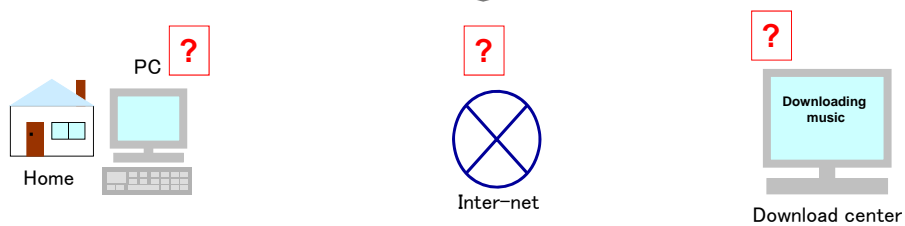
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## Case study 2 : Download service for music

Before: CD-Shopping



After IT system: Music downloading



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## Data for the case study

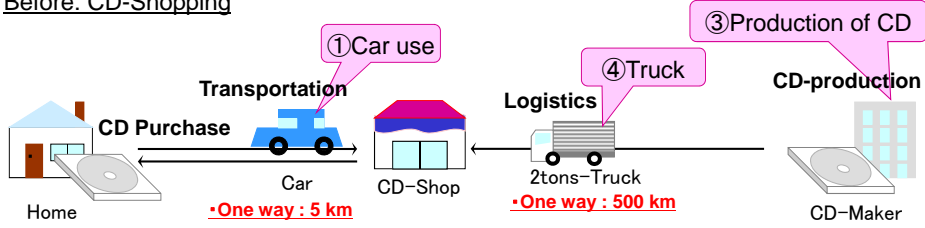
CO2 reduction elements	Content	Values	Unit
① Transportation	Car	0.050	kg / person·km
③ Use of goods	CD production	0.330	kg / unit·amount
④ Logistics	Truck : 2-tons type	0.0007	kg / km·unit·amount
⑥ Use of machines	Power of Desk-top type PC	59.100	W
	Power of Display	24.000	W
	Power of Server	411.111	W
⑦ Use of inter-net	Inter-net line	0.120	kg / unit usage



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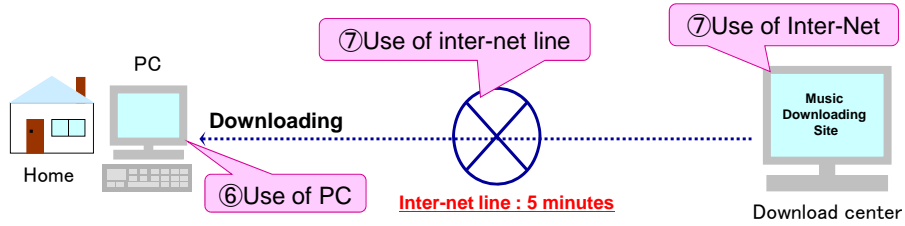
## Case study 2 : Download service for music

Before: CD-Shopping



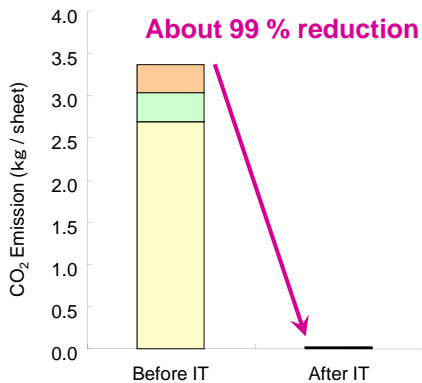
IT system

After IT system: Music downloading



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## Case study 2 : Download service for music



(Unit : kg-CO<sub>2</sub>)

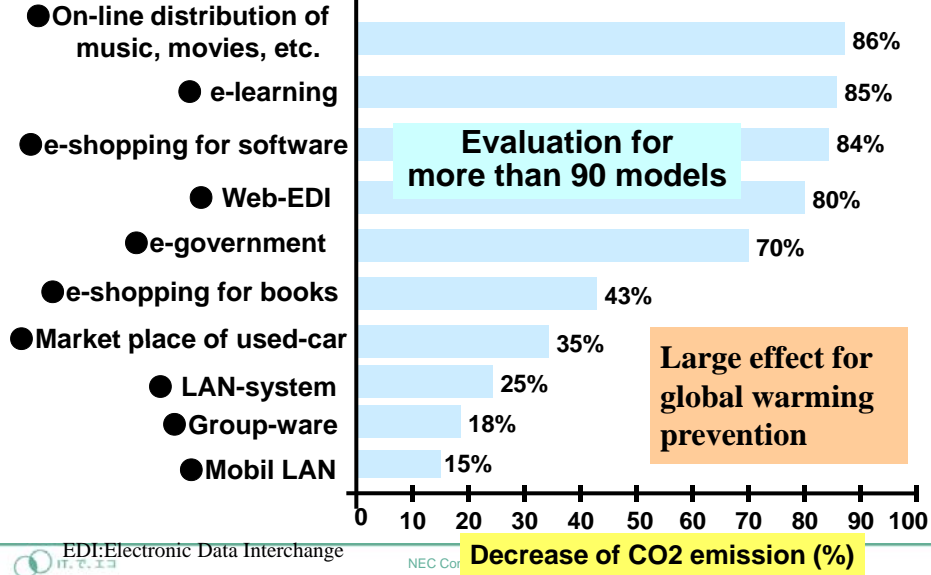
	Before IT	After IT
CD production	0.33	
Logistics to the shop	0.34	
Tranportation	2.70	
Use of inter-net line		0.01
PC Use		0.00
Music download data center		0.01
Total	3.37	0.03



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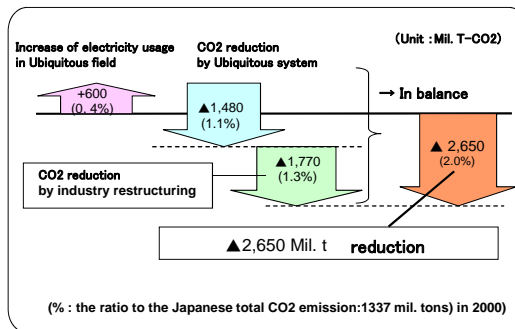
## Decrease of CO2 emission by IT-solutions

(Variety of new business-models)



## The estimation of CO2 reduction effect all over the Japanese society by IT in 2010

	CO2 emission (Mil. t-CO2)
Electricity use in Ubiquitous field	+6.0
Ubiquitous system total	▲14.8
ITS	▲0.8
Eco-drive	▲0.8
Logistics supporting system	▲0.2
SCM	▲0.8
Reuse supporting system	▲0.9
Tele-works system	▲3.3
Paper less system	▲0.2
BEMS	▲6.1
HEMS	▲1.2
E-Publishing system	▲0.4
On-line shopping system	▲0.1
Additional reduction by industry restructuring	▲17.7
<b>Total reduction of CO2</b>	<b>▲26.5</b>



Source : "Research report for the Ubiquitous society development and the Environment", Mar. 2005, Ministry of Internal Affairs and Communications

# The themes for the next discussion

Dec. 21, 2009  
NEC Corp.  
Env. Management. Div.  
Ryosuke UGO



## The next discussion – Debating –

☆ Let's consider the following issue ?

◎ Themes for the debate;

<Theme1>

‘ Are the following technologies or systems  
effective or ineffective for CO2 reduction ? ’

- (1) Carbon tax
- (2) Carbon trading system
- (3) Eco-point system to replace TV, air-conditioner, etc.

<Theme2>

‘ Can technologies solve the Environmental issues ? ’

## The next discussion – Debating –

### ★ Debating process

Step1 : Select your option: theme 1(sub1-3) or 2

Step2 : Check your opinion :

Approval , Opposite

Step3 : How are you conducting the logics  
for your opinion ?

**Please try to follow the processes as the bellow.**

- ① The clarification of the reason for your opinion
- ② Collecting information or data supporting your opinion  
taking account for the following key-words:
  - technology, -cost, -environmental resources or loadings,
  - management resources (people, capital, resources), etc.
- ③ Also, Collecting information or data supporting your opposite opinion
- ④ Speculating on the opposite side logics
- ⑤ Establishment of your conclusion



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## Debating Team making and time table

○Team making : 1 team – 2 members

\* Please, selection your partner each other taking account of  
your schedule or situation

○Time table : 60 minutes for 1 debating

<Step 1> Initial insistence from both teams

5 minutes : The 1st team presentation

5 minutes : The 2nd team presentation

<Step 2> Debating

3 minutes : The 1st team - Additional and opposite explanation and questions

3 minutes : The 2nd team - Answer and additional explanation, questions

\* Repetition of 3~5 times

<Step 3> Discussion with audience

10 - 15 minutes : questions from audience and answers from teams

<Step 4> Judgment of audience and comments from coordinators



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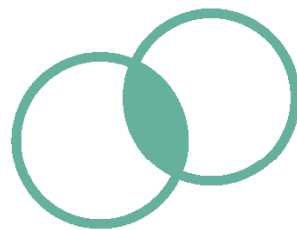
## The next discussion - Debating -

◎How do you think about the balance between Environment and your business !?  
I'll do support or opposite (the theme (1) - (4) ) !

Because ...



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IT、で、エコ

その変わるところにNECのソリューション

## (Ecology through IT)

★ We are helping customers and society as a whole  
contribute to environmental conservation through  
our IT businesses.



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