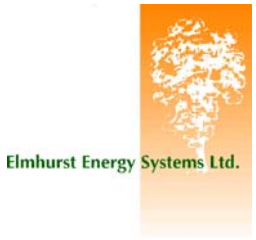

REDUCED DATA SAP – Collected data set

Phase II revised version

28th November 2003

FAERO

Contents

1. Introduction

This document is the final phase II "REDUCED DATA SAP – Collected data set". It represents the agreed data set as at the end of Phase II of the DEFRA/BRE contract to develop the reduced data SAP.

It has now been revised to include decisions taken during phases IIA and III of this contract, and some feedback from Brian Anderson of BRE.

This document does not explain the calculations within the SAP, as these are already set.

This agreed data set and inference rules is expected to be the final version. However it may change after the results of the Phase IV Consumer Trials, as a result of incorporation of data required for recommendations, or of feedback from surveyors.

1.1 Glossary

This Reduced Data SAP dataset is appropriate for mainstream (Standard) dwellings. The glossary below defines the meaning of Standard, Non-standard and Excluded dwellings within the FasterSAP methodology.

Standard: Dwellings of mainstream size, construction and style with standard heating systems. The data collection requirements and inference rules are optimised to suit dwellings that fall into this category. Standard permutations such as simple extensions, integral garages, attic conversions and heated conservatories are all accommodated within the standard methodology.

Non-standard: Dwellings which due to their size, construction, style or heating system are outside the limits of what would be considered "normal" but which can still be adequately represented within the BREDEM model and for which a SAP can be meaningfully calculated. For these properties additional information will be collected and used to produce a more accurate result. Ensuring that authorised companies are training surveyors to be able to recognise when to collect such extended data will be a key part of the QA framework.

Excluded: Dwellings which, due to their size, construction or heating systems, are outside the scope of the BREDEM model and for which a SAP cannot be produced. A detailed specification of dwellings falling into this category is an output of phase III of the proposed development.

2. Agreed data collection items

The following data collection items form the draft revised data set arising from Phase II of the FasterSAP development contract.

Each entry in the list gives the reference number, name of the data item and options available when collecting that data item, in the following format…

Ref no. Data item name
▫ Option 1 ▫ Option 2 ▫ Option 3 ▫ Option 4

2.1 Built Form

001 Built Form
▫House ▫ Bungalow ▫ Flat ▫ Maisonette

002 Detachment
▫ Detached ▫ Semi-detached ▫ Mid-terrace ▫ End-terrace ▫ Enclosed Mid-terrace
▫ Enclosed End-terrace

003 Perimeter & Floor Dimensions
▫ Internal ▫ External

004 Main Property Age
▫ Pre 1900 ▫ 1900-1929 ▫ 1930-1949 ▫ 1950-1965 ▫ 1966-1974 ▫ 1975-1981
▫ 1982-1990 ▫ 1991-1995 ▫ 1996-2002 ▫ Post 2002

005 Extension Age
▫ Pre 1900 ▫ 1900-1929 ▫ 1930-1949 ▫ 1950-1965 ▫ 1966-1974 ▫ 1975-1981
▫ 1982-1990 ▫ 1991-1995 ▫ 1996-2002 ▫ Post 2002 ▫ not applicable

006 Room in Roof Age
▫ Pre 1900 ▫ 1900-1929 ▫ 1930-1949 ▫ 1950-1965 ▫ 1966-1974 ▫ 1975-1981
▫ 1982-1990 ▫ 1991-1995 ▫ 1996-2002 ▫ Post 2002 ▫ not applicable

Heated Conservatory:
007 Floor Area _____m^2
008 Double Glazed ▫ Yes ▫ No
009 Glazed Perimeter _____m
010 Room Height ▫ 1 Storey ▫ 1½ Storey ▫ 2 Storey ▫ 2½ Storey ▫3 Storey

011 No of Rooms
(exclude hall, stairs and landing) _____

2.2 Property Dimensions

012 Main Dimensions

Floor	Floor area	Room Height	Heat Loss Perimeter
Room in Roof	A	N/A	N/A
+3	A	H	P
+2	A	H	P
+1	A	H	P
Lowest Occupied Floor	A	H	P

013 Extension Dimensions

Floor	Floor area	Room Height	Heat Loss Perimeter
Room in Roof	A	N/A	N/A
+3	A	H	P
+2	A	H	P
+1	A	H	P
Lowest Occupied Floor	A	H	P

014 Shelter Factors

▫ Unheated Conservatory ▫ Integral Garage ▫ Attached Garage
(note – a maximum of 2 of these may be selected)

015 + For Garages

▫ Single ▫ Double ▫ Other

016 Semi-exposed wall lengths

016a 1st conservatory/garage wall: _____ Linear Metres
016b 2nd conservatory/garage wall: _____ Linear Metres
(note – wall lengths are recorded at 16a and 16b for the 2 sheltering constructions selected in 014)

+ for flats and maisonettes only:

017 Heat Loss Corridor

▫ No Corridor ▫ Heated Corridor ▫ Unheated Corridor

018 + For Unheated Corridor

length of sheltered wall _____m

019 Flat/Maisonette Position

019a Which floor? _____
019b How many floors in block? _____

+ If not lowest floor

019c Heat loss floor present?

▫ Yes ▫ No

2.3 Constructions

020a Main Construction Type
▫ Stone ▫ Solid Brick ▫ Cavity ▫ Timber Frame ▫ System Built ▫ (and/or) U-value (note: if completing U-value field the surveyor must also describe the wall type for recommendation purposes)
020b Fascia cladding present? ▫ Yes ▫ No
020c Main Construction Insulation
▫ External ▫ Filled Cavity ▫ Internal ▫ As built ▫ Unknown

021a Extension Construction Type
▫ Stone ▫ Solid Brick ▫ Cavity ▫ Timber Frame ▫ System Built ▫ (and/or) U-value (note: if completing U-value field the surveyor must also describe the wall type for recommendation purposes)
021b Fascia cladding present? ▫ Yes ▫ No
021c Extension Construction Insulation
▫ External ▫ Filled Cavity ▫ Internal ▫ As built ▫ Unknown

+ For additional wall (different exposed wall not part of an extension)
022a Additional Wall Construction Type
▫ Stone ▫ Solid Brick ▫ Cavity ▫ Timber Frame ▫ System Built ▫ (and/or) U-value (note: if completing U-value field the surveyor must also describe the wall type for recommendation purposes)
022b Fascia cladding present? ▫ Yes ▫ No
022c Additional Construction Insulation
▫ External ▫ Filled Cavity ▫ Internal ▫ As built ▫ Unknown
023a Wall Area (m^2) _____
023b Part of: ▫ Main ▫ Extension

024 Main Roof Construction
▫ Pitched ▫ Flat ▫ Other Dwelling Above

025 Main Roof Insulation at
▫ Rafters ▫ Joists ▫ No Access

026 Main Roof Insulation at Joist Level
▫ None ▫ 12mm ▫ 25mm ▫ 50mm ▫ 75mm ▫ 100mm ▫ 150mm ▫ 200mm ▫ 250mm ▫ ≥300mm ▫ Don't Know

027 Extension Roof Construction
▫ Pitched ▫ Flat ▫ Other Dwelling Above

028 Extension Roof Insulation at
▫ Rafters ▫ Joists ▫ No Access

029 Extension Roof Insulation at Joist Level
▫ None ▫ 12mm ▫ 25mm ▫ 50mm ▫ 75mm ▫ 100mm ▫ 150mm ▫ 200mm ▫ 250mm ▫ ≥300mm ▫ Don't Know

2.4 Windows

030a Area of Glazing
▫ Normal ▫ More than typical ▫ Less than typical

030b Proportion Double-glazed _____%

031 Double-glazing Installed
▫ Pre 2002 ▫ Post or during 2002 ▫ Don't know

2.5 Other Details

032 No. of Open Fireplaces _____

033 Is Solar Water Heating Present?
▫ Yes ▫ No

2.6 Heating Systems

Main Heating
034 Manufacturer _____
035 Model _____
036 Boiler ID _____
037 SEDBUK Ref No. _____

Or
038 Heating code __ __ __
038a ▫ underfloor heating ▫ radiators

039 Main Heating Control code __ __ __

040 Secondary Heating code __ __ __

041 Water Heating code __ __ __

041a + for immersion water heating systems only:
▫ single immersion ▫ dual immersion

042 Hot Water Cylinder Size (litres)
▫ No Cylinder ▫ No access ▫ Normal (90-130) ▫ Medium (131-170)
▫ Large (>170)

043 Hot Water Cylinder Insulation
▫ None ▫ Jacket ▫ Spray Foam
+ For Jacket or Spray foam:
044 Thickness of insulation present (mm)
▫ 12 ▫ 25 ▫ 38 ▫ 50 ▫ 80 ▫ 100 ▫ 150

045 Hot Water Cylinder Thermostat
▫ Yes ▫ No

046 Electricity meter type
▫ Single ▫ Dual ▫ Unknown

2.61 Main Heating Systems

CODE FF	CODE BF/OF	EFFICIENCY %	GAS BOILER TYPE – Post 1998
B G A	**B G Q**	73	Gas non-condensing (including combis) with automatic ignition
B G B	**B G R**	83	Gas condensing (including combis) with automatic ignition
B G C	**B G S**	69	Gas non-condensing (including combis) with permanent pilot
	B G T	79	Gas condensing (including combis) with permanent pilot
	B G E	65	Gas room heaters and back boiler

CODE	EFFICIENCY %	GAS BOILER TYPE – Pre 1998 FAN ASSISTED FLUES
B G F	72	Gas low thermal capacity
B G G	68	Gas high or unknown thermal capacity
B G H	70	Gas combination
B G I	84	Gas condensing combination
B G J	85	Gas condensing

CODE	EFFICIENCY %	GAS BOILER TYPE – Pre 1998 BALANCED & OPEN FLUES
B G L	65	Pre 98 Gas wall mounted
B G M	55	Pre 1979 gas floor mounted
B G N	65	1979-97 gas floor mounted
B G O	65	Pre 98 gas combination
B G P	65	Gas room heater & back boiler

G = Mains Gas, L = LPG, B = Bottled gas, e.g. BGA becomes BLA for LPG, or BBA for Bottled gas

CODE	EFFICIENCY %	COMBINED PRIMARY STORAGE UNITS
C G A	70	Gas CPSU with permanent pilot, fan flued
C G B	74	Gas CPSU with automatic ignition, fan flued
C G C	70	Gas CPSU with permanent pilot, balanced/open flue
C G D	74	Gas CPSU with automatic ignition, balanced/open flue
C E E	100	Electric CPSU in heated space

CPSU as with gas boilers also needs the middle letter of each code changing to denote the fuel type.
G = Mains gas, L = LPG, B = Bottled gas, O = Oil, e.g. CGA becomes CLA for LPG

CODE	EFFICIENCY %	OIL BOILERS
B O A	65	Oil standard boiler pre 1985
B O B	70	Oil standard boiler 1985 to 1997
B O C	79	Oil standard boiler 1998 or later
B O D	83	Oil condensing
B O E	70	Oil combination Pre 1998
B O F	76	Oil combination 1998 or later
B O G	80	Oil condensing combination

CODE	EFFICIENCY %	SOLID FUEL BOILERS
B C A	60	Coal manual feed in unheated space
B C B	55	Coal manual feed in heated space
B C C	65	Coal auto feed in heated space
B C D	60	Coal auto feed in unheated space
B C E	55	Coal open fire & back boiler
B C F	65	Coal closed fire & back boiler to radiators

Solid fuel boiler fuel type needs to be interchanged as follows; C = house **C**oal,
K = smo**K**eless, N = anthracite **N**uts, A = **A**nthracite grains, W = **W**ood

CODE	EFFICIENCY %	DISTRICT (COMMUNITY) HEATING
D G A	100	Mains gas community heating
D L A	100	Bulk LPG community heating
D O A	100	Oil community heating
D C A	100	House coal community heating
D A A	100	Anthracite community heating
D K A	100	Smokeless community heating
D E A	100	Electricity community heating
D H A	100	Household waste community heating
D W A	100	Wood community heating

CODE	EFFICIENCY %	OTHER SYSTEMS
O E A	100	Electric ceiling heating

CODE	EFFICIENCY %	ELECTRIC BOILERS
B E A	100	Electric dry core boiler in heated space
B E B	85	Electric dry core boiler in unheated space
B E C	100	Electric water storage boiler in heated space
B E D	85	Electric water storage boiler in unheated space
B E E	100	Electric direct acting

CODE	EFFICIENCY %	ELECTRIC STORAGE HEATERS
S E A	100	Old large volume storage heaters
S E B	100	Modern slimline storage heaters
S E C	100	Convector storage heaters
S E D	100	Fan assisted storage heaters
S E E	100	Electric underfloor heating

CODE	EFFICIENCY %	WARM AIR - GAS
W G A	80	Ducted warm air with modulating control, fan flued
W G B	77	Room heater with in-floor ducts, fan flued
W G D	70	Ducted warm air , on/off control, balanced/open flued
W G E	72	Ducted warm air , modulating control, balanced/open flued
W G F	70	Stub ducted warm air, balanced/open flued
W G G	85	Ducted warm air, flue heat recovery
W G H	82	Stub ducted warm air, & flue heat recovery
W G I	94	Condensing warm air, balanced/open flued

CODE	EFFICIENCY %	WARM AIR - OIL
W O A	70	Warm air ducted output on/off control
W O B	72	Warm air ducted output modulating control
W O C	70	Warm air stub ducted system

CODE	EFFICIENCY %	WARM AIR – ELECTRIC
W E A	100	Electricaire warm air system

CODE	EFFICIENCY %	HEAT PUMP – WET SYSTEM
P E A	320	Ground-to-water
P E B	300	Ground-to-water with auxiliary heater
P E C	300	Water-to-water
P E D	250	Air-to-water

CODE	EFFICIENCY %	HEAT PUMP – WARM AIR
P E E	320	Ground-to-air
P E F	300	Ground-to-air with auxiliary heater
P E G	300	Water-to-air
P E H	250	Air-to-air

2.62 Room Heaters/Secondary Heating

CODE	EFFICIENCY %	GAS ROOM HEATERS
R G A	50	Old style gas fire (open front)
R G B	60	Modern gas fire with open flue
R G C	70	Modern gas fire with balanced flue
R G D	65	Modern gas fire with back boiler (no radiators)
R G E	85	Condensing gas fire
R G F	79	Gas fire or room heater with fan assisted flue
R G G	25	Gas coal effect heater open to chimney
R G H	60	Gas coal effect heater flued

CODE	EFFICIENCY %	SOLID FUEL ROOM HEATERS
R C J	32	Open fire in grate
R C K	42	Open fire in grate & throat restrictor
R C L	55	Open fire with back boiler (no radiators)
R C M	60	Closed room heater
R C N	65	Closed room heater with back boiler (no rads)

Solid fuel boiler fuel type needs to be interchanged as follows; C = house **C**oal,
K = smo**K**eless, N = anthracite **N**uts, A = **A**nthracite grains, W = **W**ood

CODE	EFFICIENCY %	ELECTRIC ROOM HEATERS
R E A	100	Panel, convector or radiant heaters
R E B	100	Portable heaters

2.63 Main Heating Controls

CODE	BOILER WITH RADIATORS
C B A	No room stat control of room temperature
C B B	Programmer & room stat
C B C	Programmer & room stat (no boiler interlock)
C B D	Programmer & room stat & TRV's
C B E	Programmer & room stat & TRV's (no boiler interlock)
C B F	TRV's, programmer & bypass
C B G	TRV's, programmer & flowswitch
C B H	TRV's, programmer & boiler energy manager
C B I	Full zone control
C B J	Full zone control (no boiler interlock)
C B K	Weather and/or load compensator
C B L	Weather and/or load compensator (no boiler interlock)
C B M	Weather and/or load compensator & TRV's
C B N	Weather and/or load compensator & TRV's (no boiler interlock)
C B O	Delayed start stat & programmer
C B P	Delayed start stat & programmer (no boiler interlock)
C B Q	Delayed start stat & programmer & TRV's
C B R	Delayed start stat & programmer & TRV's (no interlock)

CODE	STORAGE RADIATORS
C S A	Manual charge control
C S B	Automatic charge control
C S C	Celect type controls

CODE	WARM AIR SYSTEMS
C W A	No stat control of room temperature
C W B	Room stat only
C W C	Programmer & room stat
C W D	Programmer & zone control

CODE	ROOM HEATERS
C R A	No stat control of room temperature
C R B	Appliance stat only
C R C	Appliance stat & programmer
C R D	Programmer & room stat
C R E	Programmer & zone control

CODE	ELECTRIC CEILING
C M A	No stat control of room temperature
C M B	Room stat only
C M C	Programmer & room stat only
C M D	Programmer & zone control

CODE	DISTRICT (COMMUNITY) HEATING SYSTEMS
C C A	Flat rate charge - no stat control of room temperature
C C B	Flat rate charge - programmer & room stat
C C C	Flat rate charge - programmer & TRV's
C C D	Charge system link to use of district heat program & TRV's

2.64 Water Heating

CODE	HOT WATER TYPE
H W P	From the main/primary heating system
H W S	From the secondary heating system
H E I	Independent electric & immersion water heating system
H G E	From a heat exchanger built into a gas warm air system
H E S	Instantaneous electric
H G S	Single-point gas water heater*
H G M	Multi-point gas water heater*

*G = Mains Gas, L = LPG, B = Bottled gas, e.g. BGA becomes BLA for LPG, or BBA for Bottled gas