HOW TO USE THE

AID RENEWABLE ENERGY DATA BASE

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I. DESCRIPTION OF THE DATA BASE

The Renewable Energy Data Base is a compilation of information about AID projects that concern renewable energy or contain a renewable energy component. It currently includes 178 projects/ subprojects implemented since 1975.

The purpose of the data base is to make available, in a central location, details on the development and dissemination of renewable energy technologies within the AID network. Data will be available to AID/Washington staff, AID missions, contractors, and others for project development and technology evaluation.

The Data Base can be used to find the following types of information:

- The current status of an AID renewable energy project,
- All AID renewable activities in a specific country, or
- All AID projects using a specific renewable energy technology.

Definition of Renewable Energy

For the purposes of the data base, renewable energy is defined as energy derived from the following sources:

- Solar,
- Wind,
- Water (hydropower),
- Biomass (agricultural wastes, charcoal, firewood, vegetable oils, etc.),
- Geothermal, and
- Animal traction.

In addition, the data base covers projects that involve:

- Energy conservation efforts that include renewables,
- Energy conversion including fermentation and gasification,
- Energy policy/planning efforts that investigate renewable options, and
- Energy research/demonstration involving renewables.

Level of Detail in Project Descriptions

The data base has two tiers:

- **Selected renewable energy projects in AID target countries.** These are Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Jamaica, Peru, Bangladesh, Egypt, Indonesia, India, Pakistan, Philippines, Thailand, Botswana, Cape Verde, Djibouti, Kenya, Lesotho, Mali, Morocco, Niger, Sudan, Senegal, Somalia, Tunisia, and Zaire.

  For each "targeted" project, the data base provides extensive information, including project purpose, inputs, outputs, summary, keywords, technical applications, related reports and publications, evaluations, key persons, financial information, and follow-on activities. Exhibit 1 is a complete list of the categories of information included.

  At present, there are 80 "targeted" projects/subprojects. The amount of data available for each project varies considerably. There may be between 3 and 40 pages of text for any one project.

- **All other renewable energy projects.** For these projects/subprojects, currently numbering 98, only a summary and keywords (based on project design documents) are included.

Preparation of the Data Base

AID renewable energy projects were identified by keyword searches in AID's Development Information System (DIS) and by review of congressional presentations and project summaries provided by the geographic bureaus.

Details on the "targeted" projects were gathered by reviewing all available AID documents related to the projects. This includes all items in the AID Geobureau, Projects, and Document data bases. AID contractors were asked to submit all relevant project reports to AID to support this effort.

II. HOW TO SEARCH THE DATA BASE ONLINE AT AID

Access to the Renewable Energy Data Base is made through AID's MenuDIS system using a personal computer that has a modem. A public access terminal is available in the AID Library. Individual AID offices can request assistance in obtaining direct access to the data base by contacting:

Training Office
Document and Information Handling Facility
Agency for International Development
7222 47th Street
Chevy Chase, Maryland 20815
(301) 951-7191

Details on using MenuDIS are provided in the MenuDIS Quick Reference Guide, also available in the AID Library or from the office noted above. It is **essential** that users read that document carefully before starting a search.

Exhibit 2 shows a sample search.

To access the Renewable Energy Data Base, proceed as follows:

1. Sign on.

2. In response to the main menu, select

   OPTION 1 - SEARCH A DATABASE (return)

3. In response to the database menu, select

   OPTION 2 - AID PROJECT DESCRIPTIONS (return)

4. In response to the search menu, select

   OPTION 1 - START A NEW SEARCH (return)

5. In response to the "type a number" query, enter 13 (return). [Note: The number "13" does not appear in the list; however, "13" will allow you to search the "IDENTIFIER FIELD" and thereby access the Renewable Energy Data Base.]

6. When prompted for a search term, enter one of the following:

   To search the "targeted" renewable energy projects, enter

   RENEW1 (return)

   To search the other renewable energy projects, enter

   RENEW2 (return)

To search "all" projects in the Renewable Energy Data Base, enter

RENEW@ (return)

MenuDIS will respond with the number of items (projects) found.

7. Then, to search for specific countries or subjects, select

   OPTION 7 - SEARCH BY SUBJECT KEYWORD (return)

8. When prompted for a search term, enter the country name or a subject term (return).

   If entering a country name, use the name in full, for example, JAMAICA.

   If entering a subject term, the best results will be obtained by using a term taken from the list in Exhibit 3. Be sure to use the whole term, exactly as specified in the list. You can also use the @ symbol (which stands for truncation) to search on a group of terms that all begin with the same letters; for example, SOLAR@ will retrieve all projects indexed by SOLAR ENERGY, SOLAR THERMAL ENERGY, SOLAR POWER GENERATION, SOLAR COLLECTORS, SOLAR HEATING, and SOLAR COOLING (in other words, all terms beginning with SOLAR). If you use truncation, do not forget to include the @ sign; for example, if you enter SOLAR without the @ sign you will not retrieve any items, because SOLAR standing alone is not a subject term.

   In response to a search term, MenuDIS will respond with the number of items found.

9. Repeat steps 7 and 8 as necessary, searching each time for a single topic only.

10. To combine terms (for example, to retrieve all RENEW1 projects on SOLAR@ in JAMAICA), choose

    OPTION 2 - COMBINE SEARCHES (return)

    MenuDIS will respond with a list of the searches done so far and the number of items found for each. When prompted, enter the line numbers of the searches to combine. For example,

    1 AND 2 AND 3 (return)

    Combining searches using "AND" limits the search and retrieves only those projects that contain **all** the search terms.

Combining searches using "OR" expands the search and retrieves all projects containing any of the search terms.

MenuDIS will respond with the number of items in the combined search.

11. To display search results on the screen, type EXIT (return) to get back to the search menu. When the menu appears, select

    OPTION 4 - DISPLAY RECORDS FOUND (return)

    MenuDIS will respond with a list of available display formats. Select format 2 or 4 (return) to see the detailed energy text.

    First, a brief description of the project will appear on the screen. At the end of the record of a "targeted" project, MenuDIS will ask if you want to see the text of detailed renewable energy information. Respond Y (return) if desired, and the renewable energy data will appear on the screen. You can expect to see between 3 and 40 pages of text describing the project.

    Note: The detailed renewable energy text is not available on a public terminal (for example, in the AID Library). Instead, you can use MenuDIS to identify projects of interest and then review the renewable energy text in a notebook supplied by the librarian. The renewable energy summaries will appear in project number order in the notebook.

12. To stop and start the text while it is displaying, use the following commands:

    Control S to stop the scroll
    Control Q to restart the scroll

    It is not possible to scroll backwards; however, you may stop the scroll and then use the Page Down (or Previous Screen) key to go back a few pages. However, be sure to then press the Page Up (or Next Screen) key to get back to the exact place where you stopped the scroll **before** you press control Q to resume.

    If a project is displaying (or printing), it is best to let it continue until the end, regardless of the length. If, however, you absolutely must end the terminal session in the middle of a project, use the Control Y command. That command may exit you from MenuDIS entirely; if so, you will have to sign on and start the search procedure again from the beginning.

13. After each record, press RETURN to continue, or EXIT.

14. To print the detailed energy information that appears on the screen, turn the printer online and activate the printer via the keyboard using the Print Screen key or the Control P option, depending upon the type of terminal you are using. Then, follow the instructions in Steps 11 - 13, above. (Remember that everything you type will now appear on the printer as well.) At present, there is no way to print the detailed renewable energy information offline. However, a printed copy of all "targeted" projects is available for review and photocopying in the AID Library.

15. To print a project citation and/or brief abstract of the search results offline, type EXIT (return) to get to the main menu. When the menu appears, select

    OPTION 5 - REQUEST A PRINTOUT (return)

    MenuDIS will prompt you for the format to use in printing, the title of the search, the name of the preparer, the address where the printout should be sent, the name of the requester, and the number of copies of the search. Remember: This printout will not include the supplementary energy text.

16. To end the terminal session, enter EXIT (return) in response to each prompt until MenuDIS responds with END OF PROGRAM.

III. HOW TO SEARCH THE DATA BASE OFFLINE

Searches of the Renewable Energy Data Base are available to users who do not have a terminal to access the AID MenuDIS system.

AID staff should contact:

(walk-in address)
Library
Agency for International Development
Room 105 (Lobby)
1601 North Kent Street (SA-18)
Rosslyn, Virginia
(703) 235-1000

or

(mailing address)
Library
Agency for International Development
PPC/CDIE/DI
SA-18 Room 105
Washington, D.C. 20523
(703) 235-1000

Other users, including AID contractors and the general public, should contact:

VITA Information Services
Volunteers in Technical Assistance
1815 North Lynn Street, Suite 200
Arlington, Virginia 22209
(703) 276-1800

IV. HOW TO OBTAIN COPIES OF DOCUMENTS

All "targeted" project reports cited in the Renewable Energy Data Base are available for review on microfiche at the AID Library. The reports may be viewed Monday through Friday from 10:00 A.M. to 5:00 P.M. at:

Library
Agency for International Development
Room 105 (Lobby)
1601 North Kent Street (SA-18)
Rosslyn, Virginia
(703) 235-1000

AID staff may order copies of any project reports cited in the data base. Outside users, including AID contractors and the general public, may purchase copies of technical reports cited in the data base. Reports are available in microfiche or paper copy. To order reports, contact:

User Services
Documentation and Information Handling Facility
Agency for International Development
7222 47th Street
Chevy Chase, Maryland 20815
(301) 951-9647

When ordering reports, requesters should supply the document numbers (for example, PDAAX147) that appear in the source statements in the Renewable Energy Data Base.

Exhibit 1

RENEWABLE ENERGY DATA BASE INFORMATION CATEGORIES

1. Project Number: 2. Geo:
3. Title:
4. Project Life/PACD:
5. Status:
6. LOP Funding (US$000):
   A. Entire Project:
   B. R.E. Components:
7. Loan or Grant/Appropriation Category (US$000):
8. Project Purpose:
9. Renewable Energy (R.E.) Outputs:
10. R.E. Inputs:
11. Summary of R.E. Components:
12. R.E. Project Descriptors:
13. R.E. Technology Applications:
14. R.E. Technical Reports and Publications:
15. Evaluations/Major Findings:
16. Key Persons:
    A. AID/Washington:
    B. AID/Mission:
    C. Contractors:
    D. Host Country:
17. Obligations by Fiscal Year (US$000):
18. Host Country Funding of R.E. Components (US$000):
19. Summary of R.E. Costs (US$000):
20. R.E. Component Revisions:
21. Follow-On Activities:
22. Comments on the R.E. Components:
23. Date/Data Preparer:

Exhibit 2

SAMPLE SEARCH OF THE RENEWABLE ENERGY DATA BASE

```
                    WELCOME TO MENUDIS

              NOTE:  IF YOU EXIT FROM THIS SCREEN,
                     YOU WILL EXIT FROM MENUDIS!

                         MAIN MENU

OPTIONS

          1.  SEARCH A DATABASE
          2.  READ MENUDIS NEWS
          3   READ SPECIAL ANALYSES
          4.  VIEW OTHER INFORMATION SOURCES
          5   LIST AID PUBLICATIONS
          6   LEARN HOW TO USE MENUDIS

Type a Number or HELP/EXIT: 1


                      SELECT A DATABASE

OPTIONS

----------------------------------------------------------------------

          1.   AID DOCUMENT INFORMATION
          2.   AID PROJECT DESCRIPTIONS
          3    NON-AID DOCUMENT INFORMATION (AID LIBRARY CATALOG)



Type a Number or HELP/EXIT: 2

                   AID PROJECT DESCRIPTIONS

----------------------------------------------------------------------
 1   START a new search                    6.  SEARCH by major TITLE WORDS
 2   COMBINE searches                      7.  SEARCH by SUBJECT KEYWORD
 3   LIST possible search terms            8.  SEARCH by BEGINNING FY
 4   DISPLAY records found                 9.  SEARCH by STATUS
 5   REQUEST a printout                   10.  SEARCH by PROJECT NUMBER
----------------------------------------------------------------------

To Display More Options type MORE.

Type a Number or HELP/EXIT/REDO/MORE:    1
New search has been started


Type a Number or HELP/EXIT/REDO/MORE: 13

Term  RENEW1
SEARCH by IDENTIFIERS        :  RENEW1                    Found: 62
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Type a Number or HELP/EXIT/REDO/MORE: 7
Term: SOLAR@
SEARCH by SUBJECT KEYWORD     : SOLAR@                          Found: 39
Type a Number or HELP/EXIT/REDO/MORE: 7
Term: JAMAICA
SEARCH by SUBJECT KEYWORD     : JAMAICA                         Found: 73
Type a Number or HELP/EXIT/REDO/MORE:  2

                        OPTION 2.  COMBINE SEARCHES
NOTE: When you EXIT your results are saved.  To view use Option 4
-------------------------------------------------------------------------

  1.  SEARCH by IDENTIFIERS       : RENEW1                          Found: 62
  2.  SEARCH by SUBJECT KEYWORD   : SOLAR@                          Found: 39
  3.  SEARCH by SUBJECT KEYWORD   : JAMAICA                         Found: 73
Combine (ex. 1 and 2), press RETURN to list again, or type HELP/EXIT
1 AND 2 AND 3
COMBINE                         : 1 AND 2 AND 3                   Found: 1
Combine (ex.  1 and 2), press RETURN to list again, or type HELP/EXIT
EXIT

                    AID PROJECT DESCRIPTIONS

-------------------------------------------------------------------------
 1.  START a new search                    6.  SEARCH by major TITLE WORDS
 2.  COMBINE searches                      7.  SEARCH by SUBJECT KEYWORD
 3.  LIST possible search terms            8.  SEARCH by BEGINNING FY
 4.  DISPLAY records found                 9.  SEARCH by STATUS
 5.  REQUEST a printout                   10.  SEARCH by PROJECT NUMBER
-------------------------------------------------------------------------

Type a Number or HELP/EXIT/REDO/MORE: 4

                        OPTION 4.  DISPLAY RECORDS FOUND

  4.  COMBINE                       : 1 AND 2 AND 3                 Found: 1
-------------------------------------------------------------------------

AVAILABLE DISPLAY FORMATS

          1.  Citation only
          2.  Citation and Abstract
          3.  Citation and Logframe
          4.  Citation, Logframe, Abstract

Type a number or EXIT: 2
*************************************************************************
    5320065   Jamaica
              Energy Sector Assistance
              FY 81 - 87        Status: A       Total LOP Cost (x000): $  13700
              Loan or Grant / Appropriation Code / LOP Cost: L / SD /   13400
                                                             G / SD /     300
*************************************************************************

                            <<< ABSTRACT >>>
  Project to strengthen the Jamaican Government's (GOJ's) institutional
capacity to plan and manage domestic energy programs, and in particular to
expand and improve the GOJ's energy conservation program and to institute
alternative energy programs.  The primary GOJ implementing agency will be the
Energy Division of the Ministry of Mining and Energy (ED/MME).
  Major project components will be program planning/management, energy
conservation, and alternative energy.  The ED/MME will be fully staffed with
qualified energy planners and technicians, especially in the Economic Planning
Branch.  A fully equipped Energy Information Center (EIC) will aid public and
private energy-related organizations.  The ED Economics Branch will expand in
size and technical competence, a national energy accounting system will be
established, and a national energy model prepared.
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The project will stress labor-intensive efforts, use of locally manufactured equipment, use of quality control standards, and local technician training. Some commodities and equipment, and long- and short-term consultants will be provided for all project components. Project Paper amendment No. 2 of 6/16/83 authorizes Phase II adding two components: (1) an Energy Credit Fund to finance private sector energy conservation and alternative energy investements and to provide loans to local energy-related industries to help reduce dependence on imported oil; (2) TA to help establish and upgrade local energy-related industries. (PD-AAN-721)

(SOURCE: PD-AAI-058)

Descriptors: /Sector planning/ /Energy policy/ /Energy planning/ /Energy resource development/ /Energy conservation/ /Management training/ /Alternative energy resources/ /Jamaica/ - /Energy/ /Information services/ /Energy costs/ /Petroleum/ /Renewable energy resources/ /Solar thermal energy/ /Alternative energy technology/ /Firewood/ /Natural resource inventories/ /Long term credit/ /Private enterprises/

Identifiers: /RENEW1/

ENERGY INFORMATION
Do you wish to see additional energy text (Y/N)?
Y

RENEWABLE ENERGY DATA BASE

1 Project Number: 5320065 2 Geo: JAMAICA

3 Title: ENERGY SECTOR ASSISTANCE

4 Project Life/PACD: 1981-86 (extended to 87)/September 30, 1987

5 Status: Active

6 LOP Funding (US$000)

A Entire Project: 8,700*

*Reflects $4 million deobligated from Phase II, and $1 million deobligated from Phase I.

(Source: Project Loan Agreement, 9/24/81, PDKAG054; Project Loan Agreement, 7/29/83, PDKAG054; Action Memorandum for the Acting Assistant Administrator, LAC, 7/27/83, PDKAG053; Outgoing Telegram, 12/84, PDKAG053)

B R 2 Components: 6,280**

**Does not reflect $5 million de-obligation for entire project

(Source: Project Paper, 5/29/81, PDKAG050)

7 Loan or Grant/Appropriation Category (US$000):

L / SD* / 8,600**
G / SD* / 300***

(Sources: *DIS, **Amendments No. 2 to Project Loan Agreement, Phases I & II, 8/29/85, PDKAG055; ***Advice of Program Change, 1/23/85, PDKAG056)

8. Project Purpose:

To strengthen the institutional capacity of the Government of Jamaica (GOJ) to plan and manage energy programs; To expand and improve the GOJ's energy conservation program; To institute programs in alternative energy

9 Renewable Energy (R.E.) Outputs:

Alternative Energy Branch of the Energy Division (ED) of the Ministry of Mining and Energy staff trained; Standards developed for manufacture of solar water heating systems; Solar system installers trained; Solar water heaters installed; Necessary equipment for the improvement of Jamaica's meteorological data base installed; Energy Information Center developed; Energy Center established at the College of Arts, Science, and Technology; Alternative energy demonstration centers set up in the rural area, Solar crop drying program undertaken; Fuelwood study conducted; Improved energy sugar cane varieties investigated

10 R.E. Inputs:

Technical assistance; Training; Commodity support.

11 Summary of R.E. Components:

This project has two phases. Phase I focuses on public sector activities. It has three components: (1) strengthening the GOJ institutional capacity to plan and manage energy programs; (2) expanding and improving the GOJ's energy conservation program in the public sector; and (3) instituting alternative energy activities in the public sector. The Energy Division (ED) of the Ministry of Mining and Energy (MME) is implementor for Phase I, in collaboration with other government organizations that have responsibility for energy-related activities in Jamaica: the College of Arts, Science, and Technology (CAST), the Scientific Research Council (SRC), and the Petroleum Corporation of Jamaica (PCJ). A long-term specialist will assist the ED's Alternative Energy Branch in designing a strategy for the development of indigenous R.E. resources. Renewables will be demonstrated

21. Follow-On Activities: Not specified

22. Comments on the R.E. Components: Not specified

23. Date/Data Preparer: October 1986 (jrl)

1 OF 1
DISPLAY OF INFORMATION IS COMPLETE
Press RETURN for next record or type HELP/EXIT:
EXIT

Exhibit 3

SUBJECT TERMS IN THE RENEWABLE ENERGY DATA BASE

Subject terms for the Renewable Energy Data Base are taken from the AID Thesaurus. The following list represents only those terms used to date in the Renewable Energy Data Base; it does not represent a comprehensive list of renewable energy terminology.

Sources of Energy

Animal traction
Biomass
  Agricultural wastes
    Crop wastes
      Bagasse
      Rice husks
    Manures
  Alcohols
    Ethanol
    Methanol
  Animal fats and oils
  Aquatic weeds
    Water hyacinths
  Biogas
    Methane
  Charcoal
  Firewood
  Grasses
  Trees
    Palm trees
  Vegetable oils
Cooking fuels
Geothermal energy
Hydropower
  Hydroelectric power
Solar energy
  Photochemical energy
  Photovoltaic energy
  Solar radiation
  Solar thermal energy
Wind energy

Processes

Biomass conversion
Biomass digestion
Biomass fermentation
Electric power generation
Energy conversion
Energy farming
Gasification
Pyrolysis
Solar power generation
Waste treatment

Equipment and Facilities

Crop driers
Energy storage tanks
Furnaces
Hydroelectric power plants
Kilns
Photovoltaic cells
Plantations
Plows
Refrigerators
Solar collectors
Stirling engines
Stoves
Turbines
Water heaters
Water pumps
Waterwheels
Windmills

End Uses

Air conditioning
Desalinization
Distillation
Drying
Electric power generation
Food preparation
Food processing
Freezing (e.g., ice making)
Heating
Irrigation
Lighting
Pest control
Refrigeration
Solar cooling
Solar heating

General

Energy conservation
Energy planning
Energy policy
Energy research
Energy surveys
Data collection
Information centers