EcoDesign of ICT Society
-Low-Carbon Society Scenario Toward 2050-

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EcoDesign for a ICT Society

The 'EcoDesign' aims at making the positive effect larger than the negative effect.
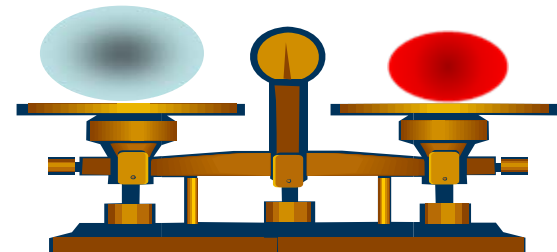
Positive or Negative side

-Changes in the industrial form
（Domestic；Positive, Worldwide：？)

Positive side

-Improvements in transportation efficiency, and so forth

-Advancement and improvement of environmental measures through ICT

Negative side

-Increases resource , energy consumption, and amount of waste

-Rebound effect

Model of Rebound Effect

Society

Technology

Dissolution of fundamental traditional values
Negative mental/spiritual effect

ICT Diffusion

Facile lifestyle

Versatile society

Forms of 'Emptiness'
i.e. Loneliness, Boredom, Lack of meaning

Loss of authentic human contact

Rebound Effect

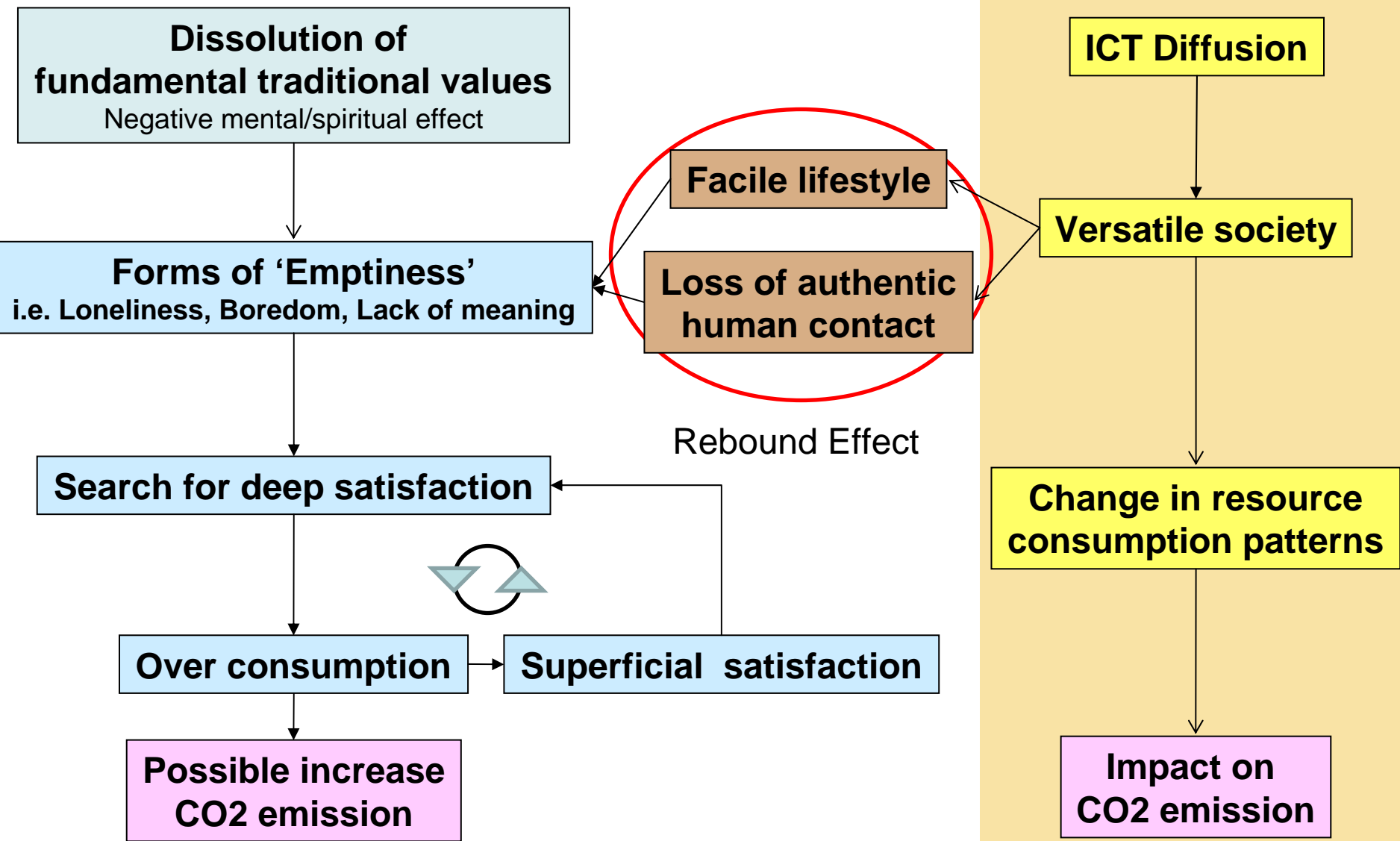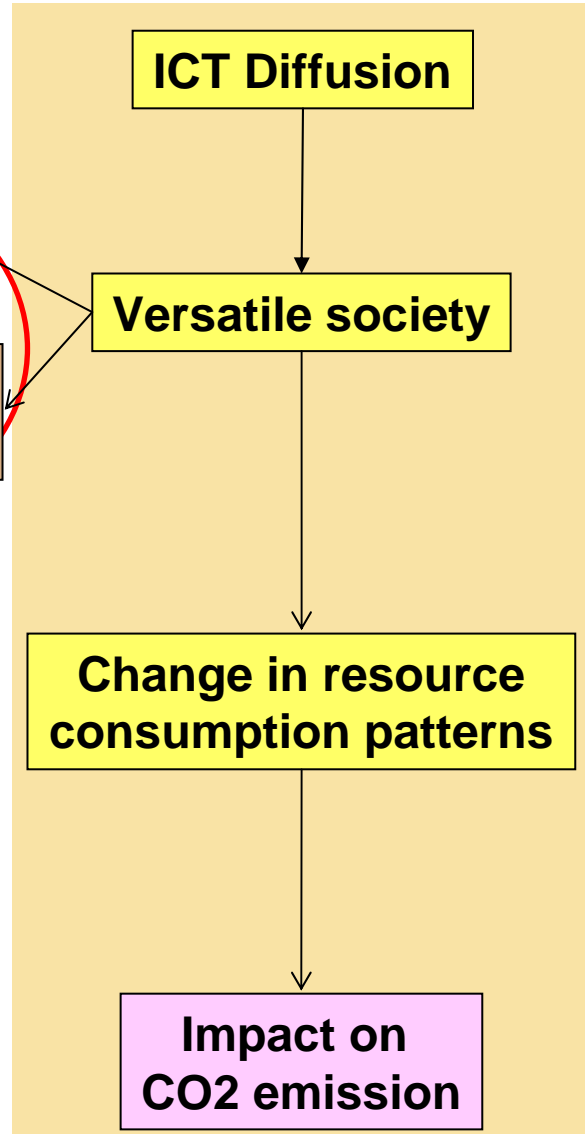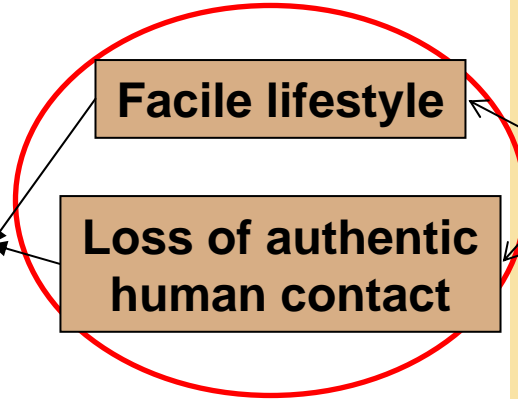**Search for deep satisfaction**

Change in resource consumption patterns

Over consumption

Superficial satisfaction

Possible increase CO2 emission

Impact on CO2 emission

Future impact of ICT in 2020

	Industry	Freight transport	Passenger transport	Office	Home	Recycling	Impact on CO2 emmisions	
Diffusion of ICT equipment	Resource			Electric	Electric	Waste	**Negative II**	+1to2%
Supply chain ma (B2B)							**Positive I**	-3%
Internet shopping (B2C)	Resource consumption	Resource consumption		Number of shops			**Negative/Psotive**	
Teleworking			Transport	Number of offices	Electric power		**Positive III**	
Advanced traffic utilization system (modal shift in commuting, ETC, etc.)		Transport	Energy consumption				**Postive II**	-1%
Dematerialization system (newspaper, magazine, and CD)	Resource consumption	Transport		Number of shops		Waste	**Positive III**	-1%
Energy-manageme (HEMS, BEMS)							**Positive II**	-1to-2%
Eco-life guidance s			consumption	power	power	Waste	**Positive I**	
A product and manufacture management	Resource consumption						**Positive I**	
Recycling information system	Resouce consumption					Waste	**Negative/Psotive**	
E-government			Transport			Wastes	**Positive III**	

CO2 reduction of 2 to3% in 2010

CO2 reduction of 10%in 2050

| Reduction (yellow) |
| Unknown (green) |
| Increase (grey) |

	Rate to the total 2020' emissions
I	3-5%
II	1-3%
III	0-1%

Creation method of 2050 social images

Material collection

Opinion

Findin g

Questionnaire

- Citizen questionnaire (1000 persons)
- Network generation group interview
- A well-informed person and an interview

Future prediction related literature, a SF film, animation

Four ICT society Scenarios

Brainstorming
(Based on 'social model')

Desired sustainable low-carbon society

IT society (present condition)

2050 IT society (prediction) (Forecasting) -10%

Comparison

Trial calculation of CO2 reduction effect

Design Low Carbon Society Using Advanced ICT

Society

Technology

Transform fundamental structure
i.e. social, political, lifestyle

Advanced ICT Diffusion

Integrated ICT and traditional values

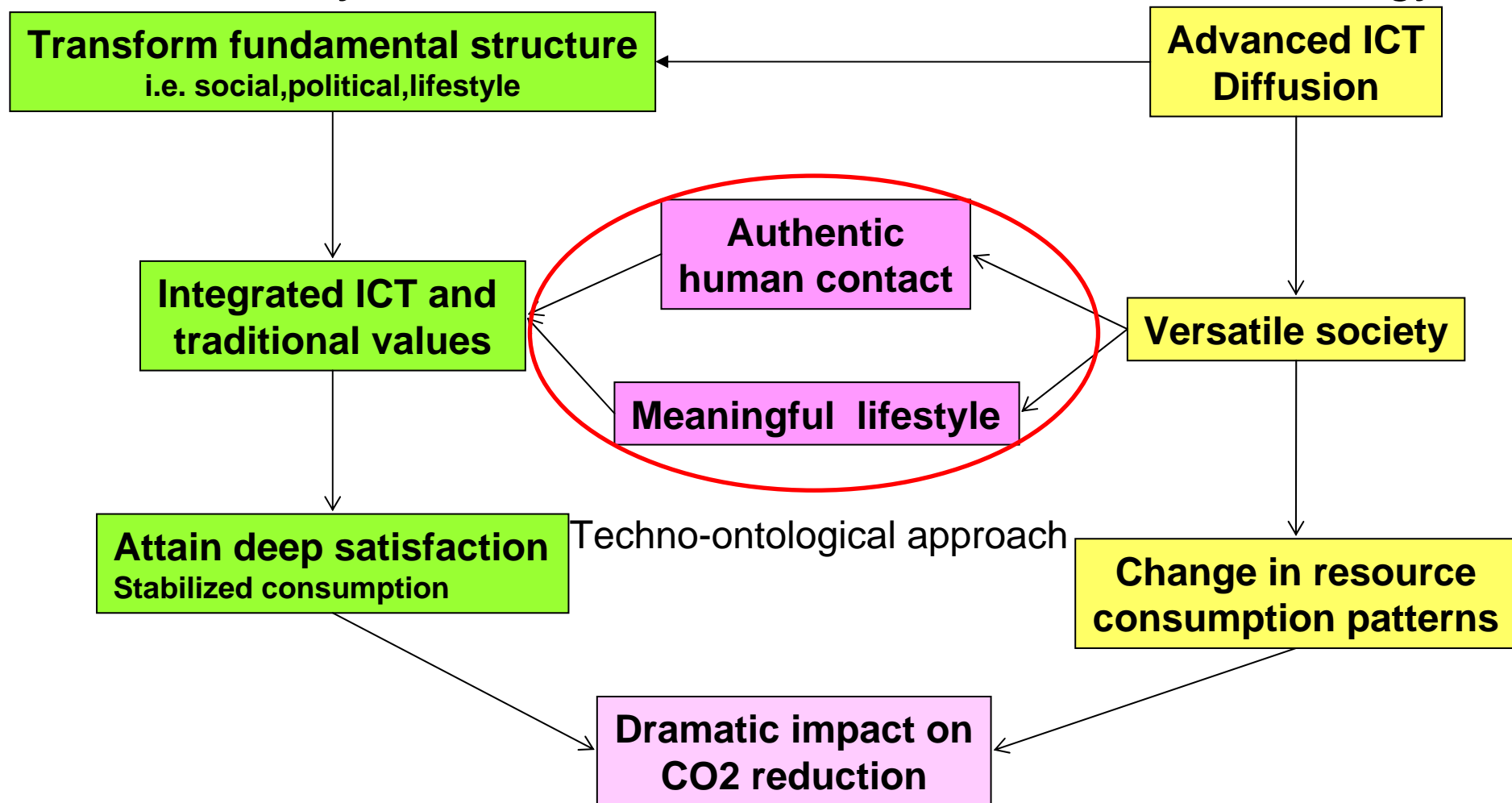**Authentic human contact**

Versatile society

Meaningful lifestyle

Attain deep satisfaction
Stabilized consumption

Techno-ontological approach

Change in resource consumption patterns

Dramatic impact on CO2 reduction
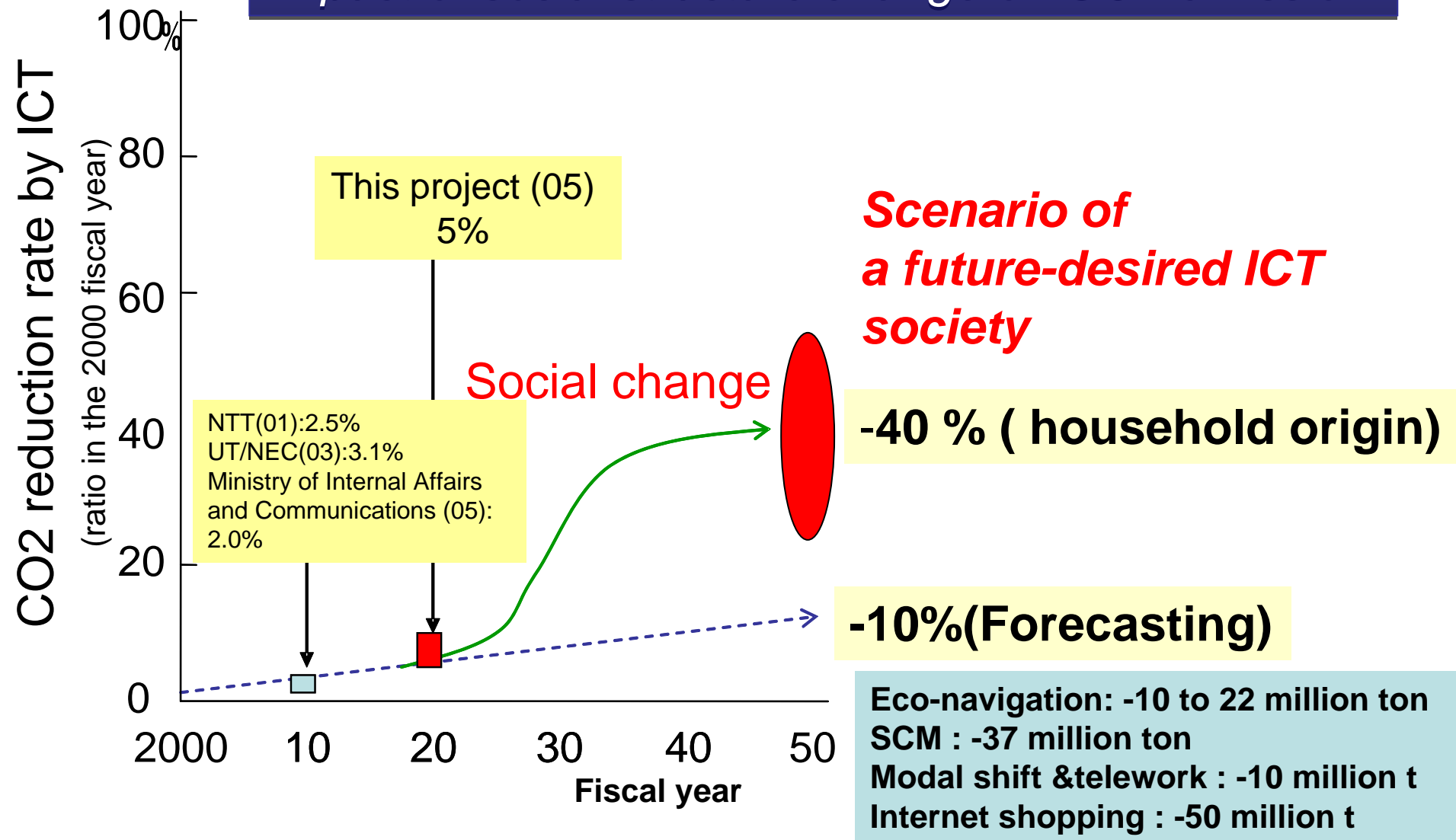
Family life style

Virtual door system
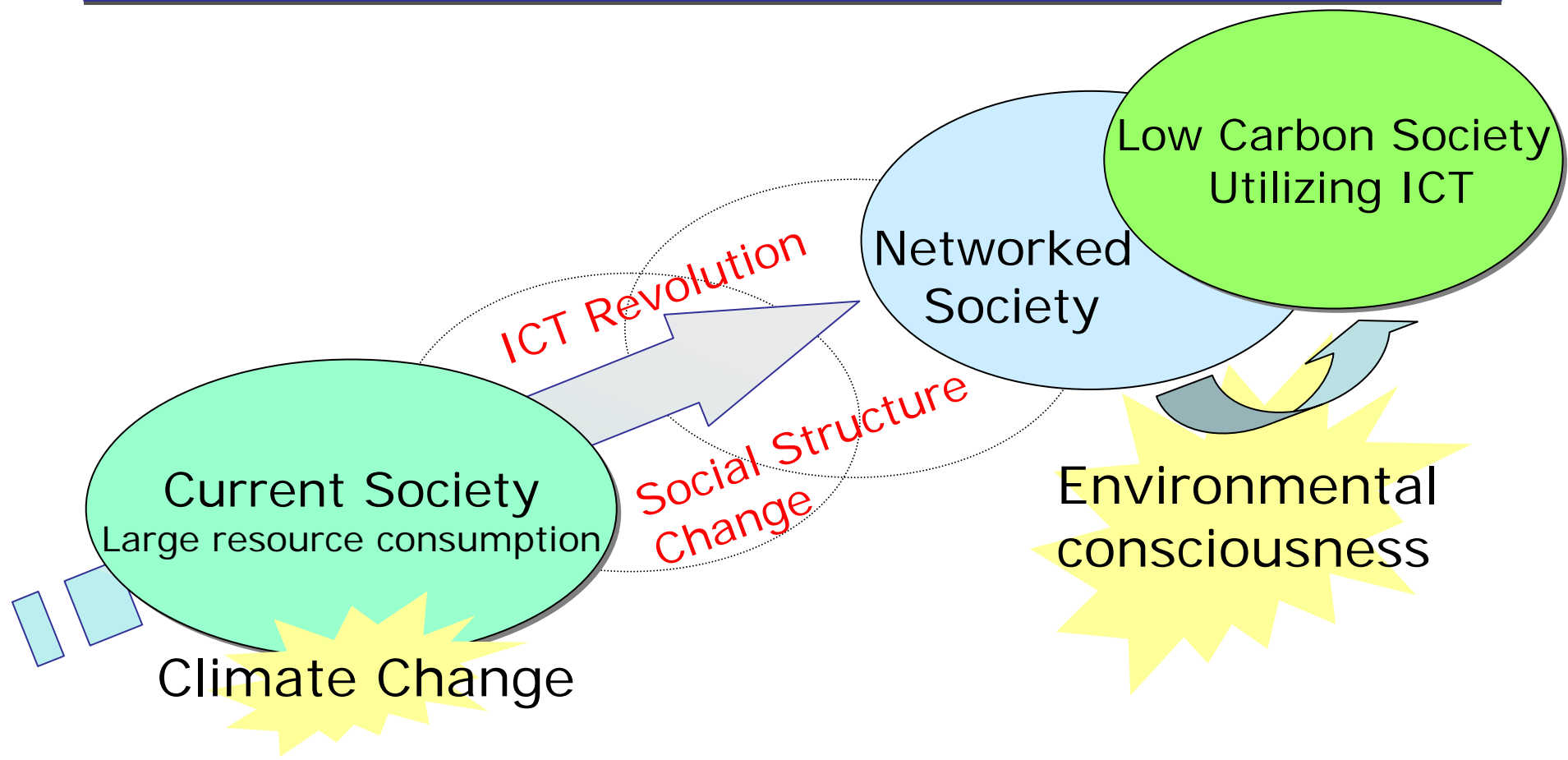
IT magnifying glass

Home automation

Considering Paradigm Shift or Not

Impact of social structure change on CO2 emission

CO2 reduction rate by ICT (ratio in the 2000 fiscal year)

100%
80
60
40
20
0

This project (05)
5%

NTT(01):2.5%
UT/NEC(03):3.1%
Ministry of Internal Affairs
and Communications (05):
2.0%

Social change

Scenario of
a future-desired ICT
society

-40 % (household origin)

-10%(Forecasting)

2000 10 20 30 40 50
Fiscal year

Eco-navigation: -10 to 22 million ton
SCM : -37 million ton
Modal shift &telework : -10 million t
Internet shopping : -50 million t

Consideration of Essential View of 'ICT&Environment'

1) Adding Environmental consciousness to drastic 'social change' brought by ICT revolution
2) Consideration ICT impact on human mental/emotional situations

Causal Approach?

Thank you!