Empowered by innovation **NEC**

The themes for Today's debating

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The Today's discussion – Debating –

☆**Let's consider the following issue ?**
◎**Themes for the debate;**

' **Are the following technologies or systems effective or ineffective for CO2 reduction ? '**

(1)Carbon tax

(Ap.) Masato Miyachi, Ryunosuke Sakaki, Yohei Sato

(Op.) Wang Hao, Elsa Thorselius

(2) Carbon trading system

(Ap.) Kenji ONO, Takahiro Sakuma

(Op.) Kazuya Suzuki, Yuma Murakami

(3) Eco-point to replace TV, air-conditioner

(Ap.) Takuma Iino, Ponou Josiane
(Op.) Hiroki Tashiro, Parinda Thayamhul

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The next discussion – Debating –

☆**Debating process**

Step1 : Select your option: theme (1) - (5)

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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Evaluating of the debating

Evaluation for the Debate as follows.

1.The peer-evaluation

Please, carry out the peer-evaluation

(1) Evaluation of the discussion

Excellent : S,　　Good : A,　　　　Normal : B,　　　Poor : C

2. Facilitators' evaluation

(1) Evaluation of discussion

Excellent : S,　　Good : A,Normal : B,　　　Poor : C

(2) Evaluation of audience

Appropriate or Good comments : A,

Simple criticism : B,

No comment : C,

※　The total evaluation will be the above

peer-evaluation and the facilitators' evaluation.

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) - (3)) !

Because ・・・

Data for the case study

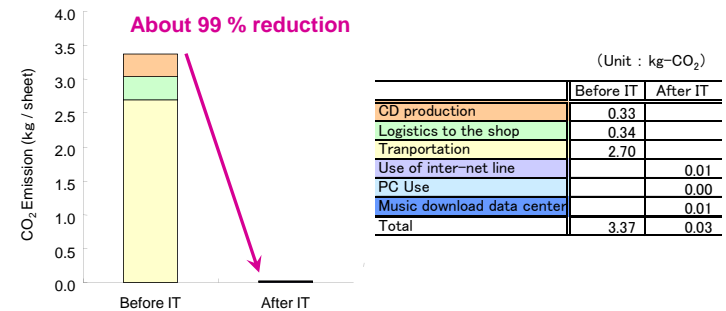| CO2 reduction elements	Content	Values	Unit
① Transportation	Car	0.270	kg / person・km
③Use of goods	CD production	0.330	kg / unit amount
④Logistics	Truck : 2-tons type	0.338	kg / t・km ※
⑥Use of machines	Power of Desk-top type PC	59.100	W
	Power of Display	24.000	W
	Power of Server	411.111	W
⑦Use of inter-net	Inter-net line	0.120	kg / unit usage

※ Unit: $kg-CO_2/t・km(・sheet)$
This means the amount of CO2 per unit truck load (1t), per unit distance
(1 km) and per unit volume (in this case 1-sheet CD).

Case study 2 : Download service for music

About 99 % reduction

(Unit : $kg-CO_2$)

	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

※ Calculation of CO2-emisshon for Logistics to the shop :
0.34 (kg-CO2／t・km・sheet) ×500km ×500sheet = 0.34 kg-CO2

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その交わるところに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.**