A Short SESAM User Guide

Programs are run in the MS-DOS window.

In this user guide, the commands to be typed by the user are shown in upper case (capital) letters. They may be typed in lower case letters as well as in upper case.

Program identifiers are shown in upper case letters. To execute a program, type the program identifier at the DOS prompt (in upper or lower case letters).

DOS prompts are shown underlined.

1. Installation:

The SESAM programs together with a complete database are delivered on a CD. Insert the CD in a CD drive. If the name of the drive is D, then type
C:\> D: to access the drive. At the D prompt type
D:\> INSTALL
The installation will be carried out automatically, interrupted by a few pauses at which the user must strike a key to continue. To complete the installation, the user must answer yes at requests to confirm overwrite or delete of existing files.

When the installation is completed, the DOS prompt shown is:
C:\SESAM*datdir*>   where *datdir* is the two- or three-letter abbreviated data
                    directory identifier, for example:
C:\SESAMNRD>   if the abbreviated identifier is NRD.

Data and documentation files are easily inspected or edited by means of the Turbo Pascal 5 text editor. Very large files can be inspected or edited by means the Turbo Pascal 6 editor.

To install the Turbo Pascal editors from the installation CD, type
C:\> D: if the prompt shown is C:\> or
C:\SESAM*datdir*> D: at the data directory prompt.
                    (Or ...>E: if the CD is in drive E)
Then:
D:\> TINSTALL

2. To start a session:

At the start of a session access to the program directory SESAMPRO must be established by the command:

C:\> PATH C:\SESAMPRO
(If the prompt is not C:\> then type CD\ to return to the root directory C: .
CD stands for Change Directory).

If the Turbo Pascal editors are installed, type

C:\> SESSTART   instead.

3. The current data directory

The SESAM programs read data from the database files found in the current data directory and the text documentation files produced by the programs are written in that directory.

The program DATDIR shows the name of the current directory on the screen.

To shift the DOS prompt to the current data directory, type the command:

C:\> *datdir* where *datdir* stands for the two- or three-letter data abbreviated
          directory identifier.
For example, if the abbreviated directory identifier is NRD:
C:\> NRD will shift the prompt to
C:\SESAMNRD>

To choose another current data directory, run the program CHDATDIR.

The current data directory remains the same from one session to another.

4. Language:
The user can choose between the following languages for screen communication and documentation files: English, Danish, German, and Czech. To select the current language, use the program CHSETUP.

By means of the update program UPD, the texts in the database files can be translated to the current language if not already written in that language.

5. Initialization of the building register and the electrical appliances register
To make the database ready for use, run
1) The EUS program (C:\SESAM*datdir*>EUS)
and
2) The EL program (C:\SESAM*datdir*>EL)

The files generated are permanently kept in the data directory.

6. To start a scenario computation a series of scenario computations

The command

C:\sesam*datdir>* SESAM

is used to run a series of complete scenario computations chosen from the scenario specification list displayed by the execution program. For each of the selected scenarios, all the programs SESAM10, SESAM20,...., SESAM70, SESAM80 will be run.

7. The program menu

The SESAM programs can be started using the MENU program, which displays the menu and asks the user to type the identifier or number of the program to be run. The programs may also be started directly at the DOS prompt by typing the identifier (GEO, UPD, ..., EL3) or SESAMno, where 'no' stands for the program number shown in the menu. For example, SESAM52 starts the no. 52 program.

Some documentation programs have been named by identifiers which may be easier to remember. These identifiers are shown in bold letters in menu below. For example, instead of SESAM92 the name ANALYSIS can be used, and MAINTABS can be used instead of SESAM91.

The program menu:

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GEO: Geographical structuring of the building register

UPD: Updating and/or translation of database-files

EUS: Compilation of binary EUS-records, individual and major consumers):

EL : Development of El-appliance stock and EL-consumption:
    Affiliated print-out programs:
    EL1: EL.APPLIANCES, STOCK DEVELOPMENT, QUALITY-MIX, CONSUMPTION
    EL2: EL.CONSUMPTION DEVELOPMENT, TOTAL
    EL3: EL.APPLIANCES, STOCK DEVELOPMENT

10: Compilation of EUS-data, computation of annual EUS-consumption data,
    consumption data for industrial processes and allocation of
    heat consumption to ECTS conversion stations.
    Affiliated print-out programs:
    11: BUILDING STOCKS, FLOOR AREAS
    12: HEAT and ELECTRICITY CONSUMPTION

20: Incorporation of geophysical energy sources and computation of
    monthly EUS-consumption data and monthly consumption and production
    data for industrial processes.

30: Compilation of technical and operational data for ECTS conversion
    stations.

40: Computation of the allocation of the fuel-based el-production to
    central and decentral power- and cogeneration plants on a monthly
    basis.

50: Computation of energy flows on a monthly basis, fuel consumption,
    and emissions for all ECTS conversion stations.
    Affiliated print-out programs:
    51: SUMMARY of results (summary.xx , xx= Scenario identifier).
        EMISSION accounts
    52: MONTHLY ENERGY BALANCE ACCOUNTS
    53: LOCAL FUEL PRODUCTION AND CONSUMPTION
        (fuelLRS.xx (all Local ReSources), fuelBIO.xx (BIOgas)
        fuelSTR.xx (STRaw), fuelWCH.xx (Wood/CHips), fuelWAS.xx (WASte))
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      54: TECHNICAL PARAMETERS
      55: HEAT SURPLUS FROM MOTORS
      56: SUMMARY OF ANNUAL CONSUMPTION AND PRODUCTION DATA
      57: Electricity import/export

60: Computation of utilized capacities (MW) of power units, heatpumps
    and boilers.
    Affiliated print-out programs:
    61: CAPACITIES (MW)
    62: VIEW OF DIURNAL PRODUCTION, power and cogeneration stations

70: Generation of data-files to be transferred to the programs for
    socio-economic assessment.
    71: Inspection of generated data-files.

80: Generation of print-files for DOCUMENTATION and ANALYSIS of
    results (the program displays a menu).
    The filename extensions of the result files are identical to the
    2-character scenario identifier.

90: Comparative summary tables including several (max. 10) scenarios.
      COMPARE

91: Main results, summary tables including several (max. 10) scenarios.
    Preparation of data for graph generating programs.
      MAINTABS

92: Differential analysis.
      ANALYSIS

93: Electricity generation capacities, electricity and heat consumption,
    and fuel consumption for each plant.
      STATIONS

94: Differences in total fuel consumption and CO2 emission between
    scenarios

100: Economic cost computations.
       COSTS

201: Display of completed scenario computations.
       COMPLETE

202: Constant values (max. values) set in this installation

203: Display of exogenuously determined annual and diurnal variations
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7. Inspection or editing of text files in the current data directory:

The text files can be inspected or edited by means of any text editor. However, the Turbo Pascal editors are probably the easiest to use.

If the Turbo Pascal editors are installed, type

C:\SESAM*datdir*> T   to enter the Turbo Pascal 5 editor (the easiest to use)
        from the DOS screen or

C:\SESAM*datdir*> T6   to enter the Turbo Pascal 6 editor,
for example:
C:\SESAMNRD> T

In the Turbo Pascal screen only the keyboard is used, not the mouse.

ALT-F   to enter the Files menu.

ALT-F D   to select a file in the current data directory.
          Choose *.* in the selection window to list all filenames in the
          directory.
          Replace * by txt: *.txt to list all files with the filename extension txt.
          Replace * by MA: *.MA to list standard documentation files for the
          MA scenario.
          Type MAIN*.* to list all files with filenames beginning with MAIN.
          etc.
          Strike <CR> (carriage return) to see the list of filenames.
          The list of filenames appears in a window.
          Move the cursor to the file to be inspected.
          Strike <CR>. The file is displayed on the screen.

          CTRL-Q R   to go to the top of the file.
          CTRL-Q C   to go to the bottom of the file.
          CTRL-Q F   to find the next occurrence of a text string.
                    Options: ug   Not case sensitive global search.
                    CTRL-L   to find the next occurrence of the same text
                    string.

          CTRL-K B   to mark the beginning of a text block at the cursor
                    position.
          CTRL-K K   to mark the end of a text block at the cursor position.
          CTRL-K C   to copy a marked text block at the cursor position.
          CTRL-K V   to move a marked text block to the cursor position.

          CTRL-K W   to write a marked text block to a new file.

ALT-X   to leave the Turbo Pascal Screen. Back to the DOS screen.

8. Result files for graphic displays

Semikolon separated text files for import into MS Excel are produced by:

The ANALYSIS program, which produces the file COSTGRAF.txt, containing data for the display of economic costs curves. (Another filename or filename extension can be chosen at runtime.

The MAINTABS program, which produces the file GRAF3TAB.txt, containing data for the display of curves showing CO_2 emission, fuel consumption, electricity production and consumption, and heat production and consumption. (Another filename extension may by chosen at runtime).

If the model is a multi-country/region model, the GRAF3TAB.txt file contains data for the entire system (all countries/regions) while the files GRAF3reg.txt contains data for the different countries/regions (reg). For instance, if the model

comprises the Nordic countries identified by NOR, SWE, FIN, DEN, the
GRAF3FIN.txt file contains data for Finland.

The MAINTABS program also produces the GRAF1TAB.txt and the
GRAF2TAB.txt (and the GRAF1reg.txt and the GRAF2reg.txt) files. These files
contain data for CO_2 emission, fuel consumption, electricity production and
consumption, and heat production and consumption, arranged for bar graph
displays.
The GRAF1TAB files contain data records for each scenario, each record
containing data for each year. The GRAF2TAB files contain data records for each
year, each record containing data for each scenario.