

Upgrade of AIM/Enduse Model

Extended Snapshot for APEIS project

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13th AIM International Workshop

Upgrade of AIM/Enduse Model

Microsoft Access - [Main]
ファイル(F) 編集(E) 表示(V) 挿入(I) 書式(O) レコード(R) ツール(T) ウィンドウ(W) ヘルプ(H) Adobe PDF(B) 質問を入力してください

AIM/Enduse Database System ver 2.3

AIM/Enduse Database

- Control parameters
 - Parameters used in Computation
- Region
 - Region Classification 1
 - Region Classification 2
 - Allocation Index Type
 - Large Point Source
- Sector
 - Sector Classification
- Service
 - Service Classification
 - Service Demand (AS)
 - Service Demand (LPS)
 - Service Loss (AS)
 - Service Loss (LPS)
- Energy
 - Energy Classification
 - Energy Data
 - Change in Energy Data
- Technology
 - Energy Device Data (Tabular) (Columnar)
 - Change in Energy Device
 - Removal Process

Combination

- Combination of Removal Processes
- Combination of Energy Dvc. and Removal Processes
- Relationship between Internal Energy

Stock

- Stock in Start Year (AS) (Tabular) (Columnar)
- Stock in Start Year (LPS) (Tabular) (Columnar)

Share

- Maximum/Minimum Share (AS)
- Maximum/Minimum Share (LPS)

Performance

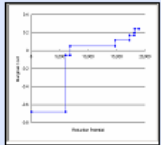
- Operating Rate (AS)
- Operating Rate (LPS)

Countermeasure

- Improvement at Use Stage
- Action of improvement at Use Stage
- Tax / Regulation Class
- Group for Tax / Regulation
- Tax / Regulation
- Subsidy (Recruitment/Operation)
- Subsidy (Removal Process)

Marginal Abatement Cost Curve

Description of MAC



AIM/Enduse GAMS program

Export data to GAMS

Directory: C:\AIM_Global\RSD\Data\

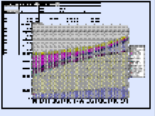
File: RSD_Global

GAMSIDE MS-DOS

Converting Data from GAMS

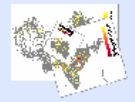
Results

Table and graph



GIS

Export Result for GIS



フォームビュー NUM

Increase of fields in which users enter service demand 4 pairs → 8 pairs

Microsoft Access - [Service_Demand_Area : フォーム]

ファイル(E) 編集(E) 表示(V) 挿入(I) 書式(O) レコード(R) ツール(T) ウィンドウ(W) ヘルプ(H) Adobe PDF(B) 質問を入力してください

C:\Documents and Settings\9154663\デスクトップ\RSD_Global

Service Demand(Area Source)

No.	Region 1 *	Service *	Service Demand *							
			Year1	Value1	Year2	Value2	Year3	Value3	Year4	Value4
1	[JPN] Japan	[RWM] Warming (kgoe)	2000	14704770000	2050	39579290000				
2	[JPN] Japan	[RCL] Cooling (kgoe)	2000	29563580000	2050	51023040000				
3	[JPN] Japan	[RHW] Hot water (kgoe)	2000	115659100000	2050	167975700000				
4	[JPN] Japan	[RCK] Cooking (kgoe)	2000	20145040000	2050	32391780000				
5	[JPN] Japan	[RLT] Lighting (kgoe)	2000	37601330000	2050	61596220000				
6	[JPN] Japan	[RRF] Refrigerator (kgoe)	2000	36588750000	2050	60259640000				
7	[JPN] Japan	[RTV] TV (kgoe)	2000	20844500000	2050	34329730000				
8	[JPN] Japan	[ROT] Others (kgoe)	2000	82787940000	2050	266544600000				

Record Source : Service_Demand_Area
レコード: 1 / 230
フォーム ビュー

Microsoft Access - [Service_Demand_Area : フォーム]

ファイル(E) 編集(E) 表示(V) 挿入(I) 書式(O) レコード(R) ツール(T) ウィンドウ(W) ヘルプ(H) Adobe PDF(B) 質問を入力してください

C:\Documents and Settings\9154663\デスクトップ\RSD_Global

Service Demand *

Year1	Value1	Year2	Value2	Year3	Value3	Year4	Value4	Year5	Value5	Year6	Value6	Year7	Value7	Year8	Value8
2000	14704770000	2050	39579290000												
2000	29563580000	2050	51023040000												
2000	115659100000	2050	167975700000												
2000	20145040000	2050	32391780000												
2000	37601330000	2050	61596220000												
2000	36588750000	2050	60259640000												
2000	20844500000	2050	34329730000												
2000	82787940000	2050	266544600000												

レコード: 1 / 230
フォーム ビュー

Additional function No.1

Only maximum share → Maximum and/or minimum share

Microsoft Access - [Share_Area : フォーム]

ファイル(E) 編集(E) 表示(V) 挿入(I) 書式(O) レコード(R) ツール(T) ウィンドウ(W) ヘルプ(H) Adobe PDF(B) 質問を入力してください

C:\Documents and Settings\9154663\Desktop\RSD_Global

Maximum/Minimum Share of Energy Device (Area)

No.	Region 1 *	Service *	Energy Device *	Max/Min	Maximum Share *				
					Year1	Value1	Year2	Value2	Year3
1	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_CR1] Fire bed	MAX	2000	0.16%	2050	100.10%	
2	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_C1] Coal stove	MAX	2000	0.00%	2050	100.10%	
3	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_K1] Old kerosene stove	MAX	2000	0.00%	2050	100.10%	
4	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_K2] Kerosene stove	MAX	2000	55.23%	2050	100.10%	
5	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_K3] High Eff. kerosene stove	MAX	2000	0.00%	2050	100.10%	
6	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_L1] Old LPG stove	MAX	2000	0.00%	2050	100.10%	
7	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_L2] LPG stove	MAX	2000	2.50%	2050	100.10%	
8	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_N1] Old gas stovr	MAX	2000	0.00%	2050	100.10%	
9	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_N2] Gas stove	MAX	2000	13.87%	2050	100.10%	
10	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E1] Air conditioner(Stock Average in	MAX	2000	28.14%	2050	100.10%	
11	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E2] Air conditioner(Sold in 2000)	MAX	2000	0.00%	2050	100.10%	
12	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E3] Air conditioner(Top Runner)	MAX	2000	0.00%	2050	100.10%	
13	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E4] Air conditioner(High performance	MAX	2000	0.00%	2050	100.10%	
14	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E5] Electric heater	MAX	2000	0.00%	2050	100.10%	

Record Source : Share_Area
Link to [Share Group of Energy Device \(Area\)](#)
[Share of Share Group \(Area\)](#)

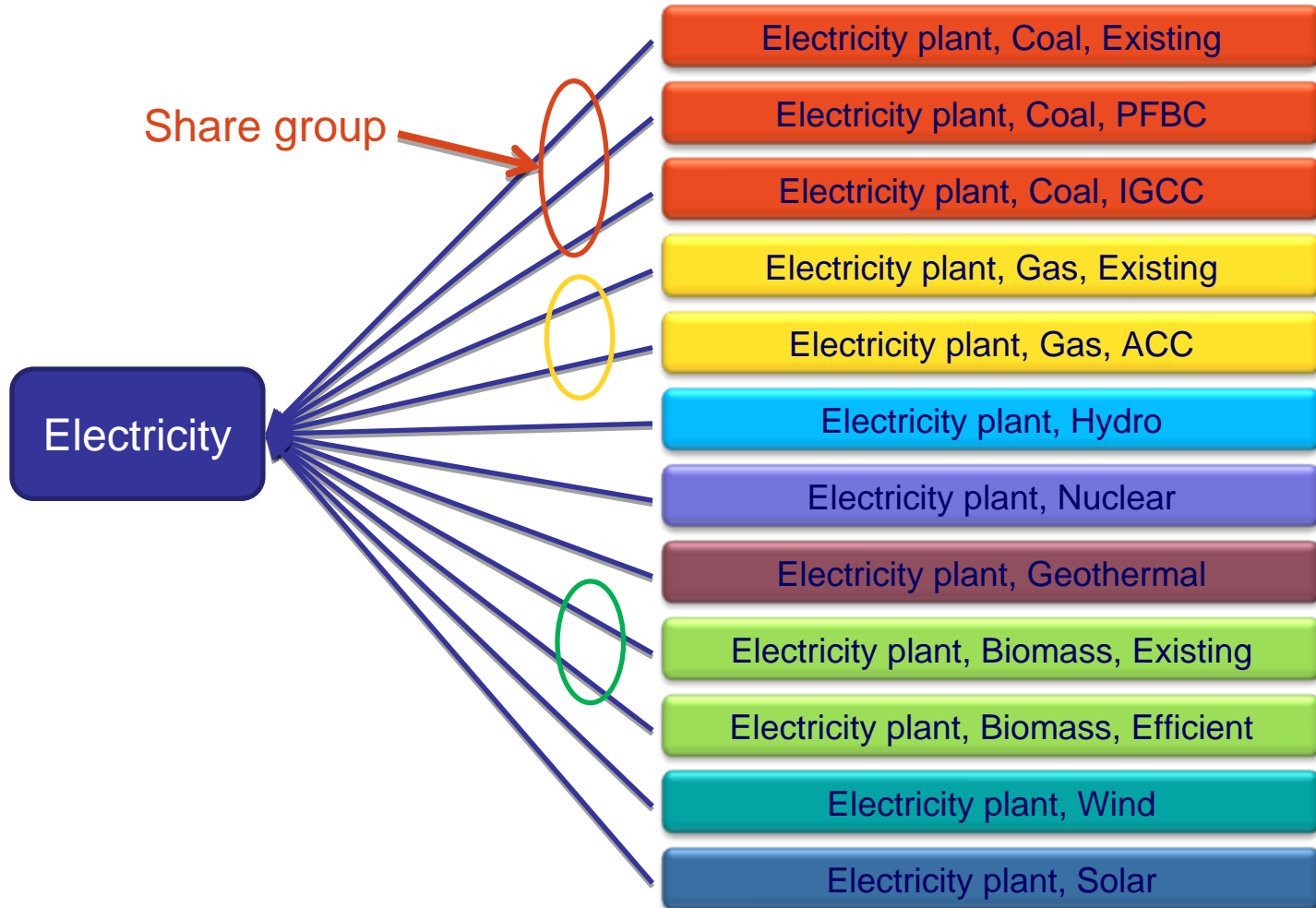
レコード: 1 / 1725

フォーム ビュー

NUM

Additional function No.2

Share group



Additional function No.2

Share group

Microsoft Access - [Share_Group_Code_Area : フォーム]

ファイル(E) 編集(E) 表示(V) 挿入(I) 書式(Q) レコード(R) ツール(T) ウィンドウ(W) ヘルプ(H) Adobe PDF(B) 質問を入力してください

C:\Documents and Settings\9154663\デスクトップ\RSD_Global

Share Group of Energy Device (Area)

No.	Region 1 *	Service *	Energy Device *	Group
1	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_CR1] Fire bed	JPN_RWM_CR
2	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_C1] Coal stove	JPN_RWM_C
3	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_K1] Old kerosene stove	JPN_RWM_K
4	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_K2] Kerosene stove	JPN_RWM_K
5	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_K3] High Eff. kerosene stove	JPN_RWM_K
6	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_L1] Old LPG stove	JPN_RWM_L
7	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_L2] LPG stove	JPN_RWM_L
8	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_N1] Old gas stovr	JPN_RWM_N
9	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_N2] Gas stove	JPN_RWM_N
10	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E1] Air conditioner(Stock Average in ;	JPN_RWM_E
11	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E2] Air conditioner(Sold in 2000)	JPN_RWM_E
12	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E3] Air conditioner(Top Runner)	JPN_RWM_E
13	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E4] Air conditioner(High performance)	JPN_RWM_E
14	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_E5] Electric heater	JPN_RWM_E
15	[JPN] Japan	[ZR_WM1] Warming Demand (ins)	[RWM_H1] Central heating for Developing co	JPN_RWM_H

Record Source : Share_Group_Code_Area

レコード: 1 / 1725

フォーム ビュー

NUM

Warming, Kerosene

Warming, LPG

Warming, Natural gas

Warming, Electricity

Additional function No.2

Share group

Microsoft Access - [Share_Group_Area : フォーム]

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C:\Documents and Settings\9154663\Desktop\RSD_Global

Share of Share Group (Area)

No.	Share Group *	Max/Min	Maximum/Minimum Share *													
			Year1	Value1	Year2	Value2	Year3	Value3	Year4	Value4	Year5	Value5	Year6	Value6	Year7	Value7
▶ 1	JPN_RWM_CR	MAX	2000	0.16%	2050	0.16%										
2	JPN_RWM_C	MAX	2000	0.00%	2050	0.00%										
3	JPN_RWM_K	MAX	2000	55.23%	2050	55.23%										
4	JPN_RWM_L	MAX	2000	2.50%	2050	2.50%										
5	JPN_RWM_N	MAX	2000	13.87%	2050	13.87%										
6	JPN_RWM_E	MAX	2000	28.14%	2050	28.14%										
7	JPN_RWM_H	MAX	2000	0.20%	2050	0.20%										
8	JPN_RCL_E	MAX	2000	100.10%	2050	100.10%										
9	JPN_RHW_CR	MAX	2000	0.00%	2050	0.00%										
10	JPN_RHW_C	MAX	2000	0.00%	2050	0.00%										
11	JPN_RHW_K	MAX	2000	21.25%	2050	21.25%										
12	JPN_RHW_L	MAX	2000	25.24%	2050	25.24%										
13	JPN_RHW_N	MAX	2000	37.81%	2050	37.81%										
14	JPN_RHW_E	MAX	2000	9.00%	2050	9.00%										
15	JPN_RHW_H	MAX	2000	0.00%	2050	0.00%										

Record Source : Share_Group_Area

レコード: 1 / 805

フォーム ビュー NUM

Additional function No.3 Region-wise energy data

Microsoft Access - [Form 4-1]

ファイル(E) 編集(E) 表示(V) 挿入(I) 書式(O) レコード(R) ツール(T) ウィンドウ(W) ヘルプ(H) Adobe PDF(B) 質問を入力してください

C:\Documents and Settings\9154663\Desktop\RSD_Global

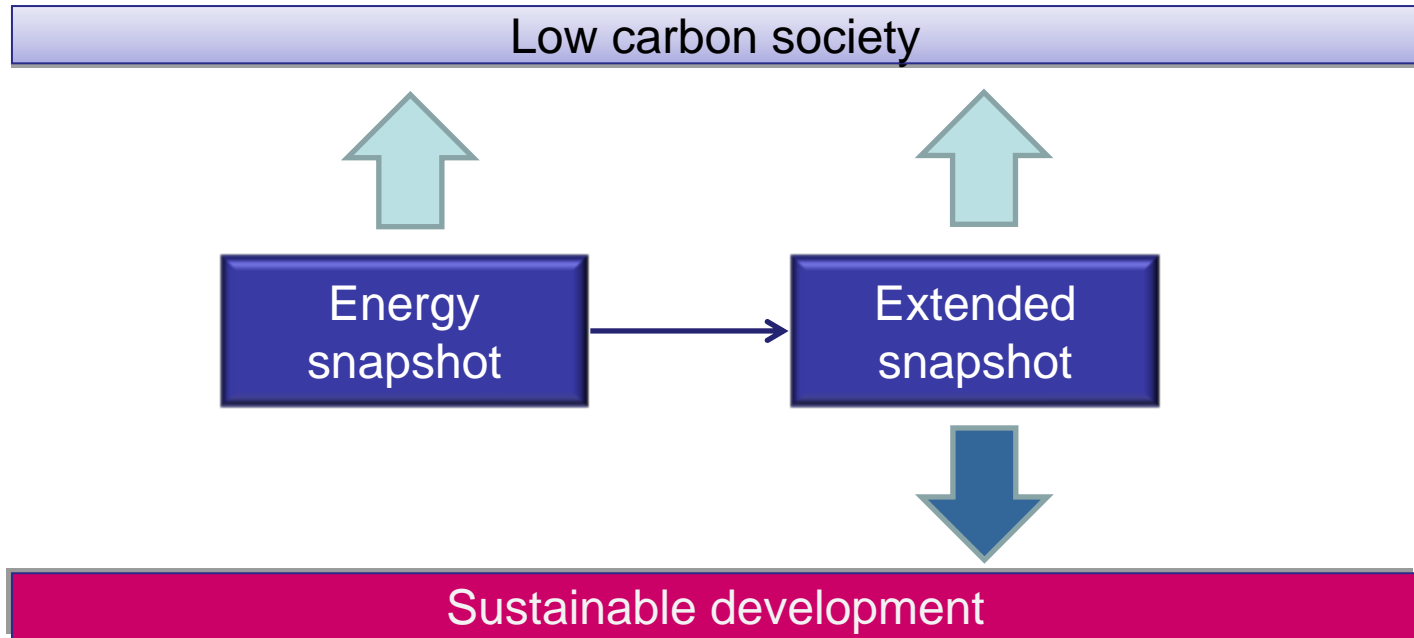
Energy Data Update factor of energy with checking

No.	Energy *	Regional Classification 1 *	Energy Price * US\$(1995) /koe	Emission Factor										
				CO2 kg-CO2/kgoe										
1	[CRN] Biomass	[ALL] (all regions)	1E-10	1E-10										
2	[COL] Coal	[JPN] Japan	0.239	1										
3	[OLL] LPG	[JPN] Japan	1.437	0.55										
4	[OLK] Kerosene	[JPN] Japan	0.652	0.8										
5	[NGS] NaturalGas	[JPN] Japan	1.437	0.55										
6	[ELY] Electricity	[JPN] Japan	2.458	1.011										
7	[HET] Heat	[JPN] Japan	0.5	0.442										
8	[SOL] Solar	[JPN] Japan	1E-10	1E-10										
9	[CRN] Biomass	[CHN] China	1E-10	1E-10										
10	[COL] Coal	[CHN] China	0.068	1										
11	[OLL] LPG	[CHN] China	0.144	0.55										
12	[OLK] Kerosene	[CHN] China	0.152	0.8										
13	[NGS] NaturalGas	[CHN] China	0.144	0.55										
14	[ELY] Electricity	[CHN] China	0.267	2.428										

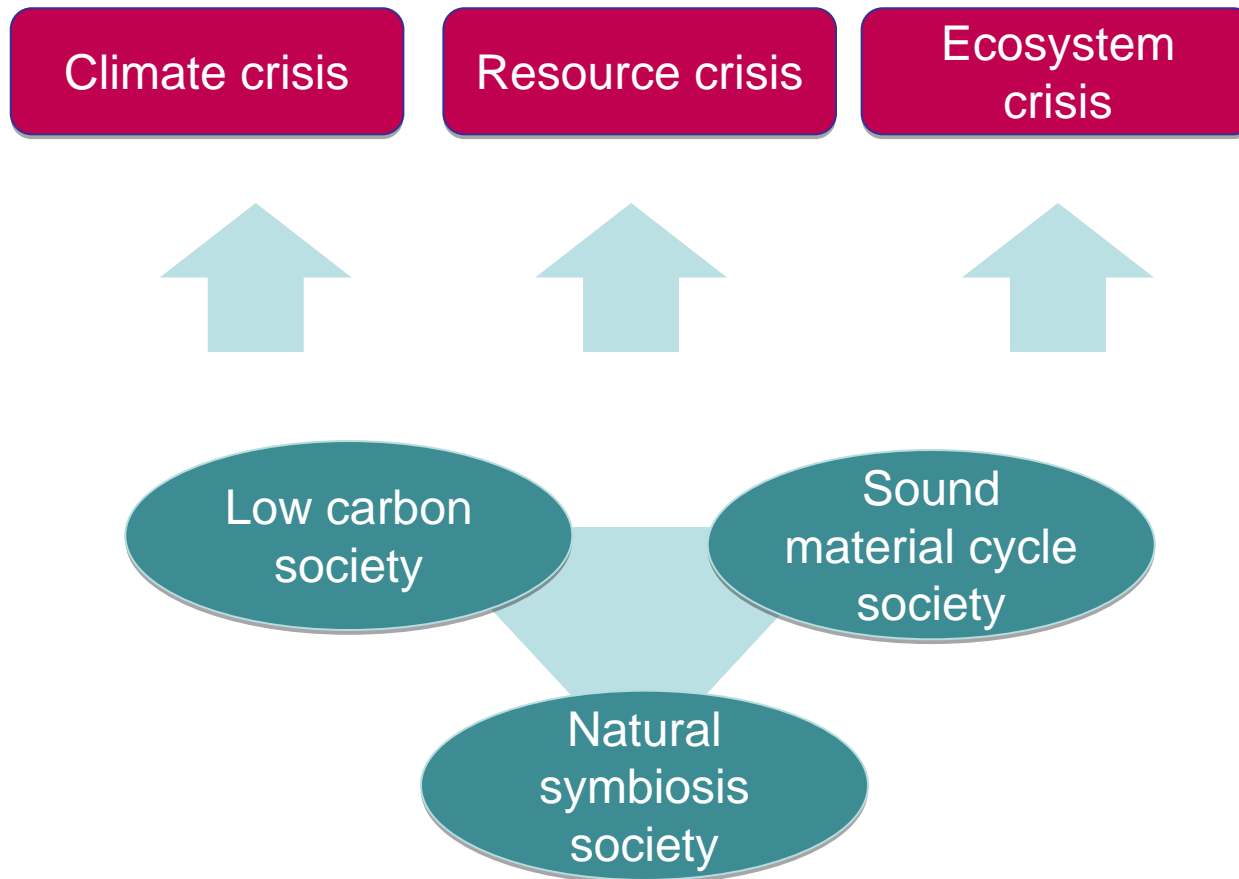
* On exit, data is updated automatically in this table with using data in "Change in Energy Data" table.
Record Source : Energy

フォーム ビュー

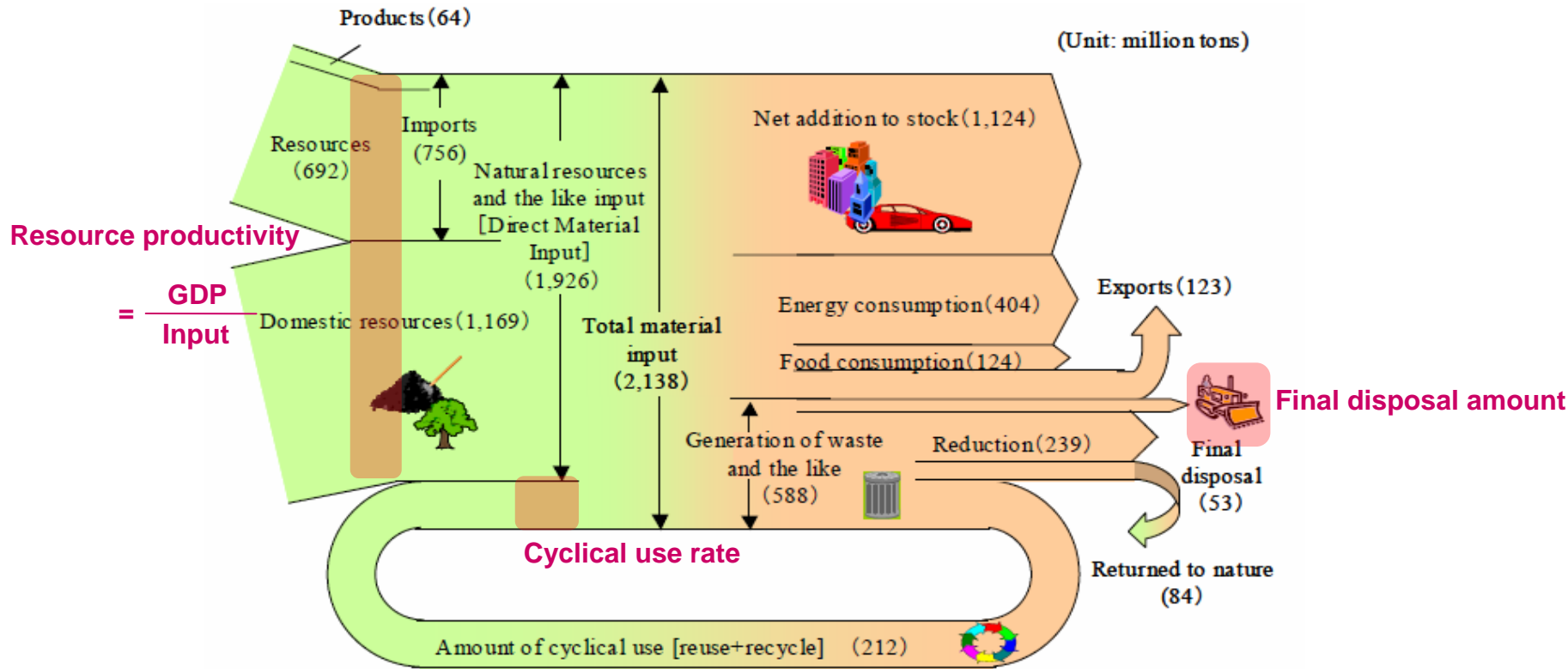
NUM



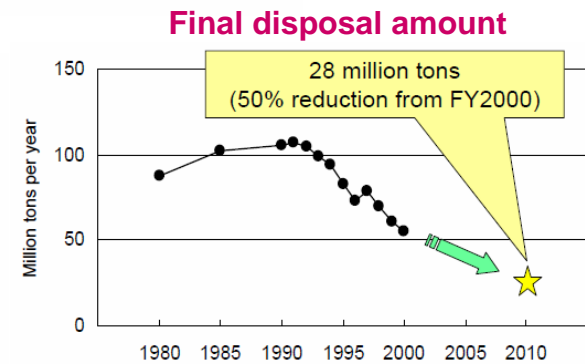
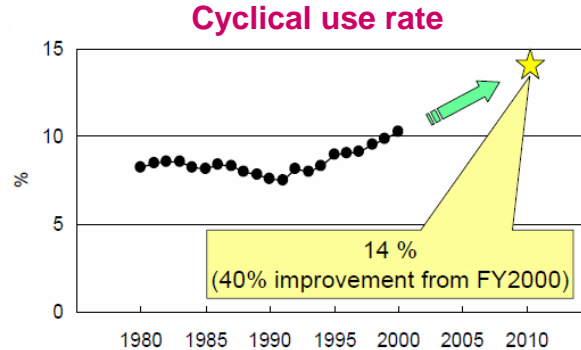
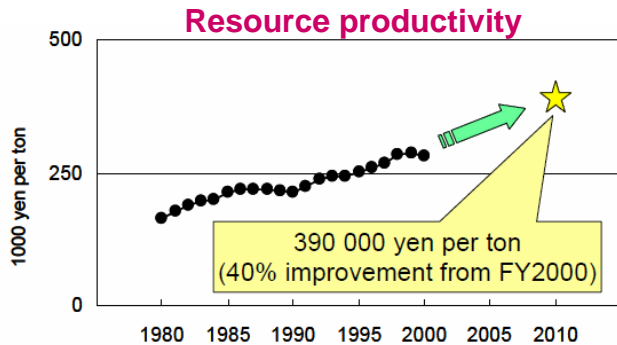
Japan's 21 Century Environmental Nation Strategy (2007.6)



Sound material cycle society



Schematic Diagram of Material Flow in Japan (FY 2001)



Natural symbiosis society



Depopulation in rural area

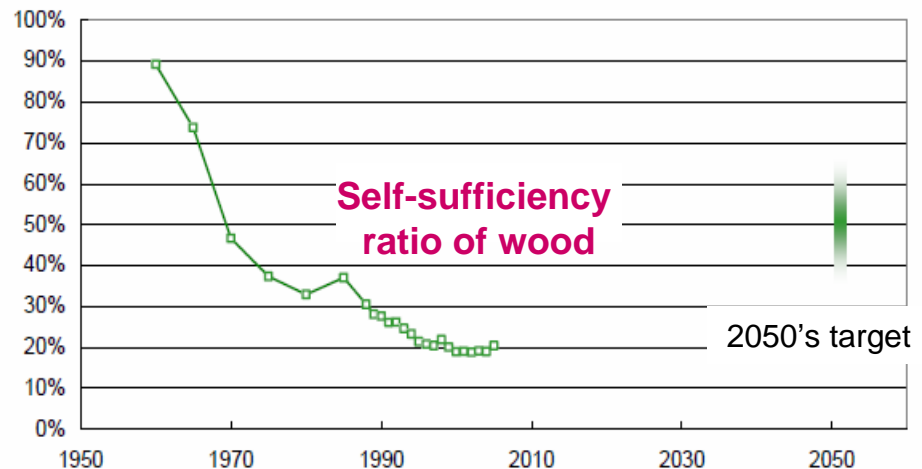
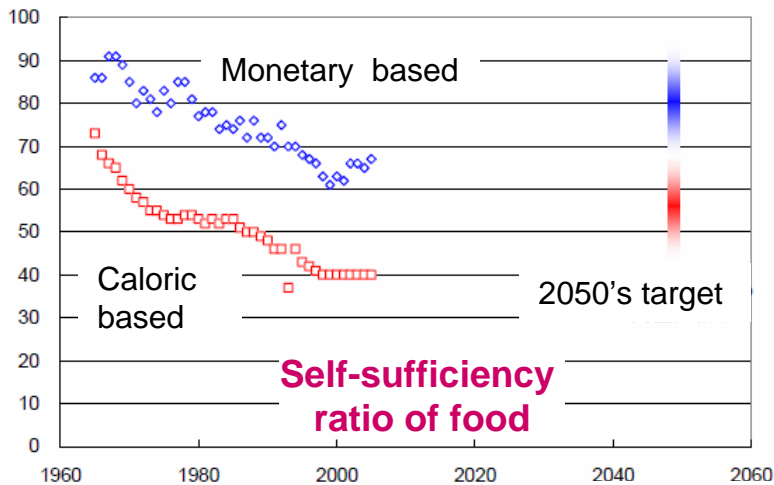


Ecosystem crisis

Conservation of ecosystem

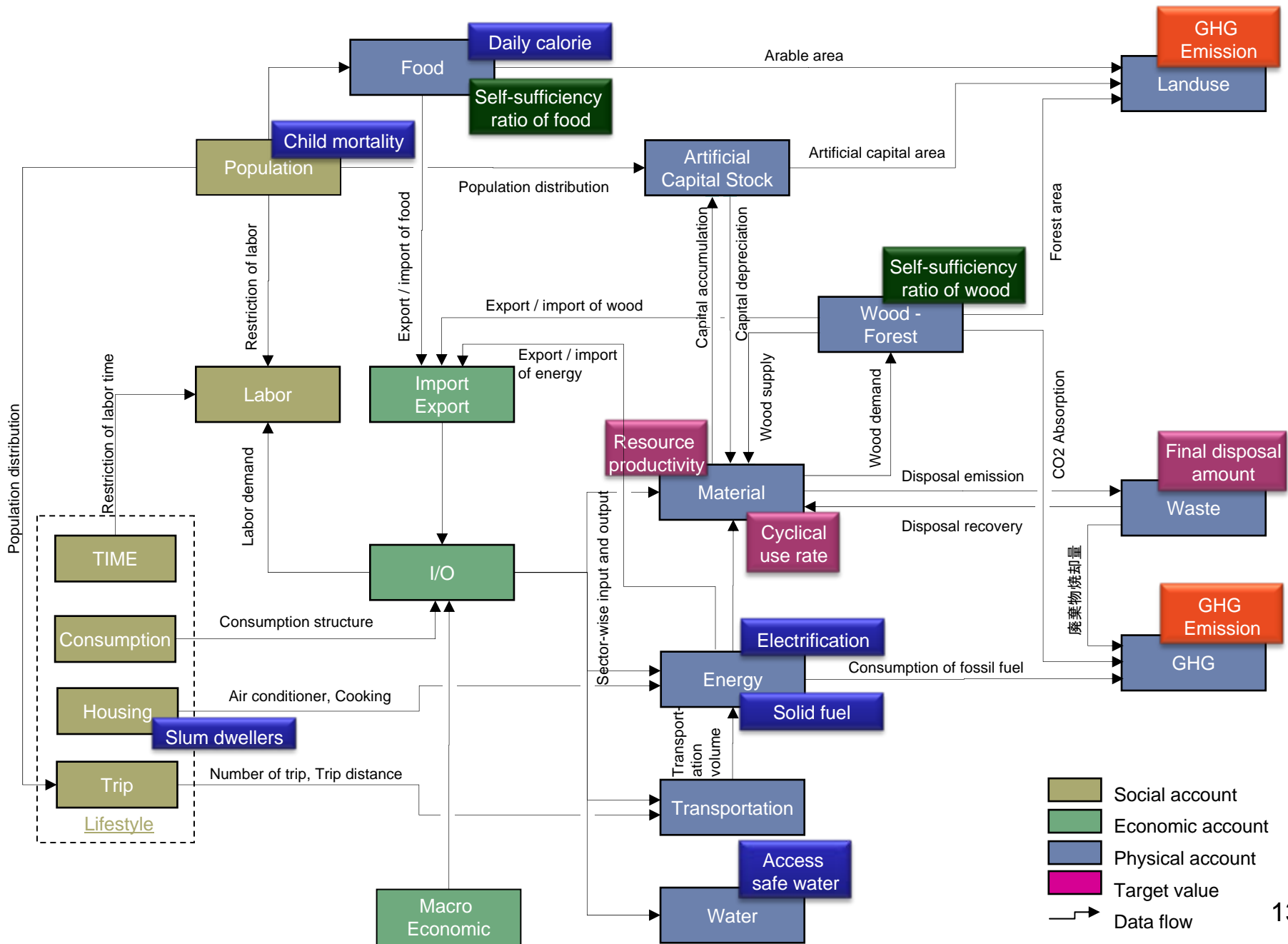


Activation of sustainable agriculture and forestry



Source: MOE(2007) "Long-term vision"

Extended Snapshot for APEIS project



Thank you !