Local LCS “TIPS”
from Shiga SD2030 Scenario Study

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Shiga SD 2030

Base year : 2000

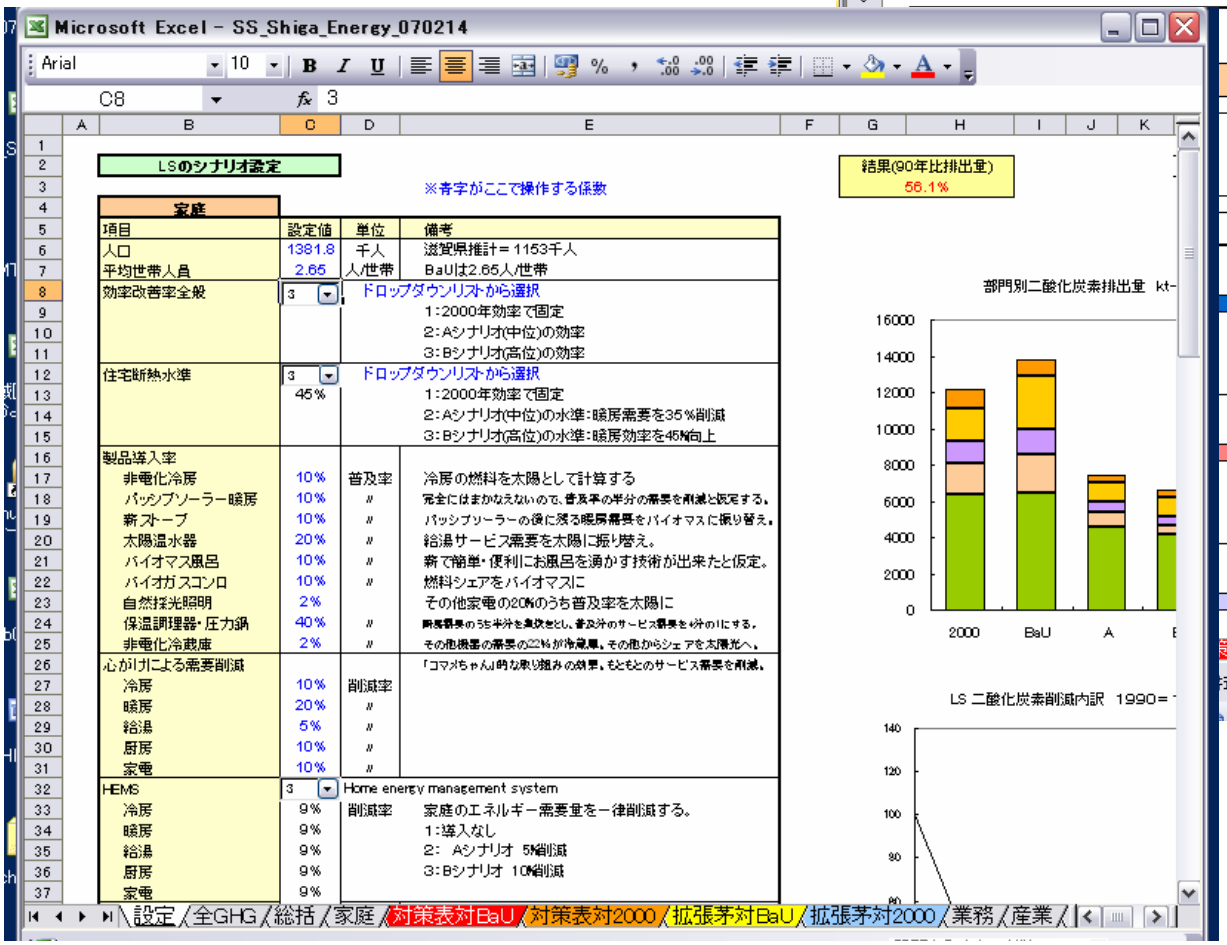
Target year : 2030

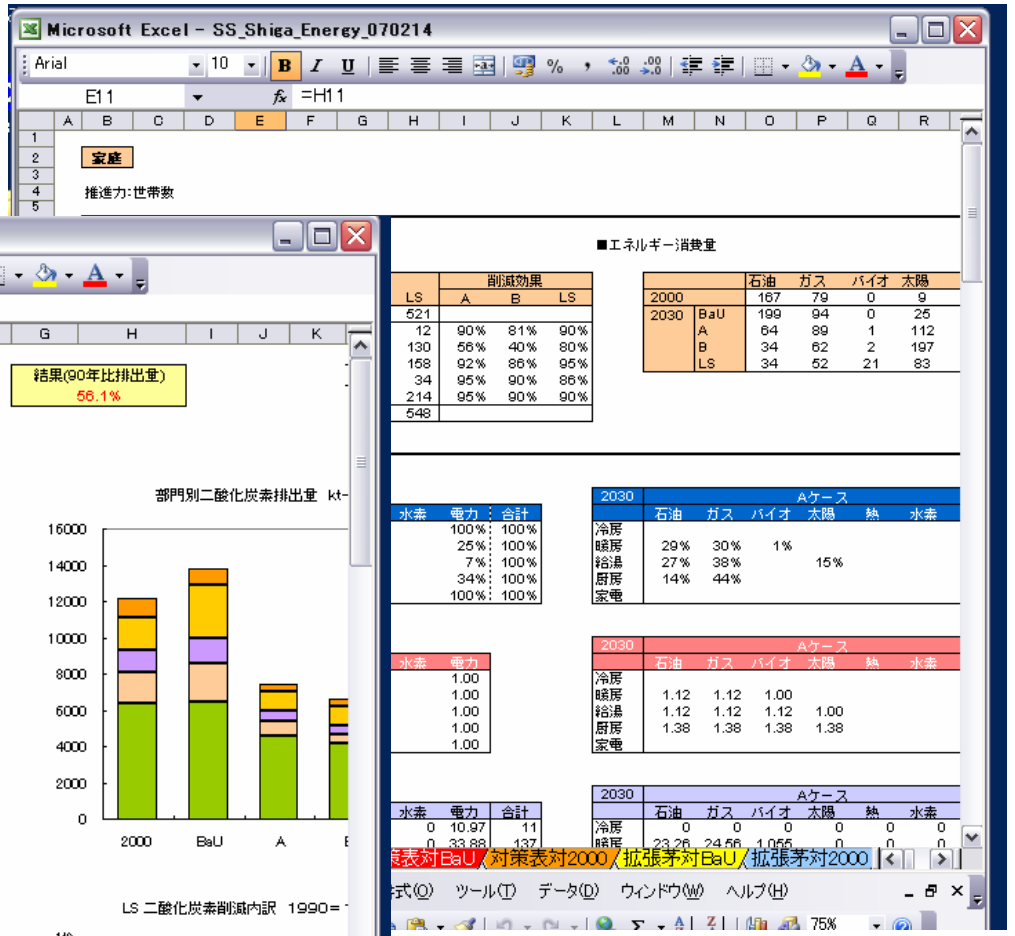
Env.target : -50% of 1990 CO2 emission

(Water quality, Waste disposal)

Calculation system : Menoco (ESS)

- Demonstration





Calculation system : conclusion

- Arrange ESS for your situation

  -> advantage of EXCEL tool

  -> add new seat,

- EST is a useful tool for a meeting

  (rather than calculation result itself)

Data collection and compensation

- How to collect base year data?

->Usually, energy data in local scale is scarce both in supply and demand.

- We must estimate it from available data.

->Two technique: bottom up & top down (decomposition)

Bottom-up approach

- When you can know individual volume -

- Found data in ONE UNIT of activity.

(ex. energy purchase in one family)

-> in Japan, we can use household expenditure data by prefecture.

(Shiga,too. You can also use national data.)

- Multiply the data by the total number of activity unit.

(ex. number of family)

Example:

Kerosene consumption per family

* Number of family in the region

= total kerosene consumption in the region

Problem with Bottom-up approach

- Diversification among the families.

-> Regional difference
-> Income class
-> Number of occupants

- Tips

-> Compensation by CLIMATIC division
-> use data by Income class, by Number of occupants, etc.

Top-down approach

-When you can know total volume-

- Find larger area data, or national total

(ex. Gasoline sells in Kinki region)

- Divede it by the ratio of appropriate Index

-> You should select best available Index related.

(ex. number of cars possessed)

Example:

National Gasoline sells

*Vehicle number of the region

/ Vehicle number of the country

= Gasoline consumption by Vehicles in the region

Problem with Top-down approach

- Again, regional variation.
  -> find compensation index

- Difference with estimated volume by bottom-up approach (Shiga's example)

  <bottom up approach of Gasoline consumption>
  Transport volume of vehicle (Passenger-km)
  * Average passenger number of one vehicle (P/vehicle)
  * Fuel efficiency (liter/km/vehicle)
  = Gasoline consumption
  > top-down approach Gasoline consumption

->We compensated the transportation model by the difference

+1: Problem of the year of survey

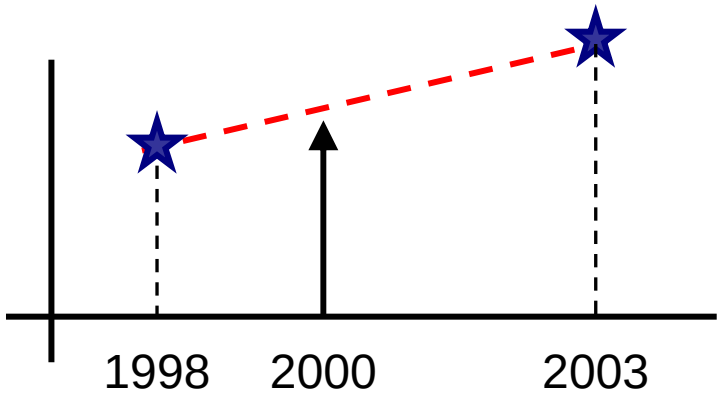
Base year : 2000
Survey year : 1998 & 2003

1998	2000	2003
425	?	520

-> Linear interpolation

(520-425)÷5×2 + 425 = 463

Year of the most important survey should be base year of LCS scenario.
(ex. National census, IO table)



Assume linear transition

Data availability problem: conclusion

- Make an effort to estimate indirectly.
  (bottom-up, top-down)
- Write memo about how you estimated it, as frequent & as detailed as possible.
  (especially, what you **implicitly assumed**)
- Compensate by other way of estimation, if necessary.
- It may be better to conduct own survey for LCS scenario, if you can. (ex. household consumption)

For a "usable" Local LCS study (1)

- Co-operation with local officer
  - Have frequent meetings
  - Make co-operation atmosphere each other
  - Put LCS vision on the agenda of the region

-> To make meaningful your research in the real world.

-> You may be able to be given data, which are difficult to get usually.

For a "usable" Local LCS study (2)

- Role of researchers: Education
  - General knowledge of climate change problem and its importance
  - What they can do as local action
  - How closely making LCS is related to local policy

-> Conduct a meeting with various VIP of the region to discuss future LCS vision

(local officers, economic leaders, NGO members, etc)

-> Again, ESS it useful in the meeting

(you can operate ESS in front of them)

(make any changes by the request of participants)

Thank you