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ABSTRACT

The guide presents teaching suggestions and lists resources to be used with the twelfth Course by Newspaper, "Energy and the Way We Live." Courses by Newspaper is a program presenting college-level courses to the public through the cooperation of newspapers and participating colleges. Other components of this course are the Article Bocklet (SO 012 723) and the Reader/Study Guide (SO 012 724). The guide is divided into four sections. Section I describes hcw to use this course, including a list of national participating organizations, and a statement of objectives and needed planning. Section II offers teaching suggestions for 15 lesscns focusing on cur energetic lifestyle, the energy crisis, the history of energy use, waste, recent energy patterns, use in other countries, international politics relating to energy, nuclear and solar energy, synthetic fuels, and future choices and tradeoffs. Each lesson includes suggesticns fcr background readings from the Reader/Study Guide, periodicals, and books, as well as discussion questions and activity suggestions. The activities make heavy use of experts as speakers and films, but also include making an ongoing rating chart, a questionnaire, and an energy index: debating: and making comparisons. Section III presents an annotated list of national crganizaticns and their publications, while Section IV annotates the films suggested in the lessons. (CK)

A SOURCE BOOK

for

Energy and the Way We Live

by

Ann Elwood

Courses by Newspaper
A project of University Extension
University of California, San Diego
Funded by the National Endowment for the Humanities

Boyd & Fraser Publishing Company
San Francisco

PREFACE

This book of resource materials and suggestions is designed for use with the twelfth Course by Newspaper, *Energy and the Way We Live,* as well as with a National Issues Forum of the same title developed by the American Association of Community and Junior Colleges.

Other components in the Course by Newspaper are fifteen newspaper articles, a Reader, and a Study Guide. A Calendar of Issues, an introductory film narrated by Bill Moyers, and suggestions for participation in *Energy and the Way We Live: A National Issues Forum* are also available. In addition, beginning in January, 1980, National Public Radio's seven-part series of half-hour documentaries, entitled "Energy and the Way We Live," will be broadcast by member stations. A Listener's Guide will be available. Audio-cassettes utilizing these programs are also being developed.

Everything in this book is planned to help program organizers, educators, and civic and group leaders develop community forums based on the Course by Newspaper (CbN) and National Issues Forum topics for *Energy and the Way We Live.*

The CbN project is generously funded and supported by the National Endowment for the Humanities. It is directed by George A. Colburn, project director, and Jane L. Scheiber, editorial director. The annotated film list was researched under the direction of Nadine Covert of the Educational Film Library Association.

Ann Elwood

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A Courses by Newspaper Publication

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CORRELATION:
Calendar of Issues for National Issues Forum with Courses by Newspaper Topics

ENERGY AND THE WAY WE LIVE

This chart correlates Section Two of the Source Book with the National Issues Forum Calendar of Issues in order to give community forum leaders ready reference to program resources and suggestions directly tied to topics. In several instances, the CbN topics are relevant to more than one Forum Issue.

Dates	National Issues Forum Calendar of Issues	CbN Topics	Pages in Source Book
February	**The Developing Energy Crisis: A Long Tradition**		
1–16	The Sources of Concern: Crisis or Problem?	1. Our Energetic Lifestyle	13–14
		2. "Cry Havoc" or "Cry Wolf"? The Nature of the "Energy Crisis"	14–15
17–23	The Search for Solutions	2. "Cry Havoc" or "Cry Wolf"? The Nature of the "Energy Crisis"	14–15
24–March 1	Growth Through Energy: The American Past	3. Substitutes for Human Muscle: Past Crises	15–16
		4. Multiplying Energy: 19th and 20th Century Developments	16–17
March	**Energy: What Matters Most?**		
2–8	Energy and the Good Life	1. Our Energetic Lifestyle	13–14
		5. Plenty and Profligacy: Energy and Growth in America	17–18
		6. Prelude to Crisis	19–20
9–15	Energy: Patterns of Living and Working	1. Our Energetic Lifestyle	13–14
		5. Plenty and Profligacy: Energy and Growth in America	17–18
16–22	Energy and Our Political and Economic Institutions	2. "Cry Havoc" or "Cry Wolf?" The Nature of the "Energy Crisis"	14–15
		5. Plenty and Profligacy: Energy and Growth in America	17–18
		6. Prelude to Crisis	19–20
		7. Other People, Other Patterns of Energy Use	20–21
		8. The International Politics of Energy	21–22
23–29	Energy . . . With Justice For All	1. Our Energetic Lifestyle	13–14
		8. The International Politics of Energy	21–22
		9. The Global Lifeboat: Energy and the Third World	23–24
April	**Finding the Path to an Uncertain Future**		
March 30–April 5	Energy: Decisions and Tradeoffs	8. The International Politics of Energy	21–22
		10. Conventional Fuels in Transition	24–25
		11. Nuclear Energy: A Faustian Bargain?	25–26
		15. Choosing Our Future: Choices and Tradeoffs	31–32
6–12	Energy Self-Sufficiency and Global Interdependence	8. The International Politics of Energy	21–22
		9. The Global Lifeboat: Energy and the Third World	23–24
13–19	Future Options and Hard Choices	10. Conventional Fuels in Transition	24–25
		11. Nuclear Energy: A Faustian Bargain?	25–26
		12. Solar Energy and "Appropriate Technologies"	27–28
		13. Making Our Own: Synthetic Fuels	28–29
		14. More Through Less: Effective Energy Use	29–30
		15. Choosing Our Future: Choices and Tradeoffs	31–32

SECTION ONE

How to Use the Courses by Newspaper Topics

Introduction

A dedicated jogger transports her 125-pound body in her 3000-pound automobile two miles to her favorite track, where she runs twelve quarter-mile circles before getting into her car again and driving home. The net energy expenditure: one quart of gasoline and 300 calories. The jogger is an energy spender. So are we all. Every living creature is.

In the United States, we have until recently lived in an El Dorado of energy, which has allowed us to burn it without thought—to be spendthrifts, not just spenders.

But lately we have been humbled: by the accident at Three Mile Island, which caused a crisis of confidence in nuclear power, and by the shortage of petroleum, which is causing us to suffer gas lines and living quarters that are uncomfortably warm or cold.

How did we get into this fix? Is it just that we're greedy? Or is the mobility that a car affords an unalienable right of a free-wheeling American, and the current squeeze on energy supplies some kind of conspiracy? Will the energy policy outlined by President Carter in July, 1979, save us from disaster? And what about the long term? What are the tradeoffs involved in using various energy sources and combinations of sources? What will be their effect on the environment and living creatures, including humans? How much will they cost? Are they renewable? How great is the supply?

Energy issues affect everyone, so they provide ideal topics for any group gathered together to enlarge its understanding of where the United States stands today and what its future holds. From examining information and exchanging opinions about energy issues, we can make more intelligent choices concerning its use over the short and long term. Those choices will have consequences with enormous impact on our lives.

Topic Outline

The following is a list of topics that can be used for weekly or monthly meetings on energy. They are based on Courses by Newspaper's Winter/Spring, 1980, program, *Energy and the Way We Live*. Many of them correlate with the issues of *Energy and the Way We Live: A National Issues Forum.* (See pp. 4 and 7).

Part One: The Current Energy Dilemma

1. *Our Energetic Lifetsyle*
   How do the lifestyles of various groups of Americans affect the way they use energy?
2. *"Cry Havoc" or "Cry Wolf"? The Nature of the "Energy Crisis"*
   How did we get into this fix? And how real is the "crisis"?

Part Two: "Lessons" from the Past: Problems, Solutions, and More Problems

3. *Substitutes for Human Muscle: Past Crises*
   How did earlier transitions from one energy source to another cause problems?
4. *Multiplying Energy: 19th and 20th Century Developments*
   How did new discoveries in energy spur the development of modern industrial society?

Part Three: Energy and Values

5. *Plenty and Profligacy: Energy and Growth in America*
   To what degree are our energy-consuming habits a reflection of our values?
6. *Prelude to Crisis*
   How did political decisions about social welfare contribute to our present energy dilemma?

7. *Other People, Other Patterns of Energy Use*
   Are we really greedier than other people in our use of energy?
8. *The International Politics of Energy*
   How has our increasing dependence on foreign oil affected international political balances?
9. *The Global Lifeboat: Energy and the Third World*
   Are we responsible for the Third World's energy problems, and, if we are, what can we do about them?

Part Four: Alternative Scenarios for Our Energy Future

10. *Conventional Fuels in Transition*
    What role will fossil fuels play in the short- and long-term energy picture?
11. *Nuclear Energy: A Faustian Bargain?*
    Can we have nuclear energy without nuclear disaster?
12. *Solar Energy and "Appropriate Technologies"*
    How much will we rely on solar and other renewable energy sources for our future energy needs?
13. *Making Our Own: Synthetic Fuels*
    How feasible is production of energy from biomass and other sources?
14. *More Through Less: Effective Energy Use*
    Will our lives diminish in quality as our use of energy diminishes?
15. *Choosing Our Future: Choices and Tradeoffs*
    What are the hard choices we face in deciding our course of action for our energy future?

Using the Topics to Plan Programs

A program based on the *Energy and the Way We Live* topics can be offered by any group:

- A civic, religious, or social organization or club.
- A college or university, or high school.
- A library, museum, or historical society.
- A community forum group (described on p. 7 in this section).

A group meeting can take many forms: town meeting, lecture, round table, panel, group discussion, film or slide presentation. It can be held anywhere: in someone's living room, in a hall, in a museum, in a classroom, on a lawn, or out in the field.

Those attending may be young or old, of varying educational levels, from many occupations. If your group is varied, its members can provide a stimulating diversity of opinion and a fund of rich anecdotal raw material to draw on for discussion. As leader, you may want to look for opportunities to enlarge the program by joining with other groups or opening some meetings to the public at large.

This Source Book has been specially designed to assist you in planning such programs. It is divided into four sections. The section you are reading (Section One) gives general information and some ideas for advance planning. Section Two provides sources and ideas for programs specifically geared to each topic. Section Three is divided into two listings: (1) a descriptive list of agencies and organizations that you might contact for materials (books, pamphlets, films, and so on), as well as speakers; (2) a list of State Humanities Committees. Section Four is an annotated list of films on the topics.

The Courses by Newspaper Program

Courses by Newspaper (CbN) is a national program originated and administered by University Extension, University of California, San Diego, and funded by the National Endowment for the Humanities. CbN develops materials for college-level courses that are presented to the general public through the cooperation of newspapers and participating colleges and universities throughout the United States. Individuals can participate in the program on several levels: those interested can read and study the newspaper articles; they can delve into the topics further with the Reader and Study Guide; they can enroll for credit at any participating college or university or through the Division of Independent Study at the University of Minnesota; or they can attend informal, noncredit programs sponsored by community colleges and other organizations.

In addition, this offering of CbN will be linked to a national radio series. Further participation is therefore possible through listening to the radio programs and reading the Listener's Guide. (See below, pp. 8–9).

The Newspaper Articles. The fifteen newspaper articles, each on one of the topics above, will run weekly in hundreds of newspapers across the nation beginning in January, 1980. Each 1250-word article discusses the historical factors involved in the issues at hand, describes current thinking, or brings up questions for the future. The authors of the articles are scholars and energy experts.

Although the articles are published weekly, you need not run your meetings according to their scheduled appearances in the newspaper. You might decide to discuss three of the article topics at one meeting and go off on a tangent at another. Use the

articles as a point of departure, adapting the topics to your group's special concerns.

A list of newspapers that will run the articles is available from Courses by Newspaper, X-002, University of California, La Jolla, CA 92093, (714) 452-3405. If you find that no newspaper near you is publishing the series, which is offered free of charge, you might want to try to secure a paper's participation. Call (collect) or write Courses by Newspaper and ask that information be sent to you or to the editor of a local newspaper who might be interested.

The Reader. *Energy and the Way We Live: A CbN Reader* contains excerpts from books and journal and magazine articles pertinent to the newspaper series topics. You may wish to read parts of some selections to the group or have members of the group present reviews and summaries. Points of views expressed in the selections in this anthology can serve as focal points for discussions or debates.

The Study Guide. Designed for students taking the course for college credit (but useful to anyone), the Study Guide relates the newspaper and Reader articles, highlights important concepts, and provides self-test questions and suggestions for essay assignments or discussions. It is a valuable source of background material for discussion leaders. The Reader and Study Guide are available in a combined edition.

Use the coupon in the back of the book to order these materials by mail or write to:

Boyd & Fraser Publishing Company
3627 Sacramento Street
San Francisco, CA 94118

Discount prices are available for groups.
All orders must be prepaid.

A NATIONAL ISSUES FORUM

ENERGY AND THE WAY WE LIVE

A nationwide dialogue designed to permit the entire population—people of all ages, backgrounds, and interests—to enter into a serious and thoughtful examination of past, present, and future dimensions of the energy issue will take place during February, March, and April of 1980.

Energy and the Way We Live: A National Issues Forum is being conducted by the American Association of Community and Junior Colleges with funds from the National Endowment for the Humanities and the U.S. Department of Energy. Community forums and town meetings, based on a specially prepared Calendar of Issues (see p. 4, above) will be held in hundreds of communities across the country during the ten-week period.

A wide range of resources including newspaper, radio, and television components to facilitate community programming is being prepared by Courses by Newspaper and the following national participating organizations:

National Public Radio, 2025 M Street, N.W., Washington, DC 20036

WTBS, 1018 West Peach Tree Street, Atlanta, GA 30309.

American Association of Museums Energy Committee, Post Office Box 241, New York, NY 10024.

American Library Association, 50 East Huron Street, Chicago, IL 60611.

Federation of Public Programs in the Humanities, 15 South 5th Street, Suite 720, Minneapolis, MN 55402.

The Crisis, National Association for the Advancement of Colored People, 1790 Broadway, New York, NY 10019.

Foreign Policy Association, 345 East 46th Street, New York, NY 10017.

The René Dubos Forum, Total Education in the Total Environment, 22 West Putnam Avenue, Greenwich, CT 06830.

National Wildlife Federation, 1412 16th Street, N.W., Washington, DC 20036.

Rural America, Inc., 1346 Connecticut Avenue, N.W., Washington, DC 20036.

The United Church Board of Homeland Ministries, 287 Park Avenue South, New York, NY 10019.

Regional and local leadership for *Energy and the Way We Live: A National Issues Forum* comes from community and junior colleges across the country.

To find out how you and your organization can participate, contact your Regional Coordinating College:

Region One—Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island:

Holyoke Community College
Paul E. Raverta, Regional Coordinator
Energy and the Way We Live
303 Homestead Avenue
Holyoke, MA 01040
(413) 538-7000

Region Two—New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, West Virginia, District of Columbia:

Dutchess Community College
Bernice Regunberg, Regional Coordinator
Energy and the Way We Live
Pendell Road
Poughkeepsie, NY 12601
(914) 471-4500

Region Three—North Carolina, South Carolina, Georgia, Florida, Tennessee, Alabama, Mississippi, Louisiana, Puerto Rico, Canal Zone:

Valencia Community College
Linda J. Hollingsworth, Regional Coordinator
Energy and the Way We Live
Post Office Box 3028
Orlando, FL 32802
(305) 299-5000

Region Four—Michigan, Indiana, Ohio, Kentucky:

Grand Rapids Junior College
Lynne Goede, Regional Coordinator
Energy and the Way We Live
143 Bostwick Avenue, N.E.
Grand Rapids, MI 49503
(616) 456-4916

Region Five—Wisconsin, Illinois:

Triton College
Edward P. Riccardo, Regional Coordinator
Energy and the Way We Live
2000 Fifth Avenue
River Grove, IL 60171
(312) 456-0300

Region Six—Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Kansas:

Lakewood Community College/
Minnesota Community College System
Virginia Lanegran, Regional Coordinator
Energy and the Way We Live
Minnesota Community College System
301 Capitol Square Building
550 Cedar Street
St. Paul, MN 55101
(612) 296-3357

Region Seven—Oklahoma, Arkansas, Texas, New Mexico:

South Oklahoma City Junior College
Patrick S. Cross, Regional Coordinator
Energy and the Way We Live
Garfield Center—4138 South Drexel
Oklahoma City, OK 73119
(405) 682-7562

Region Eight—Montana, Wyoming, Colorado, Utah:

Arapahoe Community College
William Heckman, Regional Coordinator
Energy and the Way We Live
5900 South Santa Fe Drive
Littleton, CO 80120
(303) 794-1550

Region Nine—Alaska, Washington, Oregon, Idaho:

Tacoma Community College
Ronald E. Magden, Regional Coordinator
Energy and the Way We Live
5900 South 12th Street
Tacoma, WA 98465
(206) 756-5049

Region Ten—Hawaii, California, Nevada, Arizona:

Indian Valley Colleges
Nancy Tapper, Regional Coordinator
Energy and the Way We Live
College of Social and Behavioral Science
1800 Ignacio Boulevard
Novato, CA 94947
(415) 883-2211

For further information and assistance, contact:

Diane U. Eisenberg, Director
Community Forums Office
American Association of Community and Junior Colleges
One Dupont Circle, N.W.
Washington, DC 20036
(202) 293-7050

An Introduction to Energy and the Way We Live, a film documentary narrated by Bill Moyers, is available in 16mm color film or video tape on a loan basis from your regional coordinator or state humanities council (see p. 49), or for purchase from Cinecom, Inc., 308 Tequesta Dr., Tequesta, FL 33458. $96.00 film, $38.50 video tape.

National Public Radio: Energy and the Way We Live

Alternatives for American energy policy and the implications each has for values and lifestyles in this country will be the subject of National Public Radio's seven-part series of half-hour documentaries to be broadcast over the 215-station network beginning in January, 1980.

The programs will attempt to cut through the maze of jargon and conflicting claims made by advocates

of competing energy solutions and will focus on fundamental issues and assumptions.

Any workable energy policy will be limited by technological, economic, and political constraints. In this series of programs, nuclear energy, coal, solar energy, biomass, and synthetic fuels will all be examined as potential sources to reduce our dependence on foreign oil. Although technology and economics must inevitably set the boundaries of policy, the choices available within those boundaries should be made with a full awareness of how they will affect the way we live.

Drawing upon leading scholars and specialists from across the country, National Public Radio will challenge many commonly held views and explore the different paths proposed for reaching the post-petroleum age.

Tentative topics are:

1. Is there really an energy crisis?
2. What are the realistic alternatives?
3. Can the Saudi Arabia of coal dig its way out of the energy crisis?
4. A solar-powered America—panacea or daydream?
5. Gassing up with corn "licker."
6. The future of U.S energy policy, or who will pay how much to whom?
7. A bicycle built for four?—lifestyles in the post-petroleum age.

For air dates and times of NPR's programs, contact your local member station. For a listing of stations, see p. 11.

Audio-Cassettes. Audio-cassettes utilizing these programs and linked to both the CbN topics and the Calendar of Issues for *Energy and the Way We Live: A National Issues Forum,* will be available from Courses by Newspaper. A Listener's Guide for informal adult education will be available from National Public Radio.

Who Else Is Involved?

Before you plan your meetings, find out if other groups in your community are involved in a program based on the *Energy and the Way We Live* topics by contacting your National Issues Forum regional coordinator (see pp. 7–8) or your local community college. You might want to engage in cooperative efforts with them, or initiate a combined program.

Colleges. Many colleges are offering the course *Energy and the Way We Live,* based on CbN materials, for credit or non-credit. If a college near you is doing so, you may want to suggest that members of your group attend classes, or you may want to go as a group to special meetings to which the public is invited. Often colleges present speakers or films related to the topics. A list of participating colleges and universities is available from Courses by Newspaper, University Extension X-002, University of California, La Jolla, CA 92093, (714) 452-3405.

Museums. The American Association of Museums Energy Committee gathers and disseminates information about individual museum programs on energy, many of which are directly related to CbN topics. To find out what museums in your area are doing, contact: Energy Information Clearinghouse, Hall of Science, Box 1032, Flushing, NY 11352, (212) 699-9400.

Libraries. Public libraries are exceptionally good places to hold public forums based on *Energy and the Way We Live* topics. Several model projects have been funded with National Endowment for the Humanities grants awarded by the American Library Association. You may wish to work with your library to develop a program or join with the library staff in cosponsorship of one or more meetings. To find out more about the *Energy and the Way We Live* library program, write to: Peggy O'Donnell, Project Director, American Library Association, 50 East Huron, Chicago, IL 60611.

Television. WTBS in Atlanta (the Superstation) has agreed to make *Energy and the Way We Live* its major programming effort for Spring, 1980; they are planning a variety of programs including a nine-hour telethon, five special programs, and a ten-part series of interviews, all tied to the *Energy and the Way We Live* Calendar of Issues, to reach over 1,000 cable systems in forty-six states serving 6 million homes.

Advance Planning

Sending Away for Materials and Contacting Speakers. Start planning your program as soon as possible. Skimming through this Source Book in advance can save you many headaches. Practically speaking, it's a good idea to write for materials and arrange for speakers and film showings several months in advance. When arranging for speakers, try whenever possible to contact local branches of national organizations and government agencies—it will save time. Consider asking local people to speak or participate in panel discussions—officials from public utilities, gas station and heating oil company owners, architects, owners of solar homes or businesses using alternative energy sources, farmers involved in biomass projects, museum officials, educators. The people you ask need not be in the public

eye or high in a hierarchy. Many people know a great deal about the issues involved in energy, from the owner of a gas station to an elderly homemaker who remembers throwing out her washboard in celebration of her first washing machine. Check with your librarian (because libraries are often clearinghouses for community information) and with educational institutions (including college departments such as Economics, Political Science, History, and Sociology), as well as in the yellow pages of the telephone book for possible speakers and names of organizations.

Arranging for Publicity. To involve the community in your program, you will want to do more than send out meeting announcements to your group. The best sources of publicity are the newspaper carrying the CbN series and the National Public Radio station featuring the *Energy and the Way We Live* series. To all media, supply a schedule of outstanding events (speakers, films, and so on), and plan for press releases. Encourage media coverage of your sessions. Other ideas: put up posters (available from Courses by Newspaper and the American Association of Community and Junior Colleges) and leave handouts in libraries, educational institutions, supermarkets, and laundries.

For College Instructors

Courses by Newspaper encourages college instructors to enrich their classroom sessions and to hold additional meetings, beyond the college-required contact sessions, with their students. In order to maintain the flexibility of the program, however, it is suggested that these additional meetings be optional. You might want to consider opening some of them to the general public.

This Source Book should be of aid in suggesting program ideas, possible sources for speakers, and films that can spark lively discussions. Do not overlook colleagues, in your own or other departments, who might bring a variety of perspectives to this interdisciplinary course.

NATIONAL PUBLIC RADIO MEMBER STATIONS

ALABAMA
- Birmingham — WBHM(FM) 90.3
- Huntsville — WLRH(FM) 89.3
- Mobile — • WHIL-FM 91.3
- Troy — WTSU-FM 90.1

ALASKA
- Bethel — KYUK(AM) 580
- Dillingham — KDLG-AM 670
- Fairbanks — KUAC(FM) 104.7
- Juneau — KTOO-FM 104.3
- Kodiak — KMXT-FM 100.1
- Kotzebue — KOTZ(AM) 720

ARIZONA
- Phoenix — KMCR(FM) 91.5
- Tucson — KUAT(AM) 1550
- KUAT FM 90.5
- Yuma — KAWC(AM) 1320

ARKANSAS
- Jonesboro — KASU(FM) 91.9

CALIFORNIA
- Fresno — • KVPR(FM) 89.3
- Long Beach — KLON(FM) 88.1
- Los Angeles — KUSC(FM) 91.5
- Mission Viejo — • KSBR(FM) 90.7
- Northridge — KCSN(FM) 88.5
- Pasadena — KPCS(FM) 89.3
- Sacramento — • KERS
- San Bernardino — KVCR(FM) 91.9
- San Diego — KPBS-FM 89.5
- San Francisco — KALW(FM) 91.7
- KQED-FM 88.5
- San Luis Obispo — KCBX(FM) 90.1
- San Mateo — KCSM-FM 91.1
- Santa Monica — KCRW(FM) 89.9
- Santa Rosa — KBBF(FM) 89.1
- Stockton — KUOP(FM) 91.3
- Thousand Oaks — • KCPB(FM) 91.1

COLORADO
- Boulder — • KGNU-FM 88.5
- Denver — KCFR(FM) 90.1
- Fort Collins — KCSU-FM 90.9
- Greeley — KUNC(FM) 91.5

CONNECTICUT
- Hartford — • WEDH-FM 90.5

DISTRICT OF COLUMBIA
- WAMU-FM 88.5
- WETA-FM 90.9

FLORIDA
- Boynton Beach — WHRS(FM) 91.7
- Jacksonville — WJCT FM 89.9
- Miami — WLRN(FM) 91.3
- Panama City — WKGC(FM) 90.7
- Tallahassee — WFSU-FM 91.5
- Tampa — WUSF FM 89.7

GEORGIA
- Atlanta — WABE(FM) 90.1

ILLINOIS
- Carbondale — WSIU(FM) 91.9
- Chicago — WBEZ(FM) 91.5
- DeKalb — WNIU(FM) 89.5
- Edwardsville — WSIE(FM) 88.7
- Peoria — WCBU(FM) 89.9
- Springfield — WSSR(FM) 91.9
- Urbana — WILL(AM) 580
- WILL-FM 90.9

INDIANA
- Bloomington — WFIU(FM) 103.7
- Indianapolis — WIAN(FM) 90.1
- Vincennes — WVUB(FM) 91.1
- West Lafayette — WBAA(AM) 920

IOWA
- Ames — WOI(AM) 640
- WOI(FM) 90.1
- Cedar Falls — KHKE(FM) 89.5
- KUNI(FM) 90.9
- Cedar Rapids — KCCK-FM 88.3
- Iowa City — WSUI(AM) 910
- KSUI FM 91.7
- Sioux City — KWIT-FM 90.3

KANSAS
- Lawrence — KANU(FM) 91.5
- Manhattan — KSAC(AM) 580
- Wichita — KMUW(FM) 89.1

KENTUCKY
- Lexington — WBKY(FM) 91.3
- Louisville — WFPL(FM) 89.3
- WFPK(FM) 91.9
- WUOL(FM) 90.5
- Morehead — WMKY(FM) 90.3
- Murray — WKMS-FM 91.3
- Richmond — WEKU(FM) 88.9

LOUISIANA
- New Orleans — WWNO(FM) 89.9

MAINE
- Bangor — WMEH(FM) 90.9
- Portland — WMEA(FM) 90.1
- Presque Isle — † WMEM-FM 106.1

MARYLAND
- Baltimore — WBJC(FM) 91.5
- WEAA-FM 88.9

MASSACHUSETTS
- Amherst — WFCR(FM) 88.5
- Boston — WBUR(FM) 90.9
- WGBH-FM 89.7

MICHIGAN
- Alpena — † WCML-FM 91.7
- Ann Arbor — WUOM(FM) 91.7
- Berrien Springs — WAUS(FM) 90.9
- Detroit — WDET-FM 101.9
- East Lansing — WKAR(AM) 870
- WKAR-FM 90.5
- Flint — WFBE(FM) 95.1
- Grand Rapids — † WVGR(FM) 104.1
- Houghton — WGGL(FM) 91.1
- Interlochen — WIAA(FM) 38.3
- Kalamazoo — WMUK(FM) 102.1
- Marquette — WNMU-FM 90.1
- Mt. Pleasant — WCMU-FM 89.5
- Ypsilanti — WEMU-FM 89.1

MINNESOTA
- Collegeville — KSJR(FM) 90.1
- Duluth — WSCD(FM) 92.9
- Grand Rapids — KAXE-FM 91.7
- St. Paul — KSJN(FM) 91.1
- Minneapolis — KUOM(AM) 770
- Moorhead — KCCM(FM) 91.1
- Northfield — † WCAL(AM) 770
- WCAL-FM 89.3
- Pipestone — KRSW(FM) 91.7
- Rushford — † KLSE(FM) 91.7

MISSISSIPPI
- Senatobia — WNJC(FM) 90.1

MISSOURI
- Buffalo — KBFL(FM) 90.3
- Columbia — KBIA(FM) 91.3
- Kansas City — KCUR(FM) 89.3
- Maryville — KXCV(FM) 90.5
- Point Lookout — KSOZ(FM) 91.7
- Rolla — KUMR(FM) 88.5
- Springfield — KSMU(FM) 91.1
- St. Louis — KWMU(FM) 90.7
- Warrensburg — KCMW(FM) 90.9

MONTANA
- Missoula — KUFM(FM) 89.1

NEBRASKA
- Omaha — KIOS(FM) 91.5
- • KVNO-FM 90.7

NEVADA
- Las Vegas — • KNPR

NEW JERSEY
- Newark — † WBGO(FM) 88.3

NEW MEXICO
- Albuquerque — • KUNM(FM) 90.1
- Las Cruces — KRWG(FM) 90.7
- Ramah — KTDB(FM) 89.7

NEW YORK
- Albany — WAMC(FM) 90.3
- Binghamton — WSKG FM 89.3
- Buffalo — WBFO(FM) 88.7
- WEBR(AM) 970
- WNED FM 94.5
- Canton — WSLU(FM) 96.7
- New York City — WNYC(AM) 830
- WNYC-FM 93.9
- Oswego — WRVO(FM) 89.9
- Rochester — WXXI-FM 91.5
- Schenectady — WMHT-FM 89.1
- Syracuse — WCNY-FM 91.3

NORTH CAROLINA
- Chapel Hill — WUNC(FM) 91.5
- Warrenton — WVSP-FM 90.9
- Winston Salem — WFDD(FM) 88.5

NORTH DAKOTA
- Belcourt — KEYA-FM 88.5
- Fargo — KDSU(FM) 91.9
- Grand Forks — KFJM(AM) 1370
- † KFJM-FM 89.3

OHIO
- Athens — WOUB(AM) 1340
- WOUB-FM 91.3
- Cincinnati — WGUC(FM) 90.9

OHIO
- Cleveland — WBOE-FM 90.3
- Columbus — WOSU(AM) 820
- WOSU-FM 89.7
- Kent — WKSU(FM) 89.7
- Oxford — WMUB-FM 88.5
- Toledo — WGTE-FM 91.3
- Wilberforce — WCSU(FM) 88.9
- Yellow Springs — WYSO(FM) 91.5
- Youngstown — WYSU(FM) 88.5

OKLAHOMA
- Stillwater — KOSU(FM) 91.7
- Tulsa — KWGS FM 89.5

OREGON
- Corvallis — KOAC(AM) 550
- Eugene — KLCC(FM) 90.3
- KWAX(FM) 91.1
- Portland — KBOO(FM) 90.7
- KBPS(AM) 1450
- KOAP-FM 91.5

PENNSYLVANIA
- Erie — KQLN-FM 91.3
- Hershey — WITF-FM 89.5
- Philadelphia — WUHY-FM 90.9
- Pittsburgh — WDUQ(FM) 90.5
- WQED-FM 89.3
- Scranton — WVIA FM 89.9

PUERTO RICO
- Hato Rey — WIPR(AM) 940
- † WIPR-FM 91.3

SOUTH CAROLINA
- Charleston — WSCI(FM) 89.3
- Columbia — WLTR-FM 91.3
- Greenville — WEPR(FM) 90.1
- Sumter — † WMPR(FM) 88.1

SOUTH DAKOTA
- Brookings — KESD-FM 88.3
- Vermillion — KUSD(AM) 690
- † KUSD FM 89.9

TENNESSEE
- Collegedale — WSMC(FM) 90.7
- Johnson City — WETS(FM) 89.5
- Knoxville — WUOT(FM) 91.9
- Memphis — WKNO-FM 91.1
- Murfreesboro — WMOT(FM) 89.5
- Nashville — WPLN(FM) 90.3

TEXAS
- Austin — KUT(FM) 90.7
- Beaumont — KVLU(FM) 91.3
- College Station — KAMU(FM) 90.3
- Commerce — KETR(FM) 88.9
- Dallas — KERA-FM 90.1
- El Paso — KTEP(FM) 88.5
- Houston — KPFT-FM 90.1
- Killeen — KNCT(FM) 91.3

UTAH
- Logan — KUSU FM 91.5
- Provo — KBYU-FM 88.9
- Salt Lake City — KUER(FM) 90.1

VERMONT
- Windsor — WVPA-FM 89.5

VIRGINIA
- Harrisonburg — WMRA(FM) 90.7
- Norfolk — WTGM(FM) 89.5
- Richmond — WRFK(FM) 106.5
- Roanoke — WVWR(FM) 89.1

WASHINGTON
- Pullman — KWSU(AM) 1250
- Seattle — KUOW(FM) 94.9
- Tacoma — KTOY(FM) 91.7

WEST VIRGINIA
- Beckley — WVPB(FM) 91.7
- Buckhannon — † WVPW(FM) 88.9

WISCONSIN
- Auburndale — † WLBL(AM) 930
- Brule — † WHSA(FM) 89.9
- Colfax — † WHWC(FM) 88.3
- Delafield — † WHAD(FM) 90.7
- Green Bay — † WPNE(FM) 89.3
- Highland — † WHHI(FM) 91.3
- Kenosha — WGTD-FM 91.1
- La Crescent — † WHLA(FM) 90.3
- La Crosse — WLSU(FM) 88.9
- Madison — WERN(FM) 88.7
- WHA(AM) 970
- Milwaukee — WUWM(FM) 89.7
- Wausau — † WHRM(FM) 91.9

WYOMING
- Laramie — KUWR-FM 91.9

• stations expecting membership
† associated stations

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SECTION TWO

Program Suggestions

The energy picture changes rapidly as technology advances and policy is made, both domestically and internationally. As you use the suggestions in this Source Book (and they are just that—suggestions), adapt them to suit new energy news, gleaned from current newspapers and periodicals.

Your best sources of ideas are, of course, the members of your group and people in your community, who can provide anecdotes and opinions based on life experiences as well as ideas for places to visit.

So with timeliness and the uniqueness of your community in mind, adapt, change, and select from the Source Book as you wish. There are far too many programs suggested for one group to use—a number of ideas have been included for each topic so that you will have a choice.

The Background for each topic includes some suggestions for reading--from the Courses by Newspaper Reader, as well as from books and periodicals available in most libraries. You might want to summarize these for the group or bring them to meetings to share. In addition, you may have handouts and other materials from the organizations listed in Section Three. You can find more at your library. An enormous amount of material is currently being written on energy issues. Be alert to local news: building of refineries and power plants; effects of gasoline and heating-oil shortages; energy-related industrial and agricultural problems. Whenever you can, use such news as a springboard to the larger picture. Involve the group in collecting material, also.

Suggested Discussion Questions can, of course, be adapted to the needs and interests of your group. A discussion guide listing key questions from the *Energy and the Way We Live* Calendar of Issues is available from your regional coordinator. (See pp. 7–8).

In Program Suggestions and Resources, several meeting formats are suggested—panel discussions, small-group activities, debates, speakers, films, short trips "into the field." They have been intentionally designed to involve the group actively in what is going on. For some meetings, you might want to consider inviting people outside your group to join you. For further information about the films mentioned in this section, see Section Four: An Annotated Film List, which also contains addresses of film distributors.

For field trips—to a solar house or power plant, for example—be sure to set specific goals and to end with a discussion that ties the experience of the trip to the topic at hand. If you have asked someone else—a power plant manager, for example—to lead the group, give that person an indication of what your purposes are so that he or she can plan comments accordingly.

In several instances, program suggestions include writing scenarios. If your group has had no experience with this, explain what they are: imaginative projections into the future. Try out a few informally: What will happen if OPEC raises oil prices by $5 a barrel? What will life be like if gasoline is rationed? For most groups, it is probably best to keep scenarios in the form of narratives, perhaps as diaries of fictional people. If alternative scenarios seem desirable, consider assigning each alternative to a small sub-group of five or six people.

Time lines are suggested in several places. You can draw these on a long blackboard or use a large piece of paper. Don't worry about being too precise or making them pretty. If space limitations force you to cramp your writing, you will be illuminating the fact that in certain time frames, events seem to cluster.

This section also suggests a long-term project for keeping a Ratings Chart of Energy Sources (see p. 14). If your group meets frequently, consider keeping such a chart as a way to compare information, to discover discrepancies in data bases, and to see the alternatives as part of the whole picture.

1 Our Energetic Lifestyle

"Americans are the world's most gluttonous energy consumers. With about five percent of the world's population, we gobble up one-third of all the energy used in the world." Dorothy K. Newman

John O'Leary, who was Deputy U.S. Secretary of Energy, said in June, 1979, "There isn't a gasoline shortage. There's a driving surplus."

Background

From the Courses by Newspaper Reader

• See "The Problem" by Irving Wender and Bernard D. Blaustein; "The Way Some People Live" by Tom Kelly; "Energy Consumption in American Households" by Eunice S. Grier.

From Popular Periodicals

• "How Much Do You Know About Energy?" Keith Kline, *Sierra*, March/April, 1979, pp. 31–35: an energy quiz on the big picture (world statistics) as well as the small (how much energy is used by a pilot light).

• "All Gassed Up," *Time*, June 18, 1979, p. 68: chronicles the impact of the gas shortage on resorts, transportation, popularity of filling-station attendants.

• "The Weakness That Starts at Home." Lance Morrow, *Time*, June 4, 1979, pp. 81–82: a *Time* Essay describing Americans' energy greed, declining productivity, and political disaffection with government, ending with a plea for ingenuity and self-discipline.

• "Making Your Home Energy-Efficient," *Science Digest*, October, 1977, p. 64: energy-saving tips for the household.

Books to Review

• *The American Energy Consumer*, Dorothy K. Newman and Dawn Day. Cambridge, Massachusetts: Ballinger Publishing Company, 1975: based on a national sample survey of households and of their utilities, as well as other sources.

• *The Contrasumer: A Citizen's Guide to Resource Conservation*, Albert J. Fritsch. New York: Praeger, 1974: a compendium on energy conservation, which contains a Lifestyle Index.

• *Energy and the Community*, Raymond J. Burby III and A. Fleming Bell. Cambridge, Massachusetts: Ballinger Publishing Company, 1978: the result of six colloquium sessions about influences on energy use, including households and transportation.

Suggested Discussion Questions

• How would your life change if you had to do without gasoline and electricity entirely? If your supply were cut by one-fourth? How would such shortages affect your work? Your recreation?

• What are the less obvious effects of energy shortages? Examples: distribution of goods and services, communications, public spending.

• Have your energy spending habits changed in the last year? How? How have such changes affected the way you live? If energy were to become plentiful again, would you change back to your original habits?

• What happens to the poor in times of energy shortage? Should the poor be issued energy stamps as they are now issued food stamps? What other plans can you think of that might guarantee the poor at least enough energy for their basic needs?

• How can we ensure equity in allocating energy resources in times of shortage (as well as in times of abundance)?

Program Suggestions and Resources

What's Your Energy Grade? Have the group work together to develop an energy index like that mentioned in the first article, by Dorothy K. Newman, in CbN's newspaper series. (A sixty-page report, *Lifestyle Index*, which could serve as a source of information, is available from Citizens' Energy Project; see p. 37). Have each member of the group rate his/her household according to the index.

Wheels. View the film *Auto-Mates*, a satire on our automotive mania. Follow with a panel discussion on present transportation systems in your area, improvements that might be made, and the effects of such improvements on our automobile-oriented society. Panelists might include a car dealer, trucker, bus company or Amtrak representative, homemaker, and government transportation expert.

Needs and Wants. Develop with members of the group a chart that separates their energy needs from energy wants. Invite a representative from a utility company to explain rate structures and ways of conserving energy in the home. Brainstorm a list of other energy-saving practices.

Twenty Questions. Ask the class to compile a ques-

tionnaire about their opinions on energy. Examples: Will the energy crisis be solved by the year 2000? Which energy source provides the best long-range solution for the energy crisis? Duplicate the questionnaire and have each member fill out a copy. Save until the last meeting of the group. (See p. 31).

How to Slice Up the Energy Pie. Invite a philosopher, theologian, and psychologist to discuss the equity and morality of our system of energy distribution. How do people react in times of shortage? How can attitudes be changed? Is our society unfair to people at poverty level and in the lower middle class? Should our system of allocation be changed by government? How? What other solutions exist?

2 "Cry Havoc" or "Cry Wolf"? The Nature of the "Energy Crisis"

"It will be impossible for the U.S. to produce its way out of an energy shortage. . . . Any policy not rooted in programs to curb the appetite of the American economy for lavish use of energy is doomed to failure." S. David Freeman

Herbert O'Dell Smith ("Digger O'Dell"), a 64-year-old professional stunt man, was voluntarily buried to dramatize the gas crunch, saying "I'm not coming up until gas prices come down." Ten days later, on doctor's orders, he had to renege on his vow and come out of his grave.

Background

From the Courses by Newspaper Reader

• See "The Making of a Crisis" by S. David Freeman; "The Nature of the Energy Crisis" by Lester B. Lave; "Energy Resources Available to the United States, 1985–2000" by Earl T. Hayes; "The Problem" by Barry Commoner.

From Popular Periodicals

• "Energy Options," John Osbourne, *New Republic,* March 31, 1979, pp. 6–10: analysis of the causes of the energy crisis, inherited by the Carter Administration; projections into the future.

• "Is OPEC a Paper Tiger?" *Forbes,* April 2, 1979, p. 49: examines the view of oil economist Arnold Safer that the oil shortage is a "question of price, not physical supply."

• "And Now, the Exploding Gas Pump," Richard Parker, *Mother Jones,* June, 1979, pp. 9–10: contrasting scenarios for the future short-range energy crisis.

• "Energy: Fuels of the Future." *Time,* June 11, 1979, pp. 72–76: discussion of promising energy alternatives: shale, tar sands, solar, biomass, coal conversion, geothermal, hydro, wind, and sea.

Books to Review

• *Energy: The New Era,* S. David Freeman. New York: Walker, 1974: an exploration of the energy crisis and alternative ways of solving it.

• *A Time to Choose: America's Energy Future,* staff of the Ford Foundation's Energy Policy Project. Cambridge, Massachusetts: Ballinger, 1974: the final report of the Ford Foundation's Energy Policy Project, with interpretations and recommendations.

Suggested Discussion Questions

• How important is the "energy crisis"? Is there any truth to accusations of conspiracy directed at oil companies and/or government? How long will the crisis last?

• What are the major points of disagreement among experts on the nature of the energy problem and the promise of various solutions? What might account for such disagreements? Why do the experts base their studies on different data? Are disagreements honest or political?

• Which solutions to the energy crisis are most appealing to you? Do you think conservation can save us? Technology? Population control? A combination? What are the ethical aspects of your solution?

• If we stop growth in order to save energy, we might suffer a severe economic recession. Do you think such a recession is inevitable? What would be the consequences for various elements of our society? What other factors play a part in determining the economic picture?

Program Suggestions and Resources

A Ratings Chart. As an ongoing project, devise with the group a large chart for rating various energy sources according to such criteria as: environmental effects, costs, short-term availability, long-term availability, dangers, etc. Proceed to rate energy sources as you read about them in the CbN articles or other information sources, including any statistics given. Examine discrepancies and reasons for them, weigh

subjective assessments of each energy source, and include as little or as much conflicting information as you wish.

Fight It Out. Convene a panel consisting of an economist, a utility company representative, a Department of Energy official, a sociologist, and a historian to discuss the energy crisis. Has the seriousness of the crisis been overestimated or underestimated? What has been its impact on various elements of society? How does it compare to other energy crises in our country's history? Why have there been accusations of conspiracy directed at oil companies? What solutions are most viable?

Experts on Conservation. Ask an owner of a gas station or an auto mechanic or engineer to discuss ways of gaining fuel economy as well as the advantages and disadvantages of gasohol and gas-saving devices for automobiles.

Small Is Better? View the film *E. F. Schumacher... As If People Mattered*, which advocates decentralization and local technology. Follow with a group discussion of the feasibility of his ideas. How might some of his ideas be implemented now? How would lifestyles be affected? Would implementing his ideas lead to progress or regression in the quality of life?

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3 Substitutes for Human Muscle: Past Crises

"Transitions in uses of energy are often difficult and prolonged. The 19th century was the Age of Coal. Our 20th century turned to petroleum. In the long quest for substitutes for human muscle, what next?" Lynn White, jr.

Peter Tonge, a writer discussing bicycle-type "energy cycles," declares, "On average, 20 minutes of 70 to 80 r.p.m. cycling generates enough current for 30 minutes of TV viewing time."

Background

From the Courses by Newspaper Reader

- See "Energy, Technology, and the Story of Man" by Melvin Kranzberg; "Air Pollution and Fuel Crises in Preindustrial London, 1250–1650" by William H. Te Brake.

From Popular Periodicals

- "Pedal Power," *Organic Gardening and Farming*, June, 1977, pp. 82–92: excerpts from a book by Rodale Press on myriad uses of pedal power in the workshop, mowing the lawn, operating a pump.

- "Return of the Draft Horse," Maurice Telleen, *Organic Gardening and Farming*, February, 1976, pp. 156–164: how a very old and increasingly energy-efficient source of power is gaining in popularity.

- "A Bicentennial Look at the Early Days of American Labor," Richard B. Morris, *Monthly Labor Review*, May, 1976, pp. 20–28: how scarcity of human labor (an energy source) in the American colonies led to indentured servitude and slavery.

- "Odyssey of the *Albatross*," *Time*, June 25, 1979, pp. 46–47: the story of a pedal-powered flight over the English Channel by Bryan Allen.

Books to Review

- *Guns, Sails, and Empires: Technological Innovation and the Early Phases of European Expansion, 1400–1700*, Carlo M. Cipolla. New York: Pantheon Books, 1965: relates medieval technology to the rise of Europe.

- *Medieval Technology and Social Change*, Lynn White, jr. New York: Oxford University Press, 1962: how new sources of energy in the Middle Ages changed the lives of people in all walks of life.

Suggested Discussion Questions

- In the past, the solution of one energy problem has often led to another problem. Can you think of instances in modern times when energy solutions have led to further problems?

- What societies in the past have relied on slave labor? What possible alternatives—if any—were there to slaves in those societies? In what other ways have humans been exploited to provide muscle energy (e.g., indentured servants, factory workers putting in 60-hour work weeks)? What were the alternatives, if any?

- Devices that use energy are our "slaves," replacements for human muscle power. How many of these slaves" can we do without? What would be the social consequences?

- How did wind and water power serve as energy sources in pre-industrial times? How can those sources be used today? (*Note:* Modern windmills

generate power in parts of the United States where winds blow consistently enough to make windmills feasible. A large part of cargo needing transoceanic transportation may be carried by large sailing ships.)

• In prehistoric times, individuals consumed energy each day about equal to that consumed by one 100-watt light bulb constantly lit for one day. Now we consume many times that amount per individual to support our activities. Why is there such a difference in consumption between then and now?

Program Suggestions and Resources

Back to the Old Washboard? Convene a group of older people to reminisce about ways of doing work in the early part of the century. What was it like to use a washboard to do the wash, sew on a treadle sewing machine, plow with horses, etc.? What were good and bad sides to life then? Was it easier or harder? More or less satisfying?

Pedaling the Ice Cream Churn. Ask the owner of a bicycle-type "energy cycle" to demonstrate its use in doing work. (Health food stores sometimes have such devices.) What other energy-conserving devices based on human muscle power might substitute for motor-driven devices?

Time Line/Energy. Begin a time line showing developments in uses of energy sources. Fill in events described in Lynn White, jr.'s CbN article. What were the repercussions of each event? A historian might serve as consultant.

Animate to Inanimate Slaves. Show the movie *The Harvest of the Seasons*, which describes early man's use of energy sources, human and animal muscle power. Invite a farmer to discuss old-time methods of farming compared with modern methods. What problems has the machine brought? How much more fuel-energy does it take to run a farm using machines? Was the hay-burner an efficient work engine? How many more acres can one man handle using machinery rather than human and animal power?

Oil for the Lamps of Americans. Invite a literature professor to address the group on the ecological message of Herman Melville's *Moby Dick*. How did the search for the white whale exemplify the eternal quest for energy (whale oil)? What statements was Melville making about human destruction of nature?

4 Multiplying Energy: 19th and 20th Century Developments

"Between 1850 and 1950, the face of America changed. A predominantly agricultural nation was transformed into an industrial giant... The increasing availability of cheap and flexible energy sources was one of the most important factors in this transformation." John G. Burke

"So great was the consumption of coal that in time a fear seized the public mind that the supply would soon be exhausted; and this fear was not allayed till the report of a royal commission conveyed the soothing assurance that centuries of mining on the present scale would be required to exhaust our enormous coalfields." wrote Robert McKenzie in *The 19th Century: A History*, published in the 1800s.

Background

From the Courses by Newspaper Reader

• See "The Steam Engine Before 1830" by Eugene S. Ferguson; "Energy Conversion" by John B. Rae; "Developing the Energy Inheritance" by Bruce C. Netschert.

From Popular Periodicals

• "The Origins of the First Powered, Man-Carrying Airplane." F. E. C. Culick, *Scientific American*, July, 1979, pp. 86–100: how the Wright brothers' "Flyer" was the outcome of a comprehensive program of research, engineering, and testing.

• "50 and 100 Years Ago," (first item), *Scientific American*, July, 1979, p. 13; a 1929 story about pipelines to transport oil and natural gas. (This is a regular column in this magazine—see other issues for similar stories.)

• "American Labor, 1865–1902, The Early Industrial Era." David Montgomery, *Monthly Labor Review*, July, 1976, pp. 11–17: how the industrial era, with its use of new energy sources, has affected workers. (See May, June, September, October, and November issues for the rest of this series on the history of American labor.)

Books to Review

• *America Adopts the Automobile, 1895–1910*, James J. Flink. Cambridge, Massachusetts. The

Massachusetts Institute of Technology Press, 1970. how American society was transformed by automobiles; the resulting change in America's energy picture.

• *Energy in the American Economy, 1850–1975,* Sam H. Schurr, et al. Baltimore. The Johns Hopkins Press, 1960; an account of changing patterns of energy consumption in the United States.

Suggested Discussion Questions

• How many motor-powered items do you and your family own? (Add the total number for the group and find the average.) How important are they to you? Which ones could you dispense with without much sacrifice? For what "higher good," for example, greater equity in distributing energy, would you be willing to give them up?

• What happened to the dream of an age when nuclear power would provide endless, clean energy? Is the disillusion with technology in general or with the nuclear power industry in particular?

• Was the exploitation of the worker built into the factory system of the 19th century? Is job dissatisfaction through the monotony caused by the assembly line a necessary evil of industrialism? What kind of society did industrialism bring about?

Program Suggestions and Resources

Into the Heads of the Makers. Ask members of the group to develop an imaginary dialogue between Henry Ford and a harness-maker concerning the future of the automobile. Conclude with a showing of *Patent Pending.*

Here's Mud in Your Streets. Find and display an old map of the community (pre-1900, if possible). Invite a city official to talk with the group about changes in transportation lines that came with the railroad, the internal combustion engine, and the airplane.

Time-Line Continued. Continue filling in the time line of energy developments, using John G. Burke's newspaper article as a source. (See p. 16, above.) Compare the sections of the time line. Did events cluster? How does the late-19th and early-20th century time span compare with earlier centuries? What might be next?

Old-Timers Remember. Invite older people to come to the group meeting to discuss their reactions to the energy developments they have witnessed in their lifetimes: the automobile, the airplane, the advent of nuclear power. How did they feel about these advances at first? Later? How did they affect society in general?

City of the Big Shoulders. Invite a literature professor and social historian to develop a counterpoint between readings from poets and novelists (Carl Sandburg, Charles Dickens, Sinclair Lewis, and other 19th and early 20th century writers) and social, legal, and historical events in the development of industrial nations. How has the machine been glorified? How have novelists chronicled the evils of an industrial society? What laws were enacted to counteract those evils? How did human beings change as society became more industrialized?

5 Plenty and Profligacy: Energy and Growth in America

"It is because we need the freedom to act politically that we need to become, in the short-run, energy independent of... potentially hostile sources. And, because any energy alternative in the short-run, and in the long-run... will be more costly, we have a problem in changing our styles of life." Daniel Bell

Charles F. Luce, who served on the Citizens' Advisory Committee on Environmental Quality, said in 1973, "... it should become a badge of shame that an individual leaves his electric lights blazing on a bright summer day or roars down the highway at 80 miles per hour in a two-ton automobile, or otherwise is profligate in the use of limited natural resources."

Background

From the Courses by Newspaper Reader

• See "The Nature of American Abundance" by David Potter; "The Second Hundred Years" by Albert J. Fritsch; "The Social System and the Energy Crisis" by Kenneth Boulding.

From Popular Periodicals

• "Energy Options and Conservation," Dorothea H. El Mallakh, *Current History,* March, 1978, pp 113–116; how conservation of energy affects both the demand and price of oil.

• "Industrial Energy in Transition: A Petrochemical Perspective," Ronald S. Wishart, *Science,* February 10, 1978, pp. 614–618; discussion of efficiency in use

of oil and gas and of development of promising alternatives for petrochemical industry.

• "Energy Ethics Reaches the Church's Agenda," Bruce C. Birch, *Christian Century*, November, 1978, pp. 1034–1037: ethical considerations of energy use—ecological justice and fair distribution.

• "Fahrenheit Eighty (Gasp!), *Time*, July 9, 1979, pp. 61–62: reactions to Carter's dictum regulating temperatures of buildings.

• "Hoarding Days," *Time*, June 18, 1979: how typical of American behavior patterns is the widespread tendency to hoard gasoline?

Books to Review

• *People of Plenty*, David Potter, Chicago: University of Chicago Press, 1954: how the idea of abundance prompted an optimistic attitude in the American people toward life and the environment.

• *The Coming of Post-Industrial Society*, Daniel Bell. Basic Books, 1973: an examination of the effects of the United States' move from a goods-producing to a service economy.

Suggested Discussion Questions

• How are the American people taking the psychological shock of realizing that energy is not limitless? How might that realization change our national character in the long run?

• If an individual has enough money to pay for more energy than he really needs, should he be allowed to buy "extra"?

• Who will have status in a society in which conservation is valued? What will the status symbols be? Will such a society be largely free of competition in terms of accumulation of material goods?

• How much should the environment be sacrificed to create more energy?

Program Suggestions and Resources

Plastics for a Plastic Life? Invite an official from the petrochemical industry to speak to the group about the use of petrochemicals in manufacturing plastics and other products, the difficulty the industry envisions if the oil supply decreases, the possibility of substitutes. Have the group, with the official's help, construct a list of items they use frequently that are made from petrochemicals, then list next to each item a substitute if one exists.

Happiness Is... Have the group construct a scenario of the good life without a limitless energy supply. Before or after show *The New Alchemists*, a movie about a group in Massachusetts that has set out to maintain a lifestyle independent of modern chemicals and high-energy technology.

Polling the People. With the help of an environmentalist, have the group construct a questionnaire on how much people are willing to give up to preserve the environment. If the group meets often, they might conduct interviews based on the questionnaire with five to ten people each during the time between meetings, then compile and evaluate their results.

Comparing the Papers. Compare newspapers from the same date (month and day) for 1970, 1973, and 1979. How much space is given to energy in each? What does this show about our rising awareness of energy problems? Conclude with a showing of the film *Energy—The American Experience.*

Values of Plenty and Scarcity. Ask a historian to discuss how energy abundance helped to shape American character and values and to predict the effects of energy scarcity on our attitudes.

The Good Life. Invite a philosopher to address the group on the concept of the "good life," as it has been viewed by various philosophers throughout the ages. What part has material consumption played in those views? Values without a material base? What are implications for modern society?

6 Prelude to Crisis

"... the fortunes of oil and gas were woven into deep transformations that occurred in American society beginning in the 1930s, while the force of the crisis was accentuated by a variety of acts and omissions, including failure to widen the number of different fuels used in the energy economy and to more carefully evaluate the effects of a number of actions, including those provoked by the need to protect the environment." Norman Metzger

"Most of us pretty much take life as it is given to us by others," said Walter Dean Burnham, a political scientist at Massachusetts Institute of Technology (as quoted by *Time* in June, 1979). "For example, destroy local mass transit systems, promote urban sprawl... stimulate the automotive industry by every advertising trick known to man, and what do you get? A spread-out network of settlement, work, distribution, and consumption which has become absolutely dependent on the automobile for its existence."

Background

From the Courses by Newspaper Reader

- See "What Went Wrong?" by Gerald Clarke; "Where Have All the Green Stamps Gone?" by Fred C. Allvine and James M. Patterson; "Preludes to the U.S. Energy Crisis" by Richard B. Mancke; "The Hog Libel" by Russell Baker.

From Popular Periodicals

- "Energy Management: A Crisis in Industry," H. L. Breckenridge, *Intellect*, April, 1977, pp. 352–354: looks at the period from the Eisenhower Administration to 1977 for causes of the energy shortage; predicts effects on industry.
- "U.S. Energy Demand and Supply," Robert R. Rycroft, *Current History*, March, 1978, pp. 100–103, 130–131: finds the seeds of the energy problem in the Ford Administration; considers future demands.
- "Birth of the Gas-Pump Blues," Michael Kramer and Dave Marsh, *New York*, June 4, 1979, pp. 10–11: puts the blame for the oil crisis on "government bungling and industry greed."
- "The Most Hated Man in Washington," Robert Shrum, *New York*, May 28, 1979, pp. 42–46: profiles James Schlesinger and the policies that earned him the title of "bad guy" of the energy crisis.
- "Energy and the Structure of Social Institutions," Lynton K. Caldwell, *Human Ecology*, January, 1976, pp. 31–45: analysis of the sources of the energy crisis, including political expediency.

Books to Review

- *The Failure of U.S. Energy Policy*, Richard B. Mancke. New York and London: Columbia University Press, 1974: looks at the effects on energy supply of state and federal policies.
- *Energy—The Continuing Crisis*, Norman Metzger. New York: Thomas Y. Crowell Company, Inc., 1977: gives the histories of the technologies and growth of coal, oil, natural gas, nuclear fission, electricity, and other energy supplies.

Suggested Discussion Questions

- How did energy abundance help form both population patterns and societal values now existing in the United States? How might the energy shortage change those patterns and values? Can problems of distance be solved without changes in population patterns?
- What is the impact of the energy shortage on employment? What groups are directly affected? Indirectly?
- Can all levels of society receive sufficient energy supplies during a time of scarcity?
- According to one study, Americans were using in the 1950s only half the energy they use today. What has brought about the increase?
- What other political decisions regarding energy could have been made from 1930 to 1970? Why was government money invested in highway systems rather than in mass transit, for example?

Program Suggestions and Resources

What If... Using a historian or political scientist as consultant, develop with the group a scenario based on the changes that would have taken place in the United States if the post-World War II Synthetic Fuels Act to develop coal gasification technology had not died on the vine.

In Smoke-Filled Rooms. Invite a speaker from the League of Women Voters or other concerned organization to address the group on the political aspects of the energy crisis. How did we get into the era of dependence on foreign sources? Why have government officials made the decisions they have? What pressures are presently brought to bear on officials

by lobbies trying to push through energy legislation favorable to them?

Time Line. Show the film *The River*, 1930s propaganda for the Tennessee Valley Authority. After discussing the film, which relates the promises of TVA, raise the question of TVA's long-term effects. Develop an annotated time line, showing governmental energy legislation and decisions discussed in Norman Metzger's CbN article, documenting the promises and effects of each.

Choke, Choke... Cough, Cough? Invite an environmentalist to discuss with the group the effects of the environmental movement on our energy supply, the unforeseen effects of some environmental legislation, and vironmentally aeceptable solutions to the problem of energy shortages.

Affluence Is Something New. Ask a social historian to address the group on the development of affluenee and the relative recentness of a luxurious life for the middle class. You might also ask a group of older people to join in the discussion after his or her speech. What have they observed about the growth of affluence? How has it affected succeeding generations?

7 Other People, Other Patterns of Energy Use

"... do international comparisons point to the potential for significantly reduced energy consumption without sacrifice of economic welfare? It depends a bit on whether what one sees is a glass of water that is half empty or half full..."
Joel Darmstadter

Takeshi Saito, owner of a gasoline station in Japan about to go bankrupt, said in an interview with reporter Geoffrey Murray of the *Christian Science Monitor*, "And look at the Americans.... They're the biggest offenders in gobbling up the world's energy, but the little men like me are the ones who are going to suffer first."

Background

From the Courses by Newspaper Reader

• See "Intercountry Comparisons of Energy Use: Any Lessons for the United States?" by Joel Darmstadter; "Energy Use in Japan and the United States" by Andres Doernberg; "For Swiss, Energy Waste Is Sin" by Margaret Studer.

From Popular Periodicals

• "Energy Choices for the Next 15 Years: A View from Europe," C. P. L. Zaleski, *Science*, March 2, 1979, pp. 849–851: how European countries plan to manage energy resources and supplies until 1995.

• "Intercountry Energy Comparison," P. H. Abelson, *Science*, February 10, 1978, p. 605: discusses the statistics comparing the United States with other nations and soberly concludes that "adjustment to the new realities will take a long time."

• "European and Japanese Energy Policies," Louis Turner, *Current History*, March, 1978, pp. 104–108, 129, 136: power sources, energy policies, and cooperative international research efforts in Europe and Japan.

• "Soviet Energy Resources and Prospects," Leslie Dienes, *Current History*, March, 1978, pp. 117–120, 131–135: how the Soviet Union remains self-sufficient in energy supplies.

Books to Review

• *How Industrial Societies Use Energy: A Comparative Analysis*, Joel Darmstadter, Joy Dunkerley, and Jack Alterman. Baltimore: Johns Hopkins University Press, 1977: an exploration of the extent to which high U.S. energy usage can be attributed to the industrial, geographic, and demographic character of the country and to the uneconomic use of energy.

• *Beyond the Energy Crisis: A Global Perspective*, John Maddox. New York: McGraw-Hill, 1975: a view of the world energy crisis, emphasizing the dependence of the United States and Europe on Arab oil and suggesting nuclear energy as a way out.

• *Conservation in the Soviet Union*, Philip R. Pryde. London: Cambridge University Press, 1972: describes conservation efforts in the Soviet Union, including energy conservation.

Suggested Discussion Questions

• How has social policy in the United States encouraged energy consumption and waste? How do social policies in other countries differ?

• Other countries use less energy because they do not have problems arising from low-density population areas. What are some of the solutions for our

low-density population that causes high energy use? How can we avoid moving goods and people? Can improved communication help to solve the problem? How?

• How do other countries prevent energy waste through government regulations? What U.S. government regulations might be amended to promote conservation of our energy supplies?

• What can be learned from other countries to help us save or better use our energy supplies?

Program Suggestions and Resources

And in YOUR Country? Invite several recent immigrants or visitors from other countries to discuss energy use in the countries they left with that in the United States. How much do other countries rely on human muscle power for energy? How close together do people live? What energy-intensive industries operated there?

Can You Do Without Your Electric Can-Opener? Show the film *Living the Good Life*, then discuss the virtues of energy-efficient lifestyles. What would we lose? What would we gain?

Destination: Energy Mecca. Many other countries rely much more heavily on mass transit than we do. Using a map showing transportation routes in your area, discuss ways of reaching destinations chosen at random by various means of transportation. What are comparative costs? Time differentials? Convenience comparisons,? Could the public transportation system be improved? Involve a public transportation official and, if possible, an expert on mass transit in other countries in the discussion.

Tin Lizzies: Then and Now. Compare car advertisements from newspapers and magazines of 30, 20, and 10 years ago with car advertisements now. What features were stressed in the past? Now? When did fuel economy enter the picture? Ask a long-time car dealer to speak to the group about changes in buying patterns and his sales techniques.

Give Me Land, Lots of Land. Invite a historian, a philosopher, and a religious leader to discuss the effects of the frontier on the American psyche. How will an energy shortage, and corresponding realization of limits, affect our feeling of endless possibility? Will it cramp our minds and souls? How did the feeling we could always "move on" lead to our exploitation of nature? Will the energy shortage force us into greater harmony with nature?

8 The International Politics of Energy

"OPEC calls the political tune, threatening to force profound changes in policies of a society [the United States] unable to curb its insatiable thirst for energy, and even in that society itself." John K. Cooley

Colonel Muammar Gaddafi of Libya: "The more oil we store in the ground, the better it will be for us."

The Shah of Iran, 1973: "Oil is a noble product which must be put to noble uses."

Background

From the Courses by Newspaper Reader

• See "U.S. Energy Policy in the World Context" by Energy Policy Project of The Ford Foundation; "International Energy Problems" by Richard B. Maneke; "Energy and International Politics" by Mason Willrich.

From Popular Periodicals

• "OPEC's Painful Squeeze," *Time*, July 9, 1979, pp. 12–16: an analysis of the impact of OPEC's 1979 price rise for petroleum on industrial nations. In the same issue are several other stories on the gasoline crisis, including "And the Gas Lines Grow," pp. 14–20; "Red Tape and More Red Tape" (allocation foul-ups), p. 20; "How to Counter OPEC" by Marshall Loeb, p. 23, a *Time* essay.

• "Who's to Blame for the High Price of Oil?" Anthony Sampson, *New Yorik*, July 9–16, 1979, pp. 64–69: warns against the West becoming the victim of an "energy casino."

• "OPEC Issues of Supply and Demand," Ragaei El Mallakh, *Current History*, March, 1978, pp. 125–127, 138: relates pricing to demand and supply, emphasizes common interests of OPEC and other nations.

• "Squabbling Starts Over Who Gets the Oil," *Business Week*, March 5, 1979, pp. 29–30: international alarm over OPEC cutoff of oil.

Books to Review

• *Middle East Oil and the Energy Crisis*, Joe Stork, New York: Monthly Review Press, 1975: how governments and oil companies have manipulated the politics of energy.

• *The Arabs, People and Power*, editors of the Encyclopaedia Britannica. New York: Bantam Books, 1978: brief, readable summaries of Arab energy politics.

Suggested Discussion Questions

• How are oil-producing nations dependent on their markets? Why do they control oil export and prices so rigorously?

• How have multinational oil companies affected the producer nations? Is the resentment felt by some Arab governments against these companies justified? Would it be possible to produce and distribute oil efficiently without these companies?

• Should the United States nationalize its oil and coal industries? What would be the advantages and disadvantages of such a move?

• How important will fossil fuels be in the year 2000? How does this affect the international situation?

• Should the United States seek total energy independence? Is this possible or desirable? Is the interdependence of the world's nations an accomplished, irrevocable fact?

Program Suggestions and Resources

What If a Miracle? Divide the group into smaller sections of five or six each to write scenarios based on the premise that a new source of energy, economically competitive with oil, has been developed. What will happen to change political balances among Israel, Arab states, Mexico, Japan, Europe, and the United States?

Acting Out the Oil Drama. View the movie *The Bottom of the Oil Barrel*, then choose members of the group to take on roles: a politician from an oil-rich Arab nation; an executive from a multinational oil company; a gas station owner; an "average guy" who drives. The four players would be invited to act out a meeting in which the gasoline crisis is being discussed.

Control or De-Control? Stage a debate between an oil company representative and an economist or government official on the question of whether the United States should allow domestic oil prices to rise to world levels.

Almanac of "Nations." After viewing *Controlling Interest: The World of the Multinational Corporation*, engage the group in creating a description of one of the oil companies as if it were a nation. What would be that "nation's" stance on political issues of the day? You might choose several specific issues from a weekly news magazine to discuss in these terms.

The Other Side. Invite a member of an Arab nation or the Mexican consulate to present his or her nation's views on oil production, pricing, and distribution. What are attitudes about American greed?

A Different State of Mind. Ask a sociologist or cultural anthropologist to discuss with the group how Arab attitudes differ from those of Westerners and how both groups can better understand each other. A group of Arabs might be asked to contribute to the discussion following the speech.

9 The Global Lifeboat: Energy and the Third World

"... Are the tropical countries condemned forever to stay in pre-scientific poverty? ... The crucial questions concern energy and materials, which are the limiting factors in getting richer.... Unless, therefore, there is continued expansion of scientific knowledge and know-how in useful directions, the prospects for the tropics—the so-called 'third world'—are not very g d." Kenneth E. Boulding

Thomas Vrebalovich, scientific affairs counselor at the U.S. Embassy in New Delhi, has said about the unsanitary, polluting cakes of cow dung used for fuel, "Women cook with that dung, and it's just lethal." Being substituted for the cow dung cakes is gobar gas, made in home plants that convert manure into fuel.

Background

From the Courses by Newspaper Reader

- See "Lifeboat Ethics" by Garrett Hardin; "The Global Politics of Resource Scarcity" by Lester R. Brown; "The Human Prospect" by Robert L. Heilbroner; "The Oil-Dependent Developing Countries" by Helen C. Low.

From Popular Periodicals

- "Forest Renewal in India," Erik Eckholm, *Natural History*, June/July, 1979, pp. 12–27: how one Indian state is replenishing its forests to assure its fuel supply.
- "Oil-Poor Developing Countries," Feraidoon Shams B., *Current History*, March, 1978, pp. 109–112, 131: how poor countries without energy reserves are hard-hit by the energy crisis.
- "China's Energy Resources," Chu-Yuan Cheng, *Current History*, March, 1978, pp. 121–124, 136–138: why China has been immune to the effects of rising energy prices.
- "Wood Famine in Developing Nations," *Science News*, February 24, 1979, p. 119: a discussion of Erik Eckholm's Worldwatch report on deforestation.
- "No Room in the Lifeboats," Richard J. Barnet, *New York Times Magazine*, April 16, 1978, pp. 32–38: What is our responsibility toward developing nations?

Books to Review

- *Managing the Commons*, Garrett Hardin and John Baden. San Francisco: W. H. Freeman and Company, 1977, a penetrating analysis of the "tragedy of the commons."
- *The Challenge of World Poverty*, Gunnar Myrdal. New York: Random House, 1971, a famous book on world poverty, still relevant.

Suggested Discussion Questions

- What human qualities need to be encouraged if we are to think like a "global family"? Is it possible to achieve this ideal?
- What is the impact of the modern world on Third World nations? Is it possible for those nations to continue their way of life, ignoring the industrial nations? If so, how?
- Do developing nations have a right to a share of the world's energy supplies proportional to their populations? Why?
- How does world-wide energy shortage affect the world food supply? The international money system? Political matters?
- Do you agree with Boulding's statement in the CbN article, "If there had been no coal, oil, or natural gas... there probably would be no automobiles"?

Program Suggestions and Resources

In the Lifeboat. Have some members of the group with a flair for drama put together a lifeboat skit. Have several of them take on the roles of passengers in the boat: citizens of industrial nations, executives with multinational corporations. Ask two or three of them to act as citizens of developing nations trying to get into the lifeboat. Then have the actors change roles. Follow with the film *We Didn't Want It to Happen This Way.*

The Disappearing Jungle. Invite a biologist or ecologist to speak to the group about the impact on the world of the loss of jungles and forests. What besides renewable fuel sources are lost? How do forests and jungles contribute to our knowledge of chemicals, especially medicines? How does deforestation affect climate?

Ask the Guy Who's Been There. Invite a person who was a member of the Peace Corps and an anthropologist to discuss the effects of high-energy technology on poor nations and the possibility of developing solar and other soft energy sources.

Passing Sentence. Engage the members of the group in a debate on the question of whether tropical coun-

tries are condemned forever to remain in pre-scientific poverty. Ask a political scientist and an economist to act as consultants.

What Is Our Obligation? Invite a theologian or an ethicist to lead a discussion of the obligation of rich, industrialized nations toward the developing countries. Are we entitled to rob them of their resources? Should we share energy supplies with them?

10 Conventional Fuels in Transition

"... the transition period we are entering will require major changes in individual as well as social and economic behavior. We are clearly faced with the kinds of difficult choices all societies would rather duck, but ducking is no longer an available option." Don E. Kash

About the extraction of the petroleum trapped in tar sands in the Orinoco Heavy Oil Belt of Venezuela, John E. Swearingen, Chairman of the Board of Standard Oil Company (Indiana), said, "We have the energy to extract that oil. All that is required is that we be willing to pay the price for its development."

Background

From the Courses by Newspaper Reader

- See "Lines of Attack" by Hans H. Landsberg; "The American Coal Industry" by Richard Newcomb; "Getting More Oil" by Norman Metzger; "OCS Development" by Don E. Kash.

From Popular Periodicals

- "Hope on Wheels: New Cars for the Gasless Era," Douglas Bartholomew, *New York*, May 21, 1979, pp. 38–42: the story of Citicar, alternative to gas guzzlers.
- "World Oil Production," Andrew R. Flower, *Scientific American*, March, 1978, p. 42–49: results of a two-year international study pointing to oil shortages before the year 2000.
- "The United States Oil Industry," Robert W. Ryecroft, *Current History*, May/June, 1978, pp. 193–197, 225–226: the petroleum demand-supply problem and effects of government regulation. (See also "The Natural Gas Industry," Robert S. Pindyck, same issue, pp. 215–217, 229.)
- "Now the Heating Fuel Furor," *Time*, June 18, 1979, pp. 52–53: why some resentful Europeans call the United States a petro-pig for putting a $5 per barrel subsidy on imported deisel.
- "The Carbon Dioxide Question," George M. Woodwell, *Scientific American*, January, 1978, pp. 34–43: addresses the question of whether forests and oceans can compensate for carbon dioxide emitted by coal-burning and other human activities.

Books to Review

- *Our Energy Future: The Role of Research, Development, and Demonstration in Reaching a National Consensus on Energy Supply*, Don E. Kash, et al. Norman, Oklahoma: University of Oklahoma Press, 1977: a comprehensive look at energy research in the United States.
- *Mexican Oil and Natural Gas*, Richard B. Mancke. New York: Praeger, 1979: how Mexican oil production will change the supply of oil and the balance of world trade as well as the economic development of Mexico.

Suggested Discussion Questions

- What balance of conservation, extraction of coal and oil, and use of other energy supplies do you favor for the United States in this transition period? Do you agree that solar energy as a viable energy source is "decades away," as Don Kash says in his CbN newspaper article?
- What are the detrimental effects of coal on the environment? What should be done to protect coal miners? How much life should be sacrificed to bring us more energy?
- Who should compile official government figures on United States coal and oil supplies and reserves? Most of the oil in the United States is found on government land. Does this give the government the right to control its production and distribution?
- Should the United States government encourage building of new oil refineries and expansion of old ones through tax incentives? Who should decide where refineries go—the public, local government, state government, or federal government?

Program Suggestions and Resources

Greenhouse in the Sky. Ask a meteorologist to discuss the effects of the burning of coal on the atmos-

phere. Are there any advantages—at least in the long-term—of the so-called "greenhouse effect"? What are the disadvantages? After the discussion, show *Coal, The Other Energy.*

Thanks, Dinosaurs! Invite a geologist or paleontoi ogist to explain the origins of fossil fuels and ways of obtaining them. Why are they becoming scarcer? What are the problems in obtaining them from new locations?

Policy Writing. Have the group draft an energy policy for the United States from now until 2000. What will be the effects of the policy in 1990 on the environment and lifestyle of Americans? In 2000?

Defend Yourself, Oil Tycoon! Arrange a debate between an oil company representative and a member of an environmentalist group on the impacts of oil drilling and pipelines on the ecosystem.

How Do They Rate? If you are keeping an Energy Ratings Chart (p. 14), add coal and oil statistics from Don Kash's CbN newspaper article and other sources.

Who Should Bear the Brunt? Ask a theologian and/or a political scientist to discuss the question of how much one segment of society (for instance, people living around a proposed refinery) should suffer a lower quality of life to insure adequate energy supplies for a larger segment of society. Should we just look at the numbers: so many hours of a coal miner's life in exchange for so much coal as opposed to so many hours of an oil driller's life for so many barrels of oil? What about the minutes of life we all sacrifice in terms of increased pollution to bring more energy? Will the statistics blunt our perception of the sanctity of human life?

11 Nuclear Energy: A Faustian Bargain?

"I myself have referred to nuclear power as a 'Faustian bargain.' By this I meant that nuclear power (in the so-called breeder reactor) confers on mankind an inexhaustible energy source. In return, mankind must exert continuing vigilance, and attention to detail, in handling the nuclear system so as to avoid harm." Alvin M. Weinberg

Dr. Jerry Cohen of Lawrence Livermore Laboratories has said, "Somehow there is a feeling that a man killed by a street car isn't as dead as a man killed by radiation."

Background

From the Courses by Newspaper Reader

• See "Social Institutions and Nuclear Energy" by Alvin M. Weinberg; "Nuclear Energy—Salvation or Damnation" by E. F. Schumacher; "The Plutonium Economy: A Statement of Concern" by Committee of Inquiry of the National Council of Churches of Christ in the U.S.A.; "Nuclear Power—An Uncertain Future Grows Dimmer Still" by William J. Lanouette.

From Popular Periodicals

• "The Promise and Peril of Nuclear Energy," Kenneth F. Weaver, *National Geographic*, April, 1979, pp. 458–493: a comprehensive article on all aspects of nuclear power.

• "Fear and Trembling: Some Myths Exploded," Jessica Holland, *New York*, July 2, 1979, p. 60: what did Three Mile Island workers fear most after the accident?

• "Will the Nuclear Bubble Burst?" *The Nation's Business*, May, 1979, p. 35: an optimistic look at the future of nuclear energy, post-Harrisburg.

• "Trading in Nuclear Futures," Mark Hertsgaard, *Mother Jones*, June, 1979, pp. 18–24: examines some possible reasons for President Carter's endorsement of nuclear power after the Three Mile Island accident.

• "Pediatrician, Mother, Activist—Helen Caldicott: The Voice the Nuclear Industry Fears," Katie Leishman, *Ms.*, July, 1979, pp. 50–51, 92–93: a portrait of the doctor-activist, who is against nuclear power because of its effects on health.

• "The Harrisburg Syndrome," Samuel McCracken, *Commentary*, June, 1979, pp. 27–39: an argument that weighs nuclear power against other energy sources and finds it good.

Books to Review

• *The Fight Over Nuclear Power*, Fred H. Schmidt and David Bodansky. San Francisco: Albion Publishing Company, 1976: a balanced account of the controversy on nuclear power.

• *Nuclear Science and Society*, Bernard L. Cohen. Garden City, New York: Anchor Science Study Series, Anchor Press/Doubleday, 1974: how nuclear energy is produced and its impact.

Suggested Discussion Questions

- Do you believe that some of our nuclear power plants are "atomic lemons," as suggested in the *Wall Street Journal* after the Three Mile Island accident? To what degree can training of plant operators solve problems? Redesign of reactor components? Increased government control?
- Do you agree with Alvin Weinberg's suggestion in the CbN newspaper article that nuclear power plants should be concentrated in heavily guarded centers? What are the dangers and benefits inherent in this plan? What will necessary security measures do to individual liberties?
- What are the risks and benefits of nuclear energy?
- What is you opinion on the problem of radioactive waste? Have claims of its dangers been exaggerated? Should the United States accept responsibility for disposal of nuclear wastes from other countries?
- To what degree is fear of nuclear power related to fear of the atomic bomb and nuclear war?

Program Suggestions and Resources

Dare We Copy the Sun? Show the film *Lovejoy's Nuclear War*. Invite a psychologist or sociologist to lead a discussion of nuclear fear: the roots of emotional reactions to nuclear power, the actual basis in reality for such fears. Ask members of the group to contribute summaries of their changing attitudes concerning the splitting of the atom, which releases energy for war and for peaceful uses. Are there generational differences in attitudes?

No Nukes Is Good Nukes? Invite a member of a pro-nuclear group and a member of an anti-nuclear group to debate the question of whether nuclear power plants should be shut down. Do we need nuclear power to meet our energy needs? How safe is it? What about the problem of nuclear waste disposal? Terrorism? Earthquakes? Low-level radiation?

Where It's Happening. Arrange a field trip to a local nuclear power plant. Before you leave, have the group determine questions to ask officials, e.g.: What training are operators given? How much power does the plant generate? What have been the effects of the Three Mile Island accident on plant operation?

Ratings. If you keep a Ratings Chart (see page 14), fill in the section for nuclear power. Invite someone from your local utility company, a government representative, and an anti-nuclear-power group representative to supply data. Question them about the bases for their facts.

Getting Some Rays. Find a listing of the millirems (measures of radiation) of exposure to radiation humans receive from various sources and ask members of the group to estimate their yearly total exposure. Is it within safe limits? You might invite a medical researcher or physician to advise on the dangers of radiation.

Nuclear Drama. Try to arrange for your group to attend a showing of the film *The China Syndrome*. Follow with a meeting that includes a refutation of the movie's premise by a proponent of nuclear power.

The Ethical Questions. Invite a theologian, statistician, and philosopher to discuss ethical considerations in the use of nuclear power. Is it right to jeopardize the lives of future generations with radioactive waste? Is it right to insist on a no-nuclear power stance when nuclear power is relatively nonpolluting—unless there is an accident? If the statistics are right—that there is only a very small chance of nuclear accident—then why are we so horrified at the thought of a large group of people being killed, even if the possibility is remote, when so many are killed in automobile accidents every year? Is there something in the human being that recoils at the possibility of mass, concentrated death and not at random deaths, even if the numbers are equal? Why?

12 Solar Energy and "Appropriate Technologies"

"The concept of the conservation economy and the solar transition is not a radical or impossible step for our civilization. . . . What is needed is a major national commitment to this goal. The full cooperation of industry, labor unions, citizens and government will make the energy-efficient solar age a reality, not a dream"
Wilson Clark

Fred To, British inventor, said after a successful flight in 1979 in his solar-powered airplane, "Within six years, I'll be crossing the Atlantic in a solar-powered plane."

Background

From the Courses by Newspaper Reader

- See "Soft Energy Paths" by Amory B. Lovins; "Solar Energy: Practice and Prognosis" by Michael C. Noland; "Solar Energy: Still Decades Away" by Walter Sullivan.

From Popular Periodicals

- "Facts About Solar Living," Maura O'Neill and Lola Redford, *Ms.*, July, 1979, p. 49; down-to-earth, concise information about solar energy.
- "Tinkering with Sunshine: The Prospects for Solar Energy," Tracy Kidder, *Atlantic*, October, 1977, pp. 70–83; questions on the practicality of widespread use of solar power.
- *Environmental Action*, May, 1979, the following articles: "It's Time We Saw the Light," Janet Marinelli, pp. 3–5; a call for support for an alternative energy program. "Eclipsing the Solar Inventor," Ray Reece, pp. 6–11; how large corporations are grabbing federal grants. "The 14 Carat Collector," Deborah Berkowitz, p. 8; criticism of the Department of Energy. "Solar on a Shoestring," David Holtzman, pp. 12–14; descriptions of grass-roots energy projects. "Light Years Ahead of Uncle Sam," Valerie Dew, pp. 19–20; state and local efforts in solar energy development.
- "Solar Wall Heats a Gym," Jane Wholey, *Popular Science*, February, 1979, pp. 24–25; story of the building of a passive solar air heater on a New York City community center.
- "Harnessing the Sun," L. Minard, *Forbes*, April 2, 1979, p. 90; France's push toward solar energy explained.
- "The Answer Is Blowin' in the Wind," Sharon Churcher, *New York*, October 23, 1978, pp. 92–93; chronicles the building of a wind turbine and biomass project in the South Bronx.

Books to Review

- *Energy for Survival*, Wilson Clark, Garden City, New York: Anchor Press/Doubleday Books, 1975; a comprehensive look at alternative energy sources.
- *Soft Energy Paths*, Amory Lovins, Boston: Ballinger Publishing Company, 1977; a landmark in energy literature; advocates energy efficiency through use of energy sources best suited to specific purposes.

Suggested Discussion Questions

- According to a recent Harris poll, 94% of the American public favors strong efforts to develop solar energy. If this is so, why do you think the federal government hasn't spent more on solar research and development?
- How would widespread adoption of solar energy affect the distribution systems for power in the United States? Could utility companies afford to supply energy only as backup to home systems—for instance, to handle a surge demand on cloudy days? If power sources were to be decentralized through use of individual solar devices, what would be the effects on individuals? On industry?
- Some experts claim that the developing nations may be quicker than the industrialized world to adopt wide use of solar power. Why might this be?
- What are some of the problems and dangers of solar energy? How soon do you think it will be supplying 20% of the energy in the United States?

Program Suggestions and Resources

Solar Open House. Arrange a visit to a solar house or other facility for which solar energy supplies a major part of the power. You might ask an architect familiar with solar energy devices to accompany the group. What percent of energy used in the house comes from the sun? How much of the system is passive—that is, inherent in the structure of the house? What backup systems are necessary? Are owners happy with the switch to solar?

Treading the Soft Path. Invite a speaker from the Solar Lobby or similar organization to address the group about the advantages of the "soft energy path." You may wish to accompany the talk with a showing of *Energy: The Problems and the Future*, a film that features several soft path projects throughout the world.

Manure Power. Invite a farmer who is involved in converting animal waste to methane or a representative from the Department of Agriculture to describe how such systems work. How much power is gained through such bioconversion? How does it affect the supply of animal waste for fertilizing the fields?

Solar Goes Back a Long Way. Ask a historian to describe some early efforts at using solar power: Xenophon's speculations about solar architecture, Lavoisier's solar furnace, Pifre's solar-powered printing press. You might want to arrange an exhibit of antique solar-powered devices to illustrate, or take a trip to a museum that features the history of technology.

Distribution of Power. Convene a panel consisting of a utility company representative, a solar power enthusiast, and an official of the Department of Energy to discuss "soft path" issues: Should solar-power sources be centralized? How can home-generated power be credited to the homeowner? How feasible is widespread use of solar power in the home and industry?

How Does Solar Rate? Add solar energy to your Ratings Chart, if you are keeping one. (See p. 14).

Sun Worship. Ask a literature or classics professor to discuss the mythology of the sun—Apollo and other sun gods—and the deep-rooted concept of the sun as giver of life. In the discussion following, link our long history of sun worship to the appeal of solar energy.

13 Making Our Own: Synthetic Fuels

"Considerable cunning will be required to get us between the Scylla of energy shortage and the Charybdis of environmental havoc due to energy production and use. A 'Methane Scenario' is now being discussed which could provide a long-term incremental transition from reliance on oil shale and coal petroleum to 'synthetic,' liquids and gas from renewable energy sources.' John H. Gibbons and William Chandler

Floyd Wallace says about his backyard oil refinery, "You put in the garbage at the top and get the gasoline out of the bottom.... All I'm doing is what nature has done for millions of years."

Background

From the Courses by Newspaper Reader

- See "Synthetic Fuels from Coal" by Lawrence Rocks and Richard P. Runyon; "Shale Oil" by John M. Blair; "Gasohol as Energy Source" by Congressional Quarterly, Inc.

From Popular Periodicals

- "OPEC Prices Make Heavy Oil Look Profitable," *Science*, June 22, 1979, pp. 1283–1284, 1286–1287: emphasizes development of Canadian tar sand.
- A series of articles in *Environment*, January, 1979, pp. 25–36, examines sources, processes, advantages and disadvantages: "The Case for Methane," Steve Rattner; "Gas Resources and Reserves," Charles J. Mankin; "Methane from Biomass," Robert Yeeh; "The Economics of Methane," Barry Commoner; "Delivering Methane," Eugene Luntley.
- "Energy from Biomass: Using Organic 'Junk' for Energy," J. K. Hanson, *Current*, February, 1977, pp. 39–42: a discussion of biomass sources from kelp to cornstalks, pilot plants worldwide, economy.
- "Coal Gas: Old Wine, New Bottle," *Science Digest*, February, 1977, p. 77: how the coal gasification process works.
- "Natural Gas: The Search Goes On," Bryan Hodgson, *National Geographic*, November, 1978, pp. 632–651: a comprehensive look at all aspects of natural gas, including extraction from shale.

Books to Review

- *Rays of Hope: The Transition to a Post Petroleum World*, Denis Hayes. New York: W. W. Norton and Company, Inc., 1977: a review of the changing energy picture and an assessment of renewable sources.
- *Energy: Global Prospects 1985–2000: Report of the Workshop on Alternative Energy Strategies*, Carroll L. Wilson. New York: McGraw-Hill, 1977: an appraisal of United States fossil energy resources and an assessment of synthetic fuel processing requirements and their potential.

Suggested Discussion Questions

- What are the costs of various renewable energy sources? Their environmental impacts?
- How will use of biomass for energy affect the food supply? Forests? How will use of these resources affect the Third World?
- Do you agree that motor vehicles could be made more efficient? What do you think of the claims of inventors like Pat Goodman, who says simple water-

injection devices can bring about fuel economy in Detroit-made cars?

• How can garbage from the cities be converted to energy? Why haven't more cities developed methane-gas facilities to convert garbage to energy?

• Should governments offer tax incentives to producers and consumers of gasohol?

Program Suggestions and Resources

The Midas Touch with Garbage. Invite an official from a city that converts garbage to methane to talk to the group about how the program was created and how well it is working. Could such a facility be put into operation in your community (if one hasn't already)? What are the costs? How much energy could be supplied? How would it be delivered?

Manure-Burning Cars? Heat from the Ground? Show and discuss the films *Bates' Car* and *Bill Loosely's Heat Pump*. Are such devices really feasible? Why aren't more people using them? What incentives might spur more such inventions and their widespread use? If an inventor of a like device lives in your area, you might invite him or her to address the group.

Gas from Coal? Oil Shale? Arrange a debate between an environmentalist and a coal and/or oil company representative on the environmental costs of extracting methane gas from coal and/or oil shale. Do the benefits outweigh the costs? How can the environmental damage be minimized?

How Do Renewable Sources Stack Up? If you are keeping an Energy Ratings Chart, add the renewable sources. What is energy expenditure to extract the energy? Can these sources substitute for oil? How do they compare with direct solar energy?

Ethical Considerations. Ask a theologian or ethicist to discuss with the group the benefits and disadvantages of biomass conversion and extraction of oil from shale. Is use of renewable energy sources more ethical than consumption of fossil fuels? What if extracting the energy causes pollution? Or if material used to create energy might have instead fed someone who is hungry?

14 More Through Less: Effective Energy Use

"We could lead lives as rich, healthy, and fulfilling—with as much comfort, and with more employment—using half the energy now used. Continuation of our current wasteful course is spherically senseless: It doesn't make sense no matter how you look at it." Denis Hayes

A member of the Texas Railroad Commission recently said, "This country did not conserve its way to greatness. It produced itself to greatness."

Background

From the Courses by Newspaper Reader

• See "The Case for Conservation" by Denis Hayes; "A National Energy Conservation Policy" by John H. Gibbons and William U. Chandler; "Energy and Jobs" by Andrew Brimmer.

From Popular Periodicals

• "Constraints on Energy Conservation," Willem Van Gool, *Physics Today*, March, 1979, p. 9: a technical appraisal of the capital and energy trade-offs in conservation investments.

• "Power to Save," M. Shiels, et al., *Newsweek*, February 26, 1979, pp. 63–64: A look at energy conservation in industry.

• "The Logic of Energy Conservation," Lee Schipper and Joel Darmstadter, *Technology Review*, January, 1978, pp. 40–50: a sophisticated but readable examination of conservation of energy and other resources in home and industry; the effects of chains of distribution on energy expenditure.

• "Conservatopia, U.S.A.," David Talbot, *Mother Jones*, August, 1979, pp. 37–41: how one community has made a concerted effort to save energy.

• "Home Energy Guide," Harry Wicks, et al., *Popular Mechanics*, September, 1977, pp. 115–146: 101 ways to beat home energy costs, with how-to-do-it directions on how to make energy-saving devices, a section on solar energy, and a discussion of new technologies.

Books to Review

• *Energy: The Case for Conservation*, Denis Hayes, Washington, D.C.: Worldwatch Institute, 1976: an examination of U.S. opportunities for improving energy-use efficiency.

• *Jobs and Energy*, Richard Grossman and Gail Daneker, Washington, D.C.: Environmentalists for Full Employment, 1977: a study that concludes that

investments to save energy create more jobs than do investments in new energy production facilities.

Suggested Discussion Questions

- What specific incentives and penalties could the federal government use to encourage energy conservation? What might be the effects of such incentives and penalties on employment and the consumer?

- Do you agree with Denis Hayes' newspaper article that we can reduce energy consumption without reducing economic output? How?

- In what ways does waste in packaging contribute to energy shortages? Should companies be penalized for wasteful packaging by government regulation? Should laws force soft drink companies to use returnable bottles rather than disposable ones?

- How can individuals conserve energy? How does recycling of newspapers, glass, and aluminum cans save energy? (*Note:* It costs less to process scrap than to start with new materials.) How are processed foods energy-wasters? How much convenience can—or should—be sacrificed for conservation? Are we obligated to save energy? Is planned obsolescence of manufactured goods morally justifiable in a period of energy shortages? Why?

Program Suggestions and Resources

Building Inspection. With an energy-conscious architect, take a trip through the building in which you hold your meetings to determine improvements that could be made to conserve energy. (Members of the group might do a similar survey of their own homes, after the meeting is over.) If there is time, ask the architect to discuss how architectural design can save energy.

How Does It All Work? Invite a representative, perhaps an engineer, from a factory using an energy-saving practice like cogeneration to explain the process to the group. Is the company satisfied with it? What was its cost? How long will it take before it pays off? If there is time, perhaps a field trip to the factory might be arranged.

Recycling: Is It Worth It? Convene a panel consisting of a junk dealer, metallurgist, economist, and environmentalist to discuss recycling of materials. How much energy does recycling save? What are the disadvantages? How can citizens recycle their bottles, newspapers, and cans?

Which Wheels to Use? View the film *Regina Telebus,* which describes a small-bus transit system. Would such a system work in your community? Develop a list of ways of saving energy in transportation, using suggestions from the group. You might use information from Amtrak on energy-efficiency of various transportation modes as an additional source (p. 44).

Consumer-Addict Anxiety. Ask a psychologist to discuss with the group the anxiety engendered in changing from a consuming society to a non-consuming one, from plenty to scarcity, from waste to conservation. How can individuals deal with such anxiety? How can they change their attitudes? Is consumption a kind of addiction? What psychological factors are involved in a throwaway society's need to waste?

Conservation Brainstorm. With the group make a list of the ways our society can save energy. Examples: vertical cities, natural products rather than artificial ones used in manufacturing (e.g., cotton instead of polyester), energy-efficient buildings (windows, not air-conditioning), garbage-to-methane conversion plants, composting, hand labor rather than machine labor.

15 Choosing Our Future: Choices and Tradeoffs

"The decisions we make today regarding the energy paths we choose to follow will alter the patterns of our lives—where and how we live, work, play, and think—our values and our institutions.... In the short run we will rely chiefly on conservation; in the longer run we will count on a 'technological fix.'... Each of these solutions holds forth promises—and problems." *Melvin Kranzberg*

"Of evils we must choose the least," said Aristotle (384–322 B.C.)

Background

From the Courses by Newspaper Reader

• See "Looking Sidewards" by Norman Metzger; "Technology and the National Energy Plan: Offense or Defense?" by Gould, Inc.; "Energy and the Future: Research Priorities and Energy Policy" by Allen L. Hammond, William D. Metz, and Thomas H. Maugh II; "The Risks of Growth" by Richard Zeckhauser; "The Choice Is Ours" by Energy Policy Project of The Ford Foundation.

From Popular Periodicals

• "New Technologies for Tomorrow," Jack McWethy and Lowell McKirgan, *Current,* January, 1978, pp. 8–16: summary of new energy research including solar cells, thermonuclear fusion, "hot rocks," and gasohol.

• "Stretching Electricity," Jean A. Briggs, *Forbes,* March 19, 1979, pp. 86–88: the story of the development of a unit that smooths peaks and valleys of electricity demand, with the potential to cut the demand for oil by 200,000 barrels a day.

• "Costly, Complex—and Vital," "Impact of Dozen-Digit Spending," and "Lighting Up Synfuel's Future," *Time,* July 30, 1979, pp. 52–61: possible repercussions of President Carter's July, 1979, energy proposals.

• "Anxiety, Uncertainty, and Energy," Kenneth E. Boulding, *Society,* January, 1978, pp. 28–33: suggests a "technological lottery" to help solve energy problems.

• "Energy Shortage at DOE," Janet Marinelli, *Environmental Action,* November 4, 1978, pp. 12–14: a critical review of the performance of the Department of Energy in its first year.

• "Energy: Roots of the Problem, Seeds of the Solution," John F. Houlihan, *Intellect,* December, 1977, pp. 237–240: stresses the fact that we are faced with a shortage of "cheap supply" rather than "absolute supply"; suggests an energy plan.

• See also entire July/August, 1978, issue of *Current History* for articles analyzing energy problems, alternative energy sources, government policy on energy.

Books to Review

• *World Energy Survey,* Ruth Leger Sivard. Leesburg, Virginia: World Priorities, 1979: a data-filled, thoughtful analysis of the world energy situation in 1979 with projections and scope for action in the future.

• *Energy Future: The Report of the Harvard Business School Energy Project,* edited by Robert Stobaugh and Daniel Yergin. New York: Random House, 1979: what seven Harvard Business School professors have to say about our energy future—after a six-year study; a strong statement in favor of conservation and solar energy development.

Suggested Discussion Questions

• If the nation were to adopt an energy policy favoring the "hard path," what would be the effects on the environment? On industry and workers? On consumers? Long- and short-term effects?

• If the nation were to adopt an energy policy favoring the "soft path," how would it affect the environment? Industry and workers? Consumers? Long- and short-term effects?

• How would the adoption of a "hard path" policy change American values? "Soft path"?

• Do you believe we can solve the energy problem? How? Through technology? Conservation? Exploitation of renewable resources? Solar power?

• How much pollution are you willing to accept in exchange for more energy?

Program Suggestions and Resources

Have Opinions Changed? Bring to the group the questionnaires they filled out in the first meeting (if, indeed, they did so), pass them out, then evaluate with the group any changes in thinking they have experienced. What was responsible for those changes? Information garnered from the newspaper series? From other sources? (If your group did not fill out the questionnaire, you might conduct an evaluation procedure now.)

Rating the Ratings Chart. Evaluate the Ratings Chart if the group has been keeping one. Which

energy source is the cleanest? Least dangerous? Most cost-effective in terms of energy used to obtain energy? Most available now? In the future? What energy source (or combination of sources) should be exploited to meet our energy needs?

Self-Sufficient in the City. View the film *Down-to-Earth City Living* or *A City Farmstead*. Do such projects provide at least a partial answer to the energy crunch? How many of the practices shown in the film do members of the group use? Invite someone from a similar nearby project—perhaps a commune or a self-sufficient farm or energy-recycling utopia—to talk to the group about the advantages and disadvantages of attempting to live in such a way.

Scenario Crystal Ball. Have the group develop two or three scenarios (perhaps the whole group might be broken up into sub-groups, each taking on one scenario) based on energy plans of three kinds: "hard path," "soft path," "compromise." What would be the effects of each in the next year, in ten years, in fifty years?

Who Should Decide? Invite a panel to discuss the formulation of energy policy for the United States. You might include a historian, a sociologist, a philosopher, a theologian, a statistician, an economist, an environmentalist, an engineer, a power company representative, a businessman, and a government official. What might each contribute to energy policies? What role should ethical considerations play? Effects on the poor? On future generations? On workers? On lifestyle? How much should the Third World be considered? Can well-informed non-technical humanists give the kind of input needed in formulating energy policy? How? How can the electorate become better informed on energy issues?

SECTION THREE

Resources

This section has two parts. Part One is an annotated list, in alphabetical order, of national organizations, foundations, agencies, and groups that focus on energy-related issues. Part Two is a list of State Humanities Offices.

Part One: List of Organizations, Agencies, and Groups

These groups offer materials such as brochures, booklets, books, films, and slide presentations free or for sale. Some are sources for speakers. Don't forget local sources: libraries, businesses, factories, power plants, unions, and ad hoc organizations formed around a specific issue (e.g., opposition to the building of a refinery).

Agency for International Development
Office of Public Affairs
Washington, DC 20523

A branch of the Department of State, the Agency for International Development administers most of the foreign economic assistance programs of the U.S. The energy needs of developing countries are among its concerns.

Arrange for speakers through Speaker Services Staff at the above address; you pay for travel expenses, local transportation, and lodging.

Agenda, a periodical issued by AID, is available free through the Press and Publications Division. To obtain a copy of the brochure *AID's Challenge in an Interdependent World*, write to the Office of Public Affairs.

Alternative Energy Resources Organization (AERO)
435 Stapleton Building
Billings, MT 59101

A nonprofit organization that promotes intelligent use of renewable enegy sources, AERO sponsors a traveling show, New Western Energy Show (theater, workshops, exhibits of energy devices), that covers Montana. (If you live in Montana and wish to book the traveling show, write to New Western Traveling Show, 226 Power Block Building, Helena, MT 59601.) AERO also lobbies and works with local committees in communities seeking energy self-reliance. Membership ($10/year) includes a subscription to the monthly newsletter, *AERO Sun-Times*, and discounts on materials.

Write to the Billings address to order materials:

Single copies of *AERO Sun-Times*, $1.25.

The Energy Show, a book of scripts, with music, drawings, and photographs, $3.30.

Mountain/Prairie Energy Vision, a set of 4 posters showing renewable energy systems being used in a variety of situations, $3.75 per set.

A film, *The New Western Energy Show*, shows the traveling troupe on stage and behind the scenes: rental, $40.00 for three days; purchase, $475—from the Helena address.

American Association for the Advancement of Science
1776 Massachusetts Avenue, N.W.
Washington, DC 20036

The American Association for the Advancement of Science was founded in 1848. It publishes *Science* magazine, was instrumental in developing NOVA (a weekly television series produced by WGBH/Boston for PBS), and has developed other programs in science education.

Its catalog, available from the above address, lists periodicals, books, tapes, and reprints. The following may be ordered from AAAS Publications Sales, Department Q, 1515 Massachusetts Avenue, N.W., Washington, DC 20005.

Energy: Use, Conservation, and Supply, edited by Philip H. Abelson; hardcover 0-87168-213-3, $10.00; paperback, 0-87168-223-0, $3.50 (anthology of articles from *Science*).

Energy and the Future, by Allen Hammond, William Metz, and Thomas Maugh II; 0-87168-211-7, $9.00 (a look at the scientific and technological basis of the energy problems we have been facing).

Renewable Energy Resources and Rural Applications in the Developing World, edited by Norman L. Brown; 0-89158-433-1, $12.50.

Solar Energy in America, by William D. Metz and Allen L. Hammond; hardcover, 0-87168-301-6, $18.50; paperback, 0-87168-238-9, $8.50.

Tapes are available from AAAS Cassettes, CEBAR Communications, Inc., 2735 Central Street, Evanston, IL 60201. They include:

358-77T *Fusion Power—Its Promises and Prospects*, $9.

223-76T *Energy and Food Production: Contemporary Technology and Alternatives*, $36.

250-76T *Oil from the Oceans, Premises and Prospects*, $18.

252-76T *The Optimal Use of Nonreplenishible Energy Resources*, $18.

275-76T *Solar Energy: An Interdisciplinary Societal Opportunity*, $36.

79T-4381 *Long-Term Energy Transition: Implications for Alternative Energy Strategies*, $32.

American Gas Association
1515 Wilson Boulevard
Arlington, VA 22209

American Gas Association is the national trade association for about 300 gas transmission and distribution companies, which account for about 85% of all gas delivered in the United States. It is a clearinghouse of information on gas energy, is a catalyst for technical and energy policy matters, and speaks for the industry on national issues. Write to William Miller at the above address for information on the AGA Speakers' Bureaus. Publications and kits, largely inexpensive, are available through the Order and Billing Department, minimum order $5.00. Examples:

Do You Know How to Save Energy? (N00150), a Quizmatic game, with board and 50 flyers, $10.00.

History of Natural Gas (N00430), comic book; 1–4 copies, 6 cents each; 5 or more copies, 4 cents each.

Natural Gas—Science Behind Your Burner (N00010), educational kit with filmstrip and worksheets, wall map, wall chart; $1.75.

The Story of Natural Gas Energy (N00480), 1–99 copies, each 50 cents; 100 or more copies, each 45 cents.

Newsletters, all 10 cents each for 1–99 copies, 7 cents each for 100 or more:

Coal Gasification (N00665)

Drilling for Energy Offshore (N00670)

Energy Balances (N00685)

Energy Conservation (N00680)

Fuels from Biomass (N00675)

Liquefied Natural Gas (N00660).

Natural Gas Energy and the Environment (N00650).

Natural Gas from Unconventional Sources (N00655).

This newsletter is free: *Synthetic Natural Gas from Peat* (N00690).

Free from the Public Information Division are studies and analyses such as:

"A Forecast of the Economic Demand for Gas Energy in the U.S. Through 1990," 2/79.

"A Comparison of U.S. and World Remaining Gas and Oil Resources," 1/79.

"Prospects for Using Natural Gas in Light Transportation Vehicles," 12/78.

"An Economic Comparison of Gas/Solar House Heating Systems versus Electric/Solar Systems," 9/78.

Films from the AGA include:

Pipeline People (G80069), 13 minutes, color, sound, 16mm; $75.00, purchase.

A Well in West Virginia (N80040), 15 minutes, color, sound, 16mm; $65.00, purchase; $10.00, preview (deductible if film purchased).

Slides are also available:

The Energy Squeeze (S11075)—conservation of energy in commercial buildings, 41 slides with script, $40.00.

Natural Gas: Today and Tomorrow (G20175)—present conditions and future sources of natural gas, LNG, and SNG, 79 slides with script, $10.00.

Saving Energy and Money, Too (B50280), 75 slides with script and cassette, $50.00.

All these materials except the free studies and analyses are listed in the AGA 1979 Publications Catalog, free on request.

American Institute of Architects Research Corporation
1735 New York Avenue, N.W.
Washington, DC 20006

Founded in 1972, this nonprofit research corporation has conducted more than 60 projects linking architecture and energy. Among its clients have been the Federal Energy Administration and the U.S. Department of Energy. A descriptive brochure describing its work, most of which has centered on solar energy, is available free. Publications of interest to laymen (free list from above address) can be ordered as follows:

From the American Institute of Architects Research Corporation Publications Department, above address, Attn: Rosalie Grattaroti:

Identifying Climatic Design Regions and Assessing Climatic Impact on Residential Building Design, 32 pages, $4.00 (somewhat technical, but informative).

Research and Design, Vol. II, No. 1, Winter, 1978—quarterly publication, $4.00 (issue devoted to passive technology).

Research and Design, Vol. II, No. 2, Spring, 1979—quarterly publication, $4.00 (issue devoted to climate and architecture).

From American Institute of Architects Publications Marketing, above address:

Basics of Solar Heating and Hot Water Systems (#4-RC209), $5.00.

Energy Conservation in Building Design (#4-RC-201), $5.00.

Solar Dwelling Design Concepts (#3-M311), $5.00.

Solar Energy and Housing Design (#4-RC203), $15.00.

From Superintendent of Documents, Government Printing Office, Washington, DC 20402:

Regional Guidelies for Building Passive Energy Conserving Homes (#023-00-00481-0), $5.25.

Solar Heating and Cooling Demonstration Program, A Descriptive Summary of HUD Cycle 1 Solar Residential Projects (#023-000-00338-4), $1.15.

Solar Heating and Cooling Demonstration Program, A Descriptive Summary of HUD Cycle 2 Solar Residential Projects (#023-000-00389-9), $2.35.

Solar Heating and Cooling Demonstration Program, A Descriptive Summary of HUD Cycle 3 Solar Residential Projects (#023-000-00418-6), $3.50.

The American Wind Energy Association
1621 Connecticut Avenue, N.W.
Washington, DC 20009

The American Wind Energy Association, open to anyone interested in wind energy, is a nonprofit corporation established in 1974 to promote wind energy as a renewable and non-polluting energy source and to act as a central agency for information about wind energy. Membership in the association, which costs $25 annually, includes a subscription to the newsletter, *Windletter*.

A brochure, which includes detailed information on the economics of wind energy, other publications, dealers and distributors of wind machines, and the federal wind energy program, is free on request for 1–9 copies; 10–99 copies cost 50 cents each.

Americans for Energy Independence
1629 K Street, N.W.
12th Floor
Washington, DC 20006

Americans for Energy Independence is a coalition of business, labor, academic, scientific, industrial, consumer, conservation, ethnic, and religious communities. It promotes energy independence for the United States, new concepts (especially those which may yield short-term benefits), streamlined regulatory procedures, and realistic environmental safeguards.

Its speakers are provided by National Speaker's Program, Edison Electric Institute, Underwood Jordan Ulrich Associates, 230 Park Avenue, New York, NY 10017.

A list of publications may be ordered from the above address. Examples are:

Position Papers (1–500, 25 cents each):

2. *Energy Conservation Imperatives.*

3. *Jobs and Energy: The Working Relationship.*

4. *Farm to Table: The Food-Energy Link.*

5. *A Statement of Policy* (first copy free, additional 10 cents each).

American Energy Choices Before the Year 2000, Elihu Bergman, Hans A. Bethe, Robert E. Marshak, $8.00.

New Perspectives on the International Oil Supply, edited by Bettina Silber and Elihu Bergman, $3.00—proceedings of a conference sponsored by the AFEI, January 30, 1979.

Reader's Digest Series, set of 6 advertisements by the AFEI, 25 cents.

Atomic Industrial Forum
7101 Wisconsin Avenue
Washington, DC 20014

The Atomic Industrial Forum, composed of organizations and individuals interested in the development and utilization of commercial nuclear energy, is a nonprofit organization which collects and analyzes information for its membership and the public. For speakers, contact Marie Dunkle at the above address.

The organization publishes a monthly newsletter, INFO, free on request. Single copies of brochures can also be obtained free, through the AIF Publications Office:

Insuring Nuclear Risks.

Nuclear Reactor Safety.

Recycling Nuclear Fuel.

Uranium: Energy for the Future.

Protecting Nuclear Power Plants.

Plutonium in Perspective.

The Savings with Nuclear Energy.

How Nuclear Plants Work.

Managing Nuclear Waste.

Shipping Nuclear Fuel.

The catalog *Audio-Visuals on Energy* (free) lists films on nuclear energy in particular as well as on energy in general. Several of the films are available on loan or for purchase through Marge Wasson at Atomic Industrial Forum:

Atomic Power Today (16mm, color, 15 minutes); produced for the U.S. Atomic Energy Commission in 1967, free loan.

Atomic Power Today: Service with Safety (16mm, color, 28 minutes); produced for AIF and the U.S. Atomic Energy Commission in 1966; free loan.

Now That the Dinosaurs Are Gone (16mm, color, 26 minutes); 1974 views of Drs. Ralph Lapp, Norman Rasmussen, and Dixy Lee Ray; $25 rental (also available for purchase).

Nuclear Power: An Introduction (videotape/16mm, color, 18 minutes); 1975 presentation by Dr. E. Lynn Draper: purchase only: 3/4" cassette, 1/2" or 1" open reel, $150; 16mm film, $200.

Nader-Rasmussen Luncheon Debate (videotape, color, 60 minutes); 1976 National Press Club debate; $150, purchase.

The film catalog lists more than 50 items, films and slide presentations produced by government agencies, regional power companies, and film companies.

Bureau of Mines
United States Department of the Interior
2401 E Street, N.W.
Washington, DC 20241

Created by Congress in 1910, the Bureau of Mines is now primarily a research and statistics agency. Speakers are available through State Liaison Officers (see list in their booklet, *The State Liaison Program of the Bureau of Mines*).

Free publications, which you can order through Branch of Publications Distribution, 4800 Forbes Avenue, Pittsburgh, PA 15213, include:

Mining Research (covers environmental effects of coal mining, reclamation technology).

Clean Power from Coal: The Bureau of Mines Citrate Process.

Films are available on loan from Motion Pictures, at the Pittsburgh address; a film catalog is free. Examples are:

The Minerals Challenge, color, 27 minutes.

The Moving Earth—The Story of Mined Land Subsidence Control, color, 27 minutes.

News releases from the Bureau describe research, such as new technologies for gasification from coal and remote recovery of uranium ore. Request current releases through the Washington office.

Bureau of Reclamation
United States Department of the Interior
Washington, DC 20240

The Bureau of Reclamation was established by Congress in 1902 to develop water and related land resources in the arid and semiarid Western United States. One of its purposes is to provide hydroelectric power generation.

Arrangements for a speaker can be made through Carlos Whiting at the above office.

Available free are:

The Third Powerplant—Grand Coulee Dam.

Principal Power Facilities—Western United States No. X-D-4164 (map).

Using Water to Save Oil.

Tying Solar to Hydro.

Solar Energy from Hydropower.

Wind and Water: Partners in Power, Lawrence L. Nelson (reprint from Bureau periodical, *ERA*).

Films may be obtained from Bureau of Reclamation, Film Management Center, Building 67, Denver Federal Center, Denver, CO 80225:

The Story of Hoover Dam, 28 minutes.

Power for a Nation, 28 minutes.

Powerplant, 12 minutes (construction of the Third Powerplant at Grand Coulee Dam).

Center for Energy Policy and Research
New York Institute of Technology
Old Westbury, NY 11568

Established by the New York Institute of Technology to act as a research institution and an information center, the Center for Energy Policy and Research works with public and private organizations to determine the best policies of energy utilization and conservation for the United States. The Center operates a national information clearinghouse for the Energy Extension Service of the U.S. Department of Energy and has aided in the development of a national energy information facility for the Energy and Education Action Center of the U.S. Office of Education.

Write for fact sheets:

Energy Walk-Through Audit—home energy-saving improvements rated in terms of cost and energy savings.

Homeowners Energy Check List—101 Ways to Save Money by Saving Energy.

Two television programs on video cassettes may be available. Check with New York Tech Energy Hot Line (516) 686-7744.

Solar Energy Today, 55 minutes, color. 3/4" video cassette.

Energy Conservation in Residential Construction, 25 minutes, color, 3/4" videocassette.

Center for Renewable Resources/Solar Lobby
1001 Connecticut Avenue, N.W.
Fifth Floor
Washington, DC 20036

After the first Sun Day on May 3, 1978, the Center for Renewable Resources and the Solar Lobby were formed to continue the solar movement. The Center for Renewable Resources has helped to create a nationwide network of local and regional solar advocates and acts as a clearinghouse for solar information. The Solar Lobby concentrates on promoting the cause of solar energy in Washington; it publishes *Sun Times*, which contains advice on how to use solar energy now. Membership in the Solar Lobby is $15 annually and includes a subscription to *Sun Times.*

Publications (a listing is available) may be ordered from the above address; make checks payable to "Sundries" and add 15% for handling. Examples:

Blueprint for a Solar America, a cooperative effort with Common Cause, the Conservation Foundation, Environmental Action, the Environmental Policy Center, the National Resources Defense Council, and the Sierra Club, $2.00.

Sources of Funds for Solar Activists, Anita Gunn, $2.50.

A Survey of Model Programs: State and Local Solar/Conservation Projects, Anita Gunn, $2.50.

A Directory of Federal Sources of Information on Solar Energy, Janet Dierker, $2.50.

Solar Energy Bibliography for Elementary, Secondary and College Students, Beth Wagner, $2.50.

Solar Energy Education Packet for Elementary and Secondary Students, Beth Wagner, editor, $3.75—includes activities (over 25 simple projects showing solar energy at work, for instance) and a bibliography.

Chamber of Commerce of the United States
1615 H Street, N.W.
Washington, DC 20062

A pro-business, anti-inflation watchdog organization, the Chamber of Commerce of the United States is not affiliated with the federal government. The Chamber established Citizen's Choice, a national taxpayer lobby. Energy is one of the issues the group addresses; it promotes productivity through energy and materials conservation.

A newsletter *Resources & Environment* is issued by the Resources and Environmental Quality Division of the Chamber. A Directory of Publications is available. Also available is the Statement of the Chamber on *Oil Price Decontrol* delivered by Harold Short to the Energy and Power Subcommittee, House Interstate and Foreign Commerce Committee, on May 31, 1979.

Citizens' Energy Project
1110 Sixth Street, N.W.
Washington, DC 20001

This is an activist "soft path" group, sponsor of MATNET (Mid-Atlantic Appropriate Technology Network), an association of citizen groups, small businesses, and others who want to promote application of appropriate technologies in the Middle Atlantic states. Write for more information about this group to MATNET at the above address.

Among publications offered by Citizens' Energy Project (a publications list is available) are:

Citizens' Energy Directory, 1979 Edition (annotated listing of more than 600 individuals and organizations working on alternative energy technologies), price not yet released.

Energy: the Solar Prospect, $2.00.

**Solar Economics Revisited*, 60 cents.

**Solar Commercialization*, $1.00.

**Case Against Utility Involvement in Solar Commercialization*, $1.20.

**Solar Cells*, $1.00.

**Homeowner's Guide to Passive Solar*, $1.00.

**Hazards of Solar Energy*, $1.00.

**Solar Power Satellites*, 80 cents.

**Solar Energy and Jobs*, 65 cents.

**Solar and the Poor*, 45 cents.

**Solar Organizing Strategies*, 45 cents.

Solar Compendium—includes all items starred (*) in this list plus more, $7.50.

Solar Timetable, Denis Hayes, $2.00.

Geothermal Energy, 95 cents.

Appropriate Technology Resources, 70 cents.

Bioconversion, 95 cents.

A Guide to Community Energy Self-Reliance, to be priced.

Industrial Energy Conservation, 95 cents.

Appropriate Community Technologies Sourcebook, to be priced.

Nuclear Power and Civil Liberties: Can We Have Both? $7.00.

Direct Action List (anti-nuclear power groups). $1.00.

Wood Energy, 90 cents.

Lifestyle Index, $2.00. (This is discussed in Dorothy Newman's CbN newspaper article, "Our Energetic Lifestyle.")

Concern, Inc.
2233 Wisconsin Avenue, N.W.
Washington, DC 20007

Concern, Inc., whose purpose is to serve as an information resource for environmental issues and raise the public's awareness about them, cosponsored (with the Energy Research and Development Administration) the Bicentennial Solar Exhibit. It is a nonprofit group, funded by annual membership dues, grants, contributions, and sales of its publications. A yearly membership ($15.00) includes current newsletters and pamphlets. The pamphlets, which present concise information on four to eight narrow pages, are available also at $1.00, a complete listing is printed on the back of Concern's descriptive brochure. Among those on energy are:

New Energy Technologies for Buildings.

Federal Energy Resources: Protecting the Public Trust.

Consumer Information Center
General Services Administration
Pueblo, CO 81009

Established in 1970, the Consumer Information Center encourages federal agencies to provide information of interest to consumers and seeks to increase public awareness of that information. Order free publications by marking FREE on the envelope; order publications for sale from R. Woods. The *Consumer Information Catalog* is free and includes publications such as:

Tips for Energy Savers, 610G, free.

Gasoline: More Miles Per Gallon, 518G, free.

Tips for the Motorist, 519G, free.

Rideshare and Save—A Cost Comparison, 512G, free.

Buying Solar, 055G, $1.85.

In the Bank or Up the Chimney? 056G, $1.70.

Council on Environmental Quality
722 Jackson Place, N.W.
Washington, DC 20006

The mandate for the Council on Environmental Quality came from the National Environmental Policy Act. The CEQ provides recommendations to the President and the Department of Energy on environmental matters. Its publications are available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. Pertinent to energy issues are:

Energy and the Environment—Electric Power (PREX14.2:En8/4).

Environment and Conservation in Energy Research and Development: Assessing the Adequacy of Federal Programs (040-000-00373-8).

Oil and Gas in Coastal Lands and Waters (040-000-00386-0).

Solar Energy: Progress and Promise (041-011-00036-0), $2.30.

Critical Mass Energy Project
Post Office Box 1538
Washington, DC 20013

A Public Citizen (Ralph Nader) organization, the Critical Mass Energy Project, a Citizen Action Group, has been active since 1974. Essentially a watchdog organization, it has been involved in several energy-related issues—nuclear energy, energy conservation, and renewable energy sources.

Critical Mass Journal, a monthly publication, sells for 65 cents an issue or $7.50 for an annual subscription.

A list of other publications is available. Among them are:

Citizen Action packet on the transportation of radioactive materials, $1.00.

Nuclear Plants: The More They Build The More You Pay, $5.00.

Energy and Jobs, $1.00.

Starter packet for citizens interested in nuclear energy, $1.00.

Citizen's Handbook on Solar Energy, $3.00.

Edison Electric Institute
1111 19th Street
Washington, DC 20036

A trade association of investor-owned electric utility companies, Edison Electric Institute serves as an information exchange and a liaison link with the government. It has been in existence since 1933.

To make arrangements for EEI speakers, contact EEI National Speakers Program, Underwood Jordan Ulish Associates, 230 Park Avenue, New York, NY 10017.

Single copies of the following publications are free:

You and Your Electric Company, EEI Pub. No. 78-47.

Guide to Wise Use of Energy for Electric Heating and Cooling, EEI Pub. No. 76-1.

Coal, Answers to Your Questions, EEI Pub. No. 78-33.

All-Weather Comfort Guidelines, EEI Pub. No. 76-35.

Emerging Energy Technologies, EEI Pub. No. 78-46.

104 Ways to Control Your Electric Bill, EEI Pub. No. 76-20.

Nuclear Power, EEI Pub. No. 78-24.

Our Energy Problems and Solutions (by Energy Conservation Research).

Five paperback books, the *Decisionmakers Bookshelf* series, are available:

The Transitional Storm, 76-65, $1.95.

Future Economic Growth, L. T. Iglehart, Jr., 77-24, $1.95.

FutureQuest, Robert Theobald, et al., 77-25, $1.95.

We Can Save Ourselves, Lloyd R. Bryant, $1.95.

Ethics and Energy, Fred J. Abate, et al., 79-27A, $2.50.

The following films are available for free preview or for sale from distributors listed with the titles:

Exploring Electric Energy, 16mm, 18 minutes, $200.00 (distributor: Kevin Donovan Films, 44 Treat Road, Box 309, Glastonbury, CT 06033).

Energy Realities, 16mm, 22 minutes, $135.00 (distributor, Film Counselors, Inc., Attn. J. Dalton, 500 Fifth Avenue, New York, NY 10036).

Electric Power Research Institute
1750 New York Avenue, N.W.
Suite 835
Washington, DC 20006

Founded in 1972, the Electric Power Research Institute is voluntarily funded by more than 500 utilities, representing about 80% of the electric power production capacity in the United States. The Institute does research, exchanges information, seeks solutions to environmental problems related to electric power. (Ask for *EPRI, Electric Power Research Institute* for more information.)

Available without charge in quantities up to 100 are reprints from *EPRI Journal* listed in *Information Service, EPRI.* Examples:

Coal: Keystone of Energy Fuels, August, 1977.

Capturing a Star: Controlled Fusion Power, December, 1977.

Spinning a Turbine with Sunlight, March, 1978.

Solar Homes: The Winning Combination, March, 1978.

The Birth and Early History of Nuclear Power, July/August, 1978.

Coal Gasification for Electric Utilities, April, 1979.

Scanning the Research Agenda, January/February, 1979.

Special issues of *EPRI Journals* also are available: *Solar Technology Today,* March, 1978 (C-7), for example.

New Technologies for Electric Energy: A Timetable is a wall poster showing estimated lengths of time for realizing energy options (C-2).

Reprints of speeches by EPRI executives may be ordered free (list in publications catalog).

For information on slide/audio cassette presentations, write the Institute. Among the titles:

Electric Power Research Institute: An Overview.

Solar Program.

Geothermal.

Underground Transmission.

Health Effects and Biomedical Studies.

Energy Task Force
156 Fifth Avenue
New York, NY 10010

Since 1975, the Energy Task Force—a group of energy designers and educators—has been working in outreach projects in urban low-income communities. They have built, with residents of those communities, energy conservation, solar energy, and wind electric systems. They seek to give low-income people skills and information necessary to become more energy conscious, conservation conscious, technologically sophisticated, politically aware, and economically solvent.

You may arrange for a speaker through the Outreach Coordinator at the above address; specify the educational levels and interests of your group as well as a possible topic for discussion.

Single copies of pamphlets and manuals are free:

E.T.F. Report on Escalating Energy Costs of Rent Stabilized Apartment Buildings: The Abandoment Crisis and Its Solution.

How to Stay Warm This Winter (in English and Spanish).

No Heat No Rent.

Windmill Power for City People.

Alternate Currents, a newsletter that reports on energy and technology appropriate for New York City neighborhoods, is free to nonprofit organizations.

Environmentalists for Full Employment
Room 305, 1101 Vermont Avenue, N.W.
Washington, DC 20005

A national organization. Environmentalists for Full Employment believes that safe, socially useful jobs and protection of the environment are compatible goals. Publications include:

Jobs and Energy, Richard Grossman and Gail Daneker. $2.

Jobs and Energy Update, 50 cents.

Jobs and the Environment, unpriced, fall, 1979.

Exxon Company, U.S.A.
Post Office Box 2180
Houston, TX 77001

A multinational corporation. Exxon is primarily a petroleum enterprise, though it is active in developing other energy sources, including coal, tar sand, uranium, and a fabrication plant for nuclear fuel.

For speakers, contact the Public Affairs office at the above address. Free publications are available from the same office:

Coal: Energy Bridge to the Future.

Pocket Data on Exxon and the Oil Industry.

Drive like there's no tomorrow.

Exxon Company, U.S.A.'s Energy Outlook 1979–1990.

Exxon, USA (a quarterly publication).

Free Exxon films are available on loan. Ask for a listing from the above address. Order from Exxon Film Library, Modern Talking Picture Service, Inc., 2323 New Hyde Park Road, New Hyde Park, NY 11040. Examples:

Three E's, #04900, 28 minutes, 16mm, color. (The E's are energy, economics, and environment.)

World Beneath the Sea, #04904, 28 minutes, 16mm, color.

Faces of Energy, #04906, 28 minutes, 16mm, color.

Refinery, #4879, 16 minutes, 16mm, color.

Nuclear Energy: Power for Today and Tomorrow, #4884, 28 minutes, 16mm, color.

The Ford Foundation
320 East 43rd Street
New York, NY 10017

A private, philanthropic institution, The Ford Foundation seeks to "produce significant advances on selected problems of national and international importance." One of those concerns is energy. In 1952, the Foundation established a separate research organization, Resources for the Future (see p. 46), which has conducted several studies on the conservation of energy and national resources. In 1976, 21 scientists and scholars conducted a major study of nuclear power; a study of coal and other energy options is now under way, along with a solar energy study at Princeton University.

Write to the Office of Reports, at the above address, for a list of Foundation publications and films, as well as the booklets *Current Interests of the Ford Foundation* and *Ford Foundation Grants in Resources and Environment*. Most of the Foundation books are published by Ballinger Publishing Company and are available in bookstores. Order copies of *Exploring Energy Choices: A Preliminary Report* (X04, 75 cents each, 1–49 copies; 60 cents each for 50 or more copies) from The Ford Foundation, P.O. Box 559, Naugatuck, CT 06770.

Forest Service
United States Department of Agriculture
P.O. Box 2417
Washington, DC 20013

The Forest Service is "dedicated to principles of multiple use management of the nation's forest resources, for sustained yields of water, forage, wildlife, wood, and recreation." It manages the National Forests and National Grasslands, does forestry research, and cooperates with the states and private forest owners.

Arrange for speakers through John Zerbe, U.S.D.A. Forest Service, Forest Products Laboratory, Energy and Chemicals from Forests Program, P.O. Box 5130, Madison, WI 53705, or John Hornick, U.S.D.A. Forest Service Timber Management at the above address.

Single copies of the following are available, free, from the Madison office:

Field Offices of the Forest Service (FS-13).

Energy and Chemicals from Forests (U.S. Government Printing Office 1978-752-936).

What the Forest Service Does (FS-20).

Saving Energy in the Older Home (15000-3M9T001-78).

A film catalog (FS-31) is available free and tells how to borrow films.

Friends of the Earth
620 C Street, S.E.
Washington, DC 20003

Friends of the Earth lobbies for environmental issues. It opposes nuclear power plants and supports solar energy and other clean, renewable sources. Amory Lovins, author of *Soft Energy Paths*, is Friends of the Earth's London representative. Regular membership in the organization costs $25 and includes a subscription to the newspaper *Not Man Apart* and a 20% discount on books.

Two pamphlets are available at 10 cents each: *Are Nuclear Plants Dangerous?* and *Nuclear Insurance: Questions and Answers.*

A publications catalog is free from Friends of the Earth, 124 Spear Street, San Francisco, California 94105, the address from which orders are filled. Some of their books are:

The Energy Controversy: Soft Path Questions and Answers, Amory Lovins and his critics (edited by Hugh Nash), compiled from two volumes of published testimony from Senate hearings: cloth, $12.50; paper, $6.95.

The Energy and Environment Bibliography, prepared by Betty Warren; $3.50.

Sun! A Handbook for the Solar Decade, edited by Stephen Lyons; $2.95.

Progress As If Survival Mattered, edited by Hugh Nash: $6.95.

Only One Earth, by Amory Lovins; $3.95.

Write to Friends of the Earth (Washington address) if you wish to show *The Plutonium Connection*, a 60-minute film from a NOVA special—one copy is available for free loan (you pay shipping costs).

Geological Survey, National Center
United States Department of the Interior
Reston, VA 22092

The Geological Survey is a federal research and fact-finding agency, which appraises the national potential to develop energy and mineral resources, identifies targets of exploration and technological research, classifies federal lands for power potential, and supervises oil, gas, and mineral lease operations on federal and Indian lands as well as on the Outer Continental Shelf. One of its major purposes is to assure conservation of resources and the environment.

Though the Survey has no speaker's bureau, some of the scientists at Survey offices might be willing to address your group. For a listing of these offices, write for *Public Inquiries Offices of the U.S. Geological Survey* (1978-261-226/25) at the U.S. Government Printing Office, Washington, DC 20402.

Limited quantities of Survey publications (listed in *Popular Publications of the U.S. Geological Survey*) may be obtained by writing to the above address; bulk orders must be ordered from the U.S. Government Printing Office. Titles include:

The United States Geological Survey (USGS: INF-74-2-R-2).

Sources of Information, Products, and Services of the U.S. Geological Survey (U.S. Government Printing Office: 1978-261-226/55).

Guide to Obtaining Information from the USGS (Geological Survey Circular 777).

Nuclear Energy Resources: A Geologic Perspective.

Inspection of Petroleum Operation on the Outer Continental Shelf.

Oil Shale: A Potential Source of Energy.

Films are listed in *Motion Picture Film Services of the U.S. Geological Survey.* The following may be borrowed free through Branch of Visual Services, U.S. Geological Survey, 303 National Center, Reston, VA 22092:

Consensus for Concern, 27 minutes, 16mm, color—shows the Survey's efforts in supervision of oil and gas operations on the Outer Continental Shelf.

EROS: Response to a Changing World, 14 minutes, 16mm, color—describes Earth Resources Observation Systems (EROS) Program, managed by the Survey, and use of information from its satellites.

Institute for Ecological Policies
1413 K Street, N.W., 8th Floor
Washington, DC 20005

The Institute for Ecological Policies is a nonprofit organization working on energy policy and environmental and consumer issues. It publishes a magazine, *People & Energy*, which contains news of citizen action on energy and appropriate technology as well as articles (example: "Alcohol Fuels—A Critical Analysis"). Subscriptions are $12 for individuals

and nonprofit groups. Reprints are available as follows:

"Sober Look at Alcohol Fuels" and "Build Your Own Still," February, 1979, $1.25.

"Solar in Industry and Agriculture," April, 1978, 70 cents.

"Nuclear Fusion: Boon or Boondoggle," 50 cents.

"Energy Subsidies: A Primer for Tax Reformers," 50 cents.

"Making Transportation Energy Go Further" (mass transit survey), 50 cents.

"Wind: Big Companies Blow It," 50 cents.

"Communities Fight High-Voltage Lines," 50 cents.

Institute for Policy Studies
1901 Q Street, N.W.
Washington, DC 20009

Described by *Change* magazine in May, 1978, as "a left-leaning Washington think tank," the Institute for Policy Studies was founded in 1963 by Marcus Raskin and Richard Barnet, both of whom had worked as government aides. Founder Barnet says, "What we're doing is pointing out what's irrational in our society before it becomes part of the conventional wisdom." The Institute is interested in the political aspects of energy and is in favor of on-site solar-heating systems.

Its *Resource Catalog* lists books and films available from the above address. Those on the energy issue are:

Middle East Oil and the Energy Crisis, Joseph Stork, $5.95.

Public Policies for the 80's: Perspectives and Resources for State and Local Action, edited by Lee Webb. $9.95. (Energy is one of the issues discussed.)

Film: *Jacobs and the Nuclear Gang,* Saul Landau and Jack Willis, 1 hour, 16mm, color (write for information). Dramatic story of an investigative reporter's research into the dangers of low-level radiation.

Institute of Scrap Iron and Steel, Inc.
1627 K Street, N.W.
Washington, DC 20006

Founded in 1928, the Institute of Scrap Iron and Steel is a trade association of processors and brokers of ferrous and non-ferrous scrap. Their periodical, *Phoenix Quarterly,* often contains articles on how resource recovery conserves energy, and is available free upon request.

The folder *Mines Above Ground—Scrap: The Supernatural Resource* and booklet *Recycling Iron and Steel Scrap Saves Energy* are also free, as are several fact sheets and reprints.

Available on free loan is a film, *Scrap: The Supernatural Resource* (16mm, color, 28 minutes), which documents the environmental savings in using scrap instead of ore to make new products. You can obtain it by writing: Modern Talking Picture Service, 2323 New Hyde Park Road, New Hyde Park, NY 11040.

A slide film, *It's Our Choice* (11 minutes, color), which describes the scrap industry's efforts to solve environmental problems by recycling metallic solid waste and emphasizes conservation and beautification, is available on free loan from the Institute at the above address.

League of Women Voters of the United States
1730 M Street, N.W.
Washington, DC 20036

In existence since 1920, the League of Women Voters of the United States provides services to all voters. Though it encourages active participation in politics and takes political action on issues, it does not support candidates or political parties. Its stance on energy is to promote oil price decontrol and windfall profits tax and to oppose oil shale technologies, the creation of an energy trust fund, and plowback tax proceeds to oil companies.

Some, but not all, local Leagues offer speakers on energy issues. Contact your local headquarters to find out.

The League offers several excellent publications, which are listed in a free catalog. (For $10.00 a year, you can subscribe to the Publications Service, which will automatically bring you all new publications.) Discounts for multiple-copy orders are available, and all orders must be prepaid. Some examples of League publications are:

Energy Dilemmas: An Overview of U.S. Energy Problems and Issues, #688, $1.00.

Energy Options: Examining Sources and Defining Government's Role, #628, $1.00.

Citizens and Energy: The National Issues, #575, 50 cents.

The Impacts of Western Coal Development, #165, 40 cents.

Energy and Our Coasts: The 1976 Coastal Zone Managements (includes energy issues related to coastline development), #699, 40 cents.

Onshore Impact of Offshore Oil, #661, 40 cents.

Mining on Federal Lands, #555, 25 cents.

Coal Use and Clean Air: Goals in Collision? #179, 30 cents.

Energy, Jobs and the Environment Package, #276, $3.95 (11 related publications).

Energy Factsheets (two-page briefs on energy problems): Nos. 1–21, 15 cents each; Nos. 22–24, 20 cents each; Energy Kit of one copy each of all Energy Factsheets in print, #552, $1.00. Write for complete list of Factsheets.

National Cancer Institute
Public Health Service, National Institutes of Health
Department of Health, Education, and Welfare
Bethesda, MD 20014

The National Cancer Institute is the U.S. Government's major agency for research on cancer. It was established in 1937. To arrange for a speaker, perhaps to discuss the health effects of low-level radiation and/or pollutants from the burning of various fuels, write at least six weeks in advance to National Cancer Program Speakers Bureau, Office of Cancer Communications, National Cancer Institute, Building 31 Room 4B43, Bethesda, MD 20014.

Write to the above address for *Statement by Arthur C. Upton, M.D., Director, National Cancer Institute, on Carcinogenic Hazards of Low-Level Radiation.*

National Center for Appropriate Technology
Post Office Box 3838--3040 Continental Drive
Butte, MT 59701
or
815 15th Street, N.W.
Washington, DC 20015

Funded by the United States Community Services Administration, the National Center for Appropriate Technology is an independent, non-profit corporation devoted to the development and application of appropriate technologies to the needs of low-income people and the promotion of locally based programs utilizing appropriate energy alternatives. The Center provides grants, does technical research, gives field support, and provides information.

Non-technical publications are free, available from the Butte office. You may want to write for:

Passive Solar Heat for New Home Construction, Publication No. 014.

Heating with Wood, Publication No. 016.

The Solar Survey.

The Values of Appropriate Technology and Visions for a Saner World, Isao Fujimoto, Publication No. 010.

Something Old, Something New, Something Borrowed, Something Due: Women and Appropriate Technology, Volume 1, No. 1, August, 1978.

Solar, An Annotated Bibliography, Publication No. B001.

Organizing Community Gardens, Bibliography, Publication No. B003.

Economic Development, Bibliography, Publication No. B004.

Buildings and Energy, Bibliography, Publication No. B005.

Alternative Waste Systems, Bibliography, Publication No. B006.

Methane from Anaerobic Fermentation of Manure, An Annotated Bibliography, Publication No. B007.

National Coal Association
1130 17th Street, N.W.
Washington, DC 20036

Created during a World War I energy crisis, the National Coal Association is a trade organization of producers, sellers, and transporters of coal, as well as other companies and individuals with a stake in the coal industry.

Among its publications, available from the association headquarters at the above address, are:

"Coal," an article reprinted from *The World Book Encyclopedia*, 22 cents.

What Everyone Should Know About Coal Gasification, 11 cents.

Map of Coal Areas in the United States, 9 cents.

The Energy Answer, no price given.

Using Coal/Moving Coal (wall chart), 12 cents.

Mining for Coal (wall chart), 12 cents.

Coal kit, 91 cents.

Filmstrip, $1.29.

National Council of the Churches of Christ
Division of Church and Society
475 Riverside Drive, Room 572
New York, NY 10027

One of the purposes of the National Council of the Churches of Christ, a cooperative agency of Christian churches, is to "study and speak and act on conditions and issues in the nation and world which involve moral, ethical, and spiritual principles inherent in the Christian gospel." One of those issues is energy. The Council has recently developed an Energy Education Project, with accompanying materials; its principal investigator, Katherine D. Seelman, is available for speaking assignments.

NCCC Energy Publications (free order form available) include:

Energy and Ethics: The Ethical Implications of Energy Production and Use; $1.00 each for 1–24 copies; 80 cents each for 25 or more.

The Energy Suppliers: A Guide to America's Oil, Natural Gas, Coal and Electric Utility Industries, Carter Henderson; $1.00 each for 1–24 copies; 80 cents each for 25 or more.

Energy and the New Poverty, edited by Katherine Seelman with David Dodson Gray; $1.00 each for 1–24 copies; 80 cents each for 25 or more.

Make checks payable to NCCC Energy Project; order from NCCC Energy Project at the above address.

National Institute for Occupational Safety and Health
Department of Health, Education, and Welfare
5600 Fishers Lane
Rockville, MD 20857

Operating within HEW according to provisions of the Occupational Safety and Health Act of 1970, the National Institute of Occupational Safety and Health is responsible for research in the national effort to eliminate on-the-job hazards that endanger the health and safety of U.S. workers, for identifying those hazards, and for recommending changes in regulations limiting them. It also conducts a health program specified in the federal Coal Mine Health and Safety Act of 1969.

Most of its publications are quite technical. However, *Part of the Human Condition* (DHEW Publication No. 78-137), written for laymen, describes health and safety problems resulting from coal mining, coal gasification, uranium mining and milling, coal-fired power plants, mining oil shale, and other energy gathering and processing; it also tells how NIOSH operates.

National Railroad Passenger Corporation (AMTRAK)
400 North Capitol Street, N.W.
Washington, DC 20001

Amtrak was established by Congress to provide intercity rail passenger service for the United States in 1971. It is primarily a contractor buying services from 19 railroads, over which it operates, except for some routes on the Northeast Corridor. For information about available speakers and to order publications, write to L. Fletcher Prouty at the above address.

Publications, which are free, include:

The Impact of the Energy Crisis Upon Passenger Travel in the U.S.A.: 1978–1990.

Background on Amtrak.

Energy and Transportation (Amtrak FACTS)—analysis of fuel efficiency of various modes of transportation.

The Current and Future Savings of Energy Attributable to Amtrak—another analysis of fuel efficiency of trains as compared to other transportation modes.

National Solar Heating and Cooling Information Center
Post Office Box 1607
Rockville, MD 20850

Established by the Department of Housing and Urban Development in cooperation with the Energy Research Development Administration (now the Department of Energy), the National Solar Heating and Cooling Information Center seeks to bring about public awareness of the feasibility of solar energy use and to encourage the public and industry to consider solar energy systems.

In addition to publications (a listing is available), it offers speakers and traveling exhibits. You can also arrange to be put on a computerized mailing list to receive information about solar energy according to several interest categories.

The Center can be reached by phone through a toll-free number: 800-523-2929, in Pennsylvania 800-462-4983.

The New Alchemy Institute
Post Office Box 47
Woods Hole, MA 02543

One of the concerns of this small, international organization, which emphasizes small-scale solutions, is the development of ecologically derived forms of energy. A subscription membership ($10) includes the annual *Journal of the New Alchemists* and newsletters. Copies of the *Journals* may be ordered for $7 each. Both the Second and Third Journals contain articles on windmills; the Fourth Journal emphasizes bioshelters; the Fifth Journal has three articles on wind power.

A film, *The New Alchemists,* describing their utopian community (28 minutes, 40 seconds), is available through Benchmark Films, 145 Scarborough, Briarcliff Manor, NY 10510.

Oak Ridge Associated Universities
Post Office Box 117
Oak Ridge, TN 37830

Not a university at all, Oak Ridge Universities is a nonprofit corporation of 45 institutions of higher learning, which works primarily for the Department of Energy conducting educational programs, research, and training.

The American Museum of Science and Energy's Museum Division offers staffed and unstaffed traveling exhibits on energy: sample titles—"Energy Encounters," "American Energy Pie," "Solar Energy Applications," "Magnetic Fusion Energy," "Energy and the Environment," "Nuclear Facts." The Museum, in Oak Ridge, offers demonstrations, exhibits, and displays which tell the story of energy. Write to the Museum Division for more information.

The Energy Education Division offers traveling demonstration programs: "This Atomic World," "Energy Today and Tomorrow," and a new program—"Energy Adventure," which explains direct uses of fossil fuels and emphasizes conservation.

To receive copies of *Institute for Energy Analysis News*, published four times a year, write to the Institute. This periodical often contains interesting, fact-filled articles on energy issues.

Write to National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161 to order *Oak Ridge Associated Universities Institute for Energy Analysis Research Report 1978* (ORAU/IEA-78-25); it contains a map showing nuclear sites and capacities in 1998, abstracts of research reports on nuclear energy (several by A. M. Weinberg, author of CbN's newspaper article on nuclear energy), plus other abstracts on problems of carbon dioxide associated with the burning of fossil fuels, and an assessment of solar energy prospects.

Office of Technology Assessment (OTA)
600 Pennsylvania Avenue, S.E.
Washington, DC 20510

The Office of Technology Assessment, which was created by Congress in 1972, studies present and potential impacts of technology on our society. The information the OTA gathers is presented to Congress so that its members can reach informed conclusions on long-range issues. John Gibbons, author of the CbN newspaper article "Making Our Own: Synthetic Fuels," is Director of the OTA. Write to the OTA at the above address for single copies of its One Pagers, briefs on longer reports:

OTA's One Pager on The Direct Use of Coal, July 2, 1979.

OTA's One Pager on Prospects for Onsite Solar Energy, June 22, 1978.

OTA's One Pager on Enhanced Oil Recovery Prospects, April 10, 1978.

Longer reports, up 800 pages, are for sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402:

The Direct Use of Coal (No. 052-003-00664-2).

Application of Solar Technology to Today's Energy Needs, Volume I (No. 052-003-005939-5). *Volume II* (No. 052-003-00608-1).

Overseas Development Council
1717 Massachusetts Avenue, N.W.
Washington, DC 20036

Overseas Development Council is a nongovernmental organization devoted to increasing American understanding of developing countries. To arrange for a speaker, write the Director of Public Information.

A publications list is available from the Council. Materials on energy include:

Energy and Development: An International Approach, James W. Howe and William Knowland, No. 31; 1–10 copies, 10 cents each; 11–99 copies, 5 cents each.

The Global Politics of Resource Scarcity, Lester R. Brown, No. 17, $1.00.

The External Public Debt Prospects of the Non-Oil-Exporting Developing Countries, Gordon W. Smith, No. 10, NIEO Series, $4.00.

The René Dubos Forum
22 West Putnam Avenue
Greenwich, CT 06830

In 1975, The René Dubos Forum came into being through collaboration between Dr. René Dubos, Professor Emeritus of The Rockefeller University, and Total Education in the Total Environment, Inc., an organization engaged in environmental education in the United States, Europe, and Africa. It is primarily concerned with the interplay between human beings and environmental situations and seeks to aid in the formulation of policies that will resolve environmental conflicts and create new environmental values. To disseminate information the Forum holds national symposia and regional meetings and conducts television programs for authorities on environmental problems, decision-makers, program planners, and the media.

Papers from two symposia on energy, "The Greening of Energy" (potentialities and uses of biomass as an energy source) and "Better Life Through Less Energy" (energy and the quality of life) have been adapted for the National Issues Forum Calendar of Issues and are available on written request:

Energy Supplies: Their Relation to Human Life and the Environment, René Dubos.

Historical Perspectives on Energy, Melvin Kranzberg.

Stimulation-Seeking as a Factor in Energy Consumption, Joachim Wohlwill.

Ecology and Economy, Percival Goodman.

Muddling Toward Frugality, Warren Johnson.

Energy and Social Organization, Rufus Miles.

Energy: Decisions and Trade-offs, Richard Stein.

The Economics of Retrieval and Recycling, James Fitch.

Also of interest are:

Better Life Through Less Energy, Mary Coney.

The René Dubos Forum, which contains opening remarks for the 1979 symposium, "The Greening of Energy," by René Dubos.

Resources for the Future
1755 Massachusetts Avenue, N.W.
Washington, DC 20036

Resource for the Future is a research organization, which performs public policy research on international problems relating to energy, environment, and natural resources. In existence since 1952, it has a 100-person staff, of whom two-thirds are researchers (including Joel Darmstadter, author of the CbN newspaper article "Other People, Other Patterns of Energy Use"). It has no speaker's bureau, but some of the staff might be available to speak—contact Kent A. Price, Information Officer.

The group has just completed a comprehensive study, *Energy in America's Future*. A preprint of the summary chapter is available for $2.00.

The January–March, 1979, issue of *Resources*, the group's bulletin, is devoted to energy—ask for a copy. Reprints of staff material in the RFF Reprint Series (one copy free on request) include:

153. *Measuring Natural Resource Scarcity: Theory and Practice*, V. Kerry Smith.

154. *Energy, Economic Growth, and Human Welfare*, Sam H. Schurr, and *Economic Growth and Energy Conservation: Historical and International Lessons*, Joel Darmstadter.

156. *An Integrated Approach to National Forest Management*, John V. Krutilla and John A. Haigh.

Johns Hopkins University Press publishes RFI books; write to The Johns Hopkins University Press, Baltimore, MD 21218, for information. Among the titles are:

How Industrial Societies Use Energy: A Comparative Analysis, Joel Darmstadter, Joy Dunkerley, Jack Alterman (2641-3), $16.95.

International Comparisons of Energy Consumption, Joy Dunkerley (2129-0), $7.50.

The Rockefeller Foundation
1133 Avenue of the Americas
New York, NY 10036

Created in 1912, The Rockefeller Foundation has sponsored many programs, including analyses of energy issues, to foster the well-being of humanity. Write to Mary Ryan, International Relations Division, for a postcard on which you may request publications and further information. Among publications are:

International Energy Supply: A Perspective from the Industrial World.

International Cooperation on Breeder Reactors.

World Energy Survey, a 1979 report by Ruth Leger Sivard, may be ordered from World Priorities, Box 1003, Leesburg, VA 22075.

Rural America
1346 Connecticut Avenue, N.W.
Washington, DC 20036

Founded in 1975, Rural America represents people in non-urban areas in Washington. It does research, gives technical assistance and training, and lobbies. Energy is one of its many concerns. Membership ($15 for people with incomes over $10,000; $5 for others) entitles one to receive the newsletters *ruralamerica* and the *RHA Reporter*. Among the organization's publications (see its *Publications List*) are:

What Are Federal Housing Agencies Doing for Low-Income Energy Needs? 25 cents.

Corporate Invasion in Land Ownership, 75 cents.

Energy and Rural People and Agriculture, 75 cents.

Scientists' Institute for Public Information
355 Lexington Avenue
New York, NY 10017

The major purpose of the Scientists' Institute for Public Information is to inform the public about vital issues in science. Founded in 1963 by scientists, including Margaret Mead, René Dubos, Theodore Dobzhansky, and Barry Commoner, SIPI is currently focusing on energy as one of our most urgent issues. It is conducting projects in nuclear waste, methane/natural gas, oil, and provision of energy information to crucial target audiences.

SIPI's publications in energy include:

Synthetic Fuels and Cancer, $1.50 plus .28 first class.

Energy Conservation, Employment and the Economy, $2.50 plus .93 first class.

The Economic Viability of Nuclear Energy, $2.50 plus 1.06 first class.

The Potential for Solar and Wind Electric Power Generation, $2.50 plus .80 first class.

Nuclear Power, Economics and the Environment, $2.50 plus 1.06 first class.

Weather, Gas and Solar Heating: Crisis and Resolution? $2.50 plus .67 first class.

Natural Gas/Methane: Cost, Availability and as an Energy Source, $5.00 plus 1.80 priority rate.

Economic Implications of Energy Conservation, $5.00 plus 1.80 priority rate.

A $25.00 membership in SIPI includes a subscription to the magazine *Environment* and the newsletter *SIPIscope*.

Small Farm Energy Project
Center for Rural Affairs
P.O. Box 736
Hartington, NE 68739

Sponsored by the Center for Rural Affairs and funded by the Community Services Administration, the Small Farm Energy Project has 24 demonstration farms in Cedar County, Nebraska, open for visits, and holds informational workshops in Iowa, Minnesota, South Dakota, and Nebraska. It offers information on renewable, alternative energy sources for farms: wastes recycling; composting; energy conservation; wind and solar energy; alcohol, methane, hydrogen, and other biofuels. The Project's free newsletter reports on innovative energy projects.

A publications list is available.

Write or call (402-254-6893) to arrange for a visit from a resource person.

Solar Energy Research Institute
1636 Cole Boulevard
Golden, CO 80401

Opened in 1977, the Solar Energy Research Institute was established as part of the solar initiative that developed from the Solar Energy Research Development and Demonstration Act of 1974. It seeks to develop a program that will promote the short- and long-term increase of solar technologies. In addition to providing planning support to the Department of Energy, the Institute conducts analyses of the market, works in foreign countries, and acts as an information exchange. For speakers contact Vicki Taliaferro at the Public Information Office (above address).

The following brochures and bibliographies (listed in the Institute's *Publications Bulletin*) are available free:

Solar Energy Information Locator.

Solar Technologies: An Overview.

Putting the Sun to Work for Industry (SP-34-175).

SERI: The First Year (SP-11-142).

Biomass: Solar Energy from Farms and Forests.

Photovoltaics: Electricity from the Sun.

SERI Publications Bulletin: Papers and Presentations.

Solar Reading List (6 bibliographies: *Alcohol Fuels; Ocean Thermal Energy Conversion; Photovoltaics; Solar Energy for Industrial Process Heat; Utilization of Biological Wastes; Wind Energy*).

In Review: A SERI Monthly Update (periodical).

"SERI's Role in Solar Heating and Cooling," a paper by C. J. Bishop and F. Kreith (DDS-109).

"Biomass Energy—A Two-Edged Sword," a paper by T. B. Reed (DDS-011).

"A Case Study of a Low Cost Solar Housing Program," a paper by S. Towle (DDS-131).

Order all of the above from SERI Document Distribution Service.

A *National Solar Energy Education Directory* (#061-000-00210-3), $4.75, may be ordered from Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402. This provides a comprehensive listing of post-secondary solar energy courses.

Union of Concerned Scientists
1208 Massachusetts Avenue
Cambridge, Massachusetts 02138

A group of scientists and engineers who have been conducting research into nuclear power safety questions for several years, the Union of Concerned Scientists is independent and free of ties to the power industry. They maintain that nuclear power is dangerous. In addition to conducting technical research on nuclear power problems, UCS works to bring information to the public and to government officials; it takes legal action to change the federal government's nuclear power policies and to force public disclosure of government data on the hazards of nuclear power.

Its Publications List, free, includes, among others, the following:

The Nugget File—excerpts from the U.S. government's special file on nuclear power plant accidents and safety defects, $4.95.

Looking But Not Seeing—The Federal Nuclear Power Plant Inspection Program, Lawrence S. Tye, $3.50.

The Risks of Nuclear Power Reactors: A Review of the NRC Reactor Safety Study, WASH-1400 (NUREG-751014). $6.25.

Facts About the Nuclear Power Controversy, single copies free, bulk prices on request.

What You Should Know About the Hazards of Nuclear Power, single copies free, bulk prices on request.

Do You Know What Plutonium Is? single copies free, bulk prices on request.

Q & A Answers to Your Questions About Nuclear Dangers... and Solar Potential, single copies free, bulk prices on request.

Resources, a Reference Guide for Citizens Compiled by UCS lists books, articles, films, journals, miscellaneous information sources, organizations (free).

The newsletter *Nucleus* is free to members.

United States Department of Energy
Washington, DC 20585

The Department of Energy was created in 1977 in order to centralize energy programs and carry out energy policy for the United States.

Write to the above address, Office of Public Affairs, for the Department's publication list. Order, however, from Technical Information Center, U.S. Department of Energy, P.O. Box 62, Oak Ridge, TN 37830. Examples of publications, which are free:

Put the Sun to Work Today.

Tips for Energy Savers.

Water Power: Use of a Renewable Resource.

Some senior high school publications are:

Agriculture, Energy, and Society.

Energy in the Global Marketplace.

How a Bill Becomes a Law to Conserve Energy.

U.S. Energy Policy—Which Direction?

Award Winning Energy Education Activities for Elementary and High School Teachers.

Fact sheets, 4–8 pages long, are also available:

Alternative Energy Sources: A Bibliography.

Alternative Energy Sources: Environmental Impacts.

Breeder Reactors.

Conventional Reactors.

Electricity from the Sun I (Solar Photovoltaic Energy).

Electricity from the Sun II (Solar Thermal Energy Conversion).

Energy Conservation: Homes and Buildings.

Energy Conservation: Industry

Energy Conservation: Transportation.

Energy Storage Technology.

Fuels from Plants (Bioconversion).

Fuels from Wastes (Bioconversion).

Geothermal Energy.

New Fuels from Coal.

Nuclear Fusion.

Solar Heating and Cooling.

Solar Sea Power (Ocean Thermal Energy Conversion).

Wind Power

A free monthly publication, *The Energy Consumer,* provides information about federal energy programs and is available from the Office of Consumer Affairs, DOE, at the Washington address.

Films are available on free loan from the DOE Technical Information Center (Tennessee address):

Coal—Taking the Lumps Out, No. 525, 5 minutes (liquefaction and gasification).

Coal—The Other Energy, No. 526, 15 minutes (new technologies).

Conservation—Investing in Tomorrow, No. 517, 6:30 minutes.

Don't Cut Us Off, No. 514, 16 minutes (high costs and how they affect the poor and the old).

John Denver on Conservation, No. 529, 4:08 minutes.

Running on Empty—The Fuel Economy Challenge, No. 531, 27 minutes.

Up the Power Curve, No. 515, 10 minutes (conservation).

The Ultimate Energy, No. 509, 28 minutes (fusion power).

The Challenge of the Future, No. 508, 28:30 minutes.

Energy Update, No. 527, 28:30 minutes.

Geothermal—Nature's Boiler, No. 519, 7:25 minutes.

Energy—The American Experience, No. 507, 28:30 minutes (history).

Look to the Sun, No. 513, 12:20 minutes.

Sun Power for Farms, No. 512, 12:23 minutes.

The Silent Power, No. 530, 27 minutes (uses of nuclear power in the U.S. space program).

Solar Energy—The Great Adventure, 27:30 minutes.

The Speakers Bureau of the Department of Energy

can make arrangements for experts to talk about energy issues: development of technologies, conservation, political implications. Contact the Speakers Bureau, Office of Public Affairs, at the DOE Washington address.

At DOE field locations and Washington headquarters, the Department has computerized electronic simulators depicting energy-environment tradeoffs. A list of regional locations is available from DOE headquarters.

Wood Energy Institute
Box 800
Camden, ME 04843

A national, member-supported organization, the Wood Energy Institute seeks to advance the intelligent use of wood as a renewable energy source. Membership for individuals is $15 a year, and includes a subscription to the periodical *Wood 'n Energy*.

Its publication, *The Woodburners Encyclopedia*, discusses—in encyclopedic fashion—all aspects of using wood as fuel. It costs $7.95 plus 85 cents shipping charges and can be ordered from Vermont Energy Resources at the above address.

Worldwatch Institute
1776 Massachusetts Avenue, N.W.
Washington, DC 20036

An international, interdisciplinary, nonprofit organization, Worldwatch Institute was conceived and designed by William M. Dietel and Lester R. Brown. It is primarily funded by the Rockefeller Brothers Fund. Its aim is "to encourage a reflective, deliberate approach to global problem solving." Among its members is Denis Hayes, who wrote the CbN newspaper article "More Through Less: Effective Energy Use." Worldwatch Books are published by W. W. Norton and are available in bookstores. For speakers, contct Bruce Stokes, above address.

Several of the Worldwatch Papers (an order form is available) are devoted to energy issues:

1. *The Other Energy Crisis: Firewood*, Erik Eckholm.

6. *Nuclear Power, the Fifth Horseman*, Denis Hayes.

11. *Energy: The Solar Prospect*, Denis Hayes.

15. *Energy for Development, Third World Options*, Denis Hayes.

19. *The Solar Energy Timetable*, Denis Hayes.

26. *Planting for the Future: Forestry for Human Needs*, Erik Eckholm.

Single copies are $2.00 each; bulk copies (any combination of titles), according to the following schedule:

2–10, $1.50 each.
11–50, $1.25 each.
51+, $1.00 each.

Part Two: State Humanities Committees

Your community program based on *Energy and the Way We Live* may qualify for funding under the National Endowment for the Humanities. For information about financial assistance and funding guidelines, contact your state committee.

Alabama
Jack Geren, Executive Director
Alabama Committee for the
Humanities and Public Policy
Box 700
Birmingham Southern College
Birmingham, AL 35204
(205) 324-1314

Alaska
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Alaska Humanities Forum
429 D Street, Room 211
Loussac Sogn Building
Anchorage, AK 99501
(907) 272-5341

Arizona
Lorraine Frank, Executive Director
Arizona Council on the Humanities
and Public Policy
112 North Central Avenue
Suite 304
Phoenix, AZ 85004
(602) 257-0335

Arkansas
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University Tower Building
12th & University, Suite 1019
Little Rock, AR 72204
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Boulder, CO 80302
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Executive Director
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Middletown, CT 06467
(203) 347-6888, 347-3788

Delaware
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Executive Director
Delaware Humanities Council
2600 Pennsylvania Avenue
Wilmington, DE 19806
(302) 738-8491

Florida
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Florida Endowment
for the Humanities
LET 360, University of South Florida
Tampa, FL 33620
(813) 974-4094

Georgia
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Executive Director
Committee for the Humanities
in Georgia
Georgia Center for
Continuing Education
Athens, GA 30601
(404) 452-4581

Hawaii
Annette M. Lew, Executive Director
Hawaii Committee
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2615 South King Street, Suite 211
Honolulu, HI 96826
(808) 947-5891

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The Association for the Humanities
in Idaho
1433 West Franklin Street
Boise, ID 83702
(202) 724-0386

Illinois
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Executive Director
Illinois Humanities Council
201 West Springfield Avenue
Room 1002
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(217) 333-7611

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4200 Northwestern Avenue
Indianapolis, IN 46205
(317) 925-7195

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Iowa City, IA 52242
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Box 12, Loyola University
New Orleans, LA 70118
(504) 865-9404

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(413) 545-1936

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(517) 355-0160

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(612) 224-5739

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Reno, NV 89507
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New Brunswick, NJ 08903
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New Mexico Humanities Council
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Albuquerque, NM 87131
(505) 277-3705 (Albuquerque)
(505) 646-1945 (Las Cruces)

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33 West 42nd Street
New York, NY 10036
(212) 354-3040

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North Carolina Humanities
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Greensboro, NC 27412
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Patterson Hotel, Suite 500
Bismarck, ND 58501
(701) 258-9010

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(503) 241-0543

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SECTION FOUR

An Annotated Film List

Introduction

This list of films is designed to be used with Courses by Newspaper's Winter/Spring 1980 program, *Energy and the Way We Live,* and with the National Issues Forum of the same name. The films were chosen to stimulate discussion and a careful consideration of the many issues we face as we begin to deal with the deepening energy crisis.

For many years, man went his way blithely assuming that technological advancement was a good thing and that the sources of energy were limitless. Now, we face the grim truth that neither of these assumptions is true. We must attempt to pick up the pieces and begin to repair the damage to the environment as we also try to find sane, safe alternatives to the fossil fuels we have come to depend upon so heavily.

The primary sales source of each film is given. Many of these films will also be available from your local public library film department on a free loan basis or from a university film rental library at a modest rental fee. A list of distributor addresses and additional resources follows the filmography.

For additional information about films or programming advice, contact the Educational Film Library Association (EFLA), 43 West 61st Street, New York, NY 10034. Telephone: (212) 246-4533.

Compiled by Esmé J. Dick, media specialist, The Brunswick School, Greenwich, Connecticut. Ms. Dick is an elected member of the Greenwich Representative Town Meeting and has been active in the town's search for a solution to its transportation problems. Previously, she was Administrative Director of the Educational Film Library Association and Director of the American Film Festival. She contributes reviews and articles to various film publications and served as Chairperson for the pre-screening committee in the Energy Category at the 1979 American Film Festival.

Educational Film Library Association

Editor
Judith Trojan
Editorial Coordinator
Educational Film Library Association (EFLA)

EFLA Staff
Brian Camp, Editorial Assistant
Maryann Chach, Reference Librarian
Nadine Covert, Executive Director
Jane Rayleigh, Consultant
Kay Salz, Festival Coordinator

1 Our Energetic Lifestyle

Auto-Mates, 22 min., color, 1978, Director/Distributor: Gary A. Walkow.

A husband and wife, returning from a Sunday visit, discover that they are trapped inside their car. For two days and nights, we follow their odyssey—through filling stations, drive-in restaurants, and drive-in movies—into a state of delirium and hallucination. A satire on our automotive society, the film is shot entirely within the confines of the automobile. —N.C.

The City, 55 min., b&w, 1939, Directors: Ralph Steiner & Willard Van Dyke. Distributor, The Museum of Modern Art.

Produced for the 1939 New York World's Fair and sponsored by the American Institute of City Planners, **The City** has become a classic statement on the urban crisis. The noise, dirt, tension, fast-paced motion, overcrowding, and traffic jams in the big city are contrasted with the calm and tranquillity of suburban homelife. Demonstrates in a pointed but humorous manner that, even 40 years ago, the United States was not only a high energy nation but a nation of high energy consumers as well. The commentator's message: "You take your choice . . . you and your children, the choice is yours," is still a valid warning today. —N.C.

Energy Carol, 11 min., color, 1975, Director, Les Drew. Distributor, National Film Board of Canada.

A retelling of Dickens' *A Christmas Carol* in which Ebenezer Serooge is turned into the energy-wasting president of a power company. Illustrates the many ways in which we waste fuel without thinking of the future. Although its cartoon format and frivolity may not appeal to everyone, this is a useful film to start a discussion of the waste of energy resources. —E.D.

Giant, 201 min., color, 1956, Director: George Stevens. Distributor, Audio Brandon Films.

Edna Ferber's story of the life of an Eastern woman who marries a Texas landbaron before the Western oil boom. By selling off his land to the oil companies, he brings about enormous changes in the economic and physical life of the area. Often, he is opposed by other landholders who foresee the damage that this new industry will do to their lifestyle. The extravagant ways in which the family lives and the political implications of the story make it a good overview of the temptations and greed that have contributed much to the exploitation of energy resources. Stars Elizabeth Taylor, Rock Hudson, James Dean, Mercedes McCambridge. —E.D.

The Terrible News, 30 min., color, 197', Director: Swain Wolfe. Distributor: Bitterroot Films.

Points out many of the environmental dangers that our energy-hungry lifestyle creates. —E.D.

Toast, 12 min., color, 1976, Director: Daniel Hoffman. Distributor: Bullfrog Films.

One way in which we, as a nation, are very wasteful of fuel is in the methods of food production we employ. This simple non-narrated film follows the story of one slice of toast through the agri-business that makes the wheat, the bread factory where the loaf is made, the truck ride to the supermarket, the car ride to and from the store to buy it, and the toaster in which it is finally burned to a crisp. We are also shown where the electricity to run the toaster comes from, the oil well in a far-off country, the barrel of oil, shipment to a refinery, use in a generating plant, and, finally, the delivery of electricity to the house with the toaster. A mind-blowing illustration of the misuse of energy. —E.D.

The Trigger Effect, 52 min., color, 1979. Producers: BBC-TV & Time Life Films. Distributor: Time Life Multimedia.

BBC-TV host James Burke recreates scenes from the New York City blackout of November 9, 1965, to show our dependence on modern forms of energy and technology. What, Burke asks, would happen if our interdependent network of technology were suddenly to fail? Our ability to survive would depend on our knowledge of how to use a plow, which Burke sees as the first great "trigger" of civilization. From the *Connections* series.

2 "Cry Havoc" or "Cry Wolf"? The Nature of the "Energy Crisis"

Challenge of the Future, 28 min., color. 1976. Director: Tom Vines. Distributor: U.S. Dept. of Energy.

A look at dwindling energy reserves from a national and global perspective. Examines some of the reasons for the present crisis and suggests that there are many options that must be explored, including solar, nuclear, wind power, better management of existing supplies. —E.D.

E. F. Schumacher ... As If People Mattered, 16 min., color, 1977. Director: Swain Wolfe. Distributor: Bullfrog Films.

Fritz Schumacher was the prophet of a new concept in economics: decentralization and small-scale, appropriate local technology. This type of production, he argues, keeps the power and decision-making in the hands of the people it affects, and frees them from the depersonalizing effects of big business politics. As the energy crisis forces us to take stock of older and newer, but smaller, methods, this is an important thesis to consider. There are some annoying intercuts in this essentially talking-head film, but it is a very important film to consider when one looks at the worldwide need for practical alternatives in a fuel-mad world. —E.D.

The Energy Crunch: The Bottom of the Oil Barrel. 35 min., color, 1973. Producer: BBC-TV. Distributor: Time Life Multimedia.

Shows the effect on the world of dwindling oil supplies. Examines the shortages of 1973, considers some possible temporary solutions, and talks of the coming economic and social upheavals that will follow on the coattails of the worsening energy problem. Although this film was made in 1973, many of the same points could be made today. It illustrates the continuing lack of attention paid to the real problems that beset legislators, company executives, and the ordinary working man. —E.D.

The Energy Dilemma, 18 min., color, 1973. Producer: Canadian Broadcasting Corp. Distributor: Films Inc.

A short version of a TV special on the energy crisis. Explores what sources of fuel are available, which ones are exhaustible, which ones are more or less permanent, how much they pollute the environment, and how expensive they are to operate. Discusses recycling, utilization of natural forces such as the tides and the sun, and the effect of fuel combustion on outer space. Suggests a global approach to the solution of the problem. Very thorough exploration, with some possible cures suggested. —E.D.

Energy in Perspective, 21 min., color 1976. Director: Peter De'Normanville. Distributor: BP North America.

A look at the need to recognize the finite nature of the world's supply of fossil fuels. Includes various diagrams that explain the nature of the problem. Emphasizes the turn from thoughtless use of energy to a more careful use of our dwindling energy resources. —E.D.

Energy: The Fuels and Man, 23 min., color, 1978. Director: Jan Skrentny. Distributor: National Geographic Society.

What is energy? How is it obtained? How has it been used both in the past and now? These are the basic questions addressed. Renewable and non-renewable fuels are explained, with some exploration of the ways in which these energy sources have been exploited in the past and how they are being used today. A good, general overview of the entire problem of consumability of supplies and the pressures of supply and demand. —E.D.

The Third Pollution, 23 min., color, 1966. Director/Distributor: Stuart Finley.

Shows how the burning of solid waste contributes to the problems of air pollution as well as depleting unnecessarily our dwindling energy supplies. Suggests better approaches to the problem of disposal of solid waste. —E.D.

3 Substitutes for Human Muscle: Past Crises

Connections, 52 min. each, color. 1979. Producers. BBC-TV & Time Life Films. Distributor. Time Life Multimedia.

In this ten-part series, journalist and BBC-TV host James Burke examines how apparently unrelated events, people, and situations have come together to produce social and technological changes. Each film unravels like a detective story as Burke pursues clues in his search for "triggers" of change. Many of the programs in this series deal with the development and use of different energy sources. Particularly noteworthy are **Faith in Numbers,** which shows how water powered the medieval industrial revolution; **Thunder in the Skies,** which portrays the wood shortage in the 17th century, the first real energy crisis, the adoption of coal as a substitute, the development of the steam engine, and the rise of the petroleum and natural gas industries; and **Countdown,** which traces the development of electricity and television.

The Conquered Dream, 51 min., color, 1974. Producers. The National Film Board of Canada & BBC-TV. Distributor. Centron Educational Films.

The Canadian northlands have been left largely untouched until the last 60 years. Before that, they were the home of Eskimos, caribou, seal, etc. Then, modern explorers realized that there were vast resources of gold and oil in the area and the rush to develop and exploit began. The film traces the early explorations into this area and includes some rare footage of Stefansson's and Byrd's journeys. Notes the constant pull between the need for energy and other resources and the urgent need to preserve the delicate balance of nature. —E.D.

Hannibal, 103 min., color, 1960. Director: Edgar G. Ulmer. Distributor: Audio Brandon Films.

Despite the impressive chariot race in **Ben-Hur,** few Hollywood spectacles of the ancient world focused on the theme of animal power as an energy source. The best depiction of this seems to be in the Italian-made **Hannibal,** in which the Carthaginian leader's elephant force is employed to make the treacherous climb up the Alps en route to the invasion of Italy. Human labor as an energy source is depicted in sprawling Cecil B. DeMille fashion in the early scenes of **The Ten Commandments** (219 min., color, 1956. Distributor: Paramount/Films Inc.) as the Hebrew slaves build an Egyptian city under the supervision of their future savior, the young prince Moses (Charlton Heston, of course). —B.C.

The Harvest of the Seasons, 52 min., color, 1974. Producers: BBC-TV & Time Life Films. Distributor: Time Life Multimedia.

Among other things, Jacob Bronowski covers man's domestication of plant and animal life, and how the Neolithic cultivators surfaced with the nomads and the roots of warfare. From *The Ascent of Man* series. —J.T.

The Limits to Growth, 30 min., color, 1975. Producer: United Nations Television. Distributor: Great Plains National Instructional Television Library.

Is there indeed a limit to the growth potential of the world resources of water, air, fuel and food? This film presents a historical overview of the development of the modern industrial world from the 13th century to the present. During most of that time, the story is one of ever-increasing growth and consumption. Presents various viewpoints, i.e., some who still think that the world is able to cope with the endless spiral and others who caution that the resources are indeed finite, that we have almost reached the limits of expansion possibilities. Suggests that the time has come to slow down in many areas, that we must redirect our energies into smaller, more manageable units of society. —E.D.

The Medieval Mind, 26 min., color, 1969. Director: John Barnes. Distributor: Encyclopaedia Britannica Educational Corp.

Presents the paradox of the medieval culture. Religion was a unifying force, as evidenced by the artwork and magnificent cathedrals built in Western Europe during the period. Concurrently, advances in agriculture (the invention and utilization of horseshoes, wheeled plows, the harness), and elsewhere (stirrups for the cavalry, eyeglasses) were introduced, thereby altering the role of man in his culture. Secular values began to replace religious ideas as the technological innovations produced the beginnings of "leisure time." The film's structure is weak, but it can be used to provoke discussion of attitudes towards change. —J.R.

4 Multiplying Energy: 19th and 20th Century Developments

The Ballad of the Iron Horse, 29 min., color, 1970. Producers, Helen Jean Rogers and John Secondari. Distributor: Learning Corp. of America.

A dramatic re-creation of the era of the development of the railroads. Shows how the railroads made the fast movement of people a possibility and how the growing industrial revolution was fostered and encouraged by the trains. Includes the story of the building of the first transcontinental rail line which linked the two coasts of America. —E.D.

The Drive for Power, 52 min., color, 1973. Director, David John Kennard for BBC-TV & Time Life Films. Distributor, Time Life Multimedia.

Jacob Bronowski classes the Industrial Revolution as a social one (as were the American and French Revolutions). Begun in the countryside, with inventions like the water mill to provide energy, it was a revolution of the "practical," not the educated man; the inventions and innovations were designed for everyday use. The film shows the increasing understanding of nature as a carrier of energy (Franklin's experiments with electricity). Man moved from farm laborer to industrial worker. Canals and railroads were instituted; increased use of iron created the iron bridge. Explains that all aspects of man's culture—even literature—were affected by the changes occurring with this new awareness of nature and the resultant technological innovations. Provides a view of the interrelatedness of man, nature, and technology. From *The Ascent of Man* series. —J.R.

How Green Was My Valley, 118 min., b&w, 1941. Director, John Ford. Distributor: Films Inc.

The classic Richard Llewellyn story of life and love in a Welsh coal mining community, the constant drudgery and fear which living by the mines caused, the damage to the men's health; the fate of the women and children who often had to live in dire poverty after their fathers and husbands were killed or injured in the mine. Gives a clear picture of the price that has been paid by the mining communities for the exploitation of this source of energy. The cast includes Donald Crisp, Roddy McDowall, and Maureen O'Hara.

Even grittier and more desperate is the situation of the coal miners and their families in **The Stars Look Down** (104 min., b&w, 1940. Director: Carol Reed. Distributors: Macmillan Films; Museum of Modern Art) in which the coal dust coats every hovel in the company town **The Proud Valley** (77 min., b&w, 1940. Director, Pen Tennyson. Distributor: Films Inc.), with Paul Robeson, demonstrates the camaraderie and interdependence of coal miners. —E.D.

The Indomitable Blacksmith: Thomas Davenport, 20 min., b&w, 1953. Director: William J. Thiele. Distributor, Indiana University, Audio-Visual Center.

Dramatization of blacksmith Tom Davenport's discovery in the 1830s of the principle behind the electric motor, and his efforts to develop a practical, working model. The moment of discovery is shown as accidental; a spinning wheel that Davenport repaired with an iron patch moves when it comes in contact with an electromagnet. Observes that the industrialists of the period, committed to steam power, remained unconvinced of the potential of Davenport's invention. From *The Cavalcade of America* series. —K.S.

The Industrial Revolution in England, 26 min., color, 1959. Producer: John Barnes. Distributor: Encyclopaedia Britannica Educational Corp.

Prior to the Industrial Revolution in Great Britain, textiles were produced according to the "domestic system," i.e., spinning and weaving were carried out in a Master's cottage, where weaver apprentices or journeymen worked and lived, handcrafting each and every product. As a result, no great quantities of products were produced, and workers were not much better off than serfs. In the space of 100 years, however, the invention of the spinning jenny, power loom, and steam engine transformed Britain from an agrarian society to an industrial leader—a land of cities, bustling mills, and exploitation of workers. This traditional educational film personalizes its lesson with dramatization and animation, making the historical transformation and discovery of the three singular inventions a palatable experience.

A companion film, **The Industrial Revolution: Beginnings in the United States** (23 min., color, 1968. Producer/Distributor: Encyclopaedia Britannica Educational Corp.) is not as successful a film, but it does cover the importance of water power, Samuel Slater's first textile mill (from his British model), and Eli Whitney's innovation of interchangeable parts (muskets) in the move from bucolic farming nation to a land of cities and factories in the space of fifty years. —J.T.

Money on the Land, 52 min., color, 1972. Producer, Michael Gill for BBC-TV. Writer/Narrator: Alistair Cooke. Distributor: Time Life Multimedia.

Alistair Cooke's droll commentary on the rise of capitalism in the U.S. covers the change from a nation of yeoman farmers to one of urban dwellers and factory workers. He examines the sweeping changes in agriculture that were achieved during the 19th century through inventions like the reaper and combine, which paradoxically made the farmers' lot tougher: the increased productivity caused prices to drop so much that farmers went into debt to pay for the technology that increased their output. Cooke also examines the rise, achievements, and guiding mentalities of the giant capitalists Rockefeller and Carnegie, and the inventor-entrepreneur Thomas A. Edison. From the *America* series. Might be used in tandem with two accounts of fictional capitalists. **In A Corner in Wheat** (12 min., b&w, silent, 1909. Director: D. W. Griffith. Distributor: Museum of Modern Art), wheat king Frank Powell's coups on the market are contrasted with the distress his machinations cause. **Come and Get It** (99 min., b&w, 1936. Directors: Howard Hawks & William Wyler. Distributor Audio Brandon Films) focuses on the lumber industry and how the exploitation of America's forests made one man wealthy. —M.C.

Patent Pending, 51 min., color, 1975. Producer: Ray Hubbard. Distributor: Gould Entertainment Corp.

A history of the early days of the Industrial Revolution in America. Such men as Eli Whitney, Cyrus McCormack, Ransome Olds, Henry Ford, Isaac Singer and others are shown as they developed their inventions which changed the face of the world. Uses archive footage, stills, and old drawings. A reminder of where the fuel-hungry society came from. —E.D

5 Plenty and Profligacy: Energy and Growth in America

American Graffiti, 112 min., color, 1973. Director: George Lucas. Distributor: Universal 16.

Americans' social, cultural, and economic dependence on the automobile is no more vividly represented than in this nostalgic look at California high schoolers tooling about on the pivotal night of the senior prom in the pre-energy crisis era of 1962. That the characters are defined by their choice of wheels is best exemplified by Suzanne Somers' role as the elusive, unattainable "blonde in the white T-Bird."

Burning rubber on the highway has become the dominant metaphor for freedom in the films of the '70s, as evidenced by the success of such titles as **Vanishing Point** (107 min., color, 1971. Director: Richard C. Saralian. Distributor: Films Inc.), **The Last American Hero** (100 min., color, 1973. Director: Lamont Johnson. Distributor: Films Inc.); **Grand Theft Auto** (89 min., color, 1977. Director: Ron Howard. Distributor: Films Inc.); **Convoy** (111 min., color, 1978. Director: Sam Peckinpah. Distributor: United Artists 16); and, in particular, **Smokey and the Bandit** (97 min., color, 1977. Director: Hal Needham. Distributor: Universal 16) in which Burt Reynolds in a souped-up Trans Am diverts the hopelessly incompetent forces of law and order from a 24-hour beer run from Atlanta to Texarkana and back. As gasoline supplies diminish, Hollywood will have to alter its metaphors. —B.C.

The American Parade: The Second Revolution, 27 min., color, 1977. Producer: CBS News. Distributor: BFA Educational Media.

In 1789, Samuel Slater brought the secrets of the British textile spinning frame to the United States. This was the beginning of the large-scale production of textiles in this country. Later, when Eli Whitney invented the cotton gin and Frances Cabot Lowell built the first self-contained factories, industry continued to expand. This expansion had a very profound effect on the way of life of the entire country. Soon, 19th-century America was booming with new industries and inventions and the Westward expansion was well under way. A good overview of the origins of the energy-hungry world we inherited. —E.D.

Conflicts in American Values: Where Do We Go from Here, 15 min., color, 1974. Producer: Ealing Corporation. Distributor: BFA Educational Media

A discussion catalyst on three different points of view in the present energy crises: a coal producer, a farmer who does not want his land strip-mined, and a manufacturer who is most anxious to have more coal to use in his business. All three make very good cases for why they are right. A good film to start a dialogue on this topic. —E.D.

Energy—The American Experience, 28 min., color, 1978. Producer/Distributor. U.S. Dept. of Energy.

A look at 200 years of history: how we developed our various energy resources, progress from wood to coal, coal to oil, oil to gas. All of these changes made us the industrial leader of the world, but we continue to pay a price for this overconsumption of energy. Now seems to be the point in time when we will have

to do something about the problem, before all these finite resources are gone. —E.D.

The Farmer in a Changing America, 27 min., color, 1973. Directors: Randolph Hobler & Paul Stein. Distributor: Encyclopaedia Britannica Educational Corp.

Since the Depression, agribusiness has replaced agriculture. An individual farm can stretch for miles and is so completely mechanized that farm work is comparable to factory work. Farmers have become managers, and scientific advances have so improved standardization and quantity that 2% of the population feeds the other 98%. Concentrates on the vast machinery that has revolutionized the harvesting and processing of crops, and the wave of the future when farming will be carried out in domed, controlled environments. —M.C.

Henry Ford's America, 56 min., color, 1977. Director: Donald Brittain. Distributor: National Film Board of Canada.

Henry Ford was the founder of a dynasty of automobile manufacturers. The invention and production of the Model T was the ultimate liberator of the masses. Cars grew ever bigger and better as the years went on, and finally, every home had, not one, but often two or more Fords in the garage. As well as touching on the life of a big industrialist, this film explores the impact upon our lifestyle of the automobile, which now dominates all of our lives. —E.D.

The New Alchemists, 29 min., color, 1975. Director: Dorothy Henaut. Distributor, Benchmark Films.

On a small farm in Massachusetts, a group of scientists and their families maintain a lifestyle independent of modern chemicals and high-energy technology. Plants are grown in ways that encourage their natural defenses to keep away undesirable diseases and pests. Only organic fertilizers are used, and heat and light are provided by solar heat and a home-built windmill. Gives a very positive picture of the possibilities of living a comfortable, self-sufficient life in the post-fossil fuel era. —E.D.

Power and the Land, 35 min., b&w, 1940. Director: Joris Ivens. Distributors, National Audiovisual Center, Macmillan Films, The Museum of Modern Art.

Shows the transformation that electricity makes in the lives of a dairy farmer and his family. Before the establishment of the Rural Electrification Agency, which made it possible for American farmers to enjoy the benefits of electricity, the farmer and his wife had to do all their work manually. The installation of electricity made the workday less wearing. Concentrates on the conveniences that electricity can bring, electric milking machines, refrigeration, assorted lightweight household appliances, etc. —M.C.

Power and Wheels: The Automobile in Modern American Life, 17 min., color, 1972. Director: William Kay. Distributor, Encyclopaedia Britannica Educational Corp.

Explores America's love affair with the automobile, including its original benefits of providing cheap transportation, shortening geographical distances, and obscuring social distinctions. The automobile is so closely tied to the economy that one out of six members of the work force is engaged in an automobile-related service. Like an uncontrolled monster, the automobile has even defaulted on its promise of escape, the millions of cars on the road and the endless traffic jams make escape impossible. —M.C.

A Thousand Suns, 9 min., color, 1974. Director: Dick Gilbert. Distributor: Barr Films.

An attempt to put the ethic of conspicuous consumption into perspective. We have created a standard of living in America undreamed of in most other parts of the world. Our most important product has become waste, which raises the question of how to dispose of it. Man must set a higher value on things that endure and do so without causing damage to others and the planet itself. —E.D.

Waterground, 16 min., color, 1977. Director: Frances Morton. Distributor: Appalshop Films.

A tribute to a 100-year-old water-powered North Carolina grist mill, operated by a descendant of the original operator. Walter Winebarger talks about his work, the natural flour he provides (no bleach, no chalk), and his business today vs. the mill's 24-hour-a-day, six-day-a-week business in the '20s. He grinds flour and meal using a method little changed from the process used by five generations of Winebargers. The mill operates in a lush, natural setting, which is contrasted with the interior of an automated General Mills plant in Johnson City, Tennessee. The GM flour is mass processed and packaged in sterile, inhuman surroundings. An executive talks about electricity, speed, and big profits. Winebarger enjoys small profits, but immense satisfaction from his work. —J.T.

Waterloo Farmers, 28 min., color, 1976. Director: Italo Costa. Distributor: National Film Board of Canada.

An interesting contrast between two branches of the Amish faith. The Old Order and the New Order differ on the efficacy and propriety of using up-to-

date farming methods. The Old Order continues 400-year-old traditions, the New Order uses modern equipment in an attempt to cut labor and improve quality. A good discussion-starter for the real problems behind old and new, organic or energy-intensive farming. —E.D.

6 Prelude to Crisis

Louisiana Story, 77 min., b&w, 1948. Director: Robert Flaherty. Distributor: Films Inc.

Commissioned by Standard Oil of New Jersey to show the great benefits that come from developing the oil resources of the country. A small Cajun boy and his family are affected by the coming of an oil company to drill a well in the bayou. The boy makes friends with the drillers and gradually comes to see them as beneficial to his community. The photography of Richard Leacock and the music of Virgil Thomson underscore the drama in this sensitive film. Of course, there are new ways to look at this film today. Many feel that the oil company—far from providing the family with a few material goods—is in reality ruining one of the great remaining natural resources, the bayous of Louisiana. Very good film to use in a discussion of this issue. —E.D.

Mr. Blandings Builds His Dream House, 94 min., b&w, 1948. Director: H. C. Potter. Distributor: Films Inc.

Americans' desire for their own homes during the postwar housing shortage was somewhat unrealistically reflected in this witty tale relating the varied comic disasters inherent in the building of a home. Cary Grant is the apartment-dwelling ad man who aspires to suburbia; Myrna Loy, his whimsical spouse; and Sharyn Moffet and Connie Marshall, their precocious daughters. —B.C.

The River, 30 min., b&w, 1937. Director: Pare Lorentz Photographers: Stacey Woodard, Floyd Crosby, Willard Van Dyke. Music: Virgil Thomson. Distributor: National Audiovisual Center.

Classic '30s documentary that follows the Mississippi (and its tributaries) from its source to the sea and studies the industry, life, and trade that depend on the river and the hardships caused by the river. Produced for the Farm Security Administration, under the Dept. of Agriculture, the film proved to be effective propaganda for the Tennessee Valley Authority, the government-financed corporation that harnessed the energy of the Tennessee River and converted it into electrical power. —M.C.

Thunder Bay, 102 min., color, 1953. Director: Anthony Mann. Distributor: Universal 16.

In the pre-OPEC era, conflicts and triumphs within the burgeoning oil industry served as the basis for many Hollywood melodramas, including such titles as **Oil for the Lamps of China** (98 min., b&w, 1935. Director: Mervyn LeRoy. Distributor: United Artists 16), **Boom Town** (120 min., b&w, 1940. Director: Jack Conway. Distributor: Films Inc.), **Black Gold** (1963), and, more recently, **Oklahoma Crude** (112 min., color, 1973. Director: Stanley Kramer. Distributor: Swank Motion Pictures). Location photography and impressive footage aboard an offshore oil rig enhance **Thunder Bay,** one of the few such films in which the romantic subplots took a back seat to the drilling action. James Stewart and Dan Duryea endeavor to be the first wildcatters to strike offshore oil, and, in doing so, come into conflict with the proud shrimp fishermen of the Louisiana Gulf Coast. Provides an authentic picture of one aspect of the oil industry and an indication of environmental issues to be considered. —B.C.

Urbanissimo, 6 min., color, 1970. Directors: John Hubley & Faith Hubley. Distributor: Films Inc.

The Hubleys' animated impression of a city: a satirical portrait of a jumble of buildings and blocks on legs invading the countryside, exploiting our natural resources, destroying mountains, 'raining oil, polluting duck ponds, and technologically improving things in ways that earn a farmer an eggbeater for his eggs and canned fruit for his fresh produce. When crisis strikes, the city's legs are innovatively replaced with wheels. —M.C.

Wild River, 105 min., color, 1960. Director: Elia Kazan. Distributor: Films Inc.

A Depression-era drama dealing with the effects on a community of the economic upheaval caused by the Tennessee Valley Authority project to bring hydroelectric power to the area. A government engineer is sent to convince an old woman that she must leave the island that she and her husband have homesteaded. Raises personal, human problems that such well-intentioned searches for more energy have so often caused. With Montgomery Clift, Lee Remick, Jo Van Fleet, Bruce Dern. —E.D.

7 Other People, Other Patterns of Energy Use

Desert Cloud, 18 min., color, 1976. Director: Graham Stevens. Distributor: Bullfrog Films.

In Kuwait, as in many other countries where the climate is inhospitable, people have used many devices to create a comfortable living environment. Houses are built with thick stone walls, which keep out the sun during the day but store heat which is later released at night. Streets are narrow, so there is always shadow along them; courtyards inside the houses provide walkways and an area for the circulation of air. The "desert cloud" of the title is a solar structure built of two kinds of plastic, black and clear in color. The heat expands the air in the center, causing a balloon to rise. The balloon pulls in more air and increases its storage capacity. As it rises from the desert floor, condensation underneath causes "rain" to fall. A dramatic demonstration of the possibilities of using the abundant energy of the sun to improve the environment. This is contrasted with the recent development of the oil wells in this area and the profound effect they have on the lifestyle. —E.D.

Findhorn, 62 min., color, 1976. Director: Peter Werner. Distributor: Moving Pictures.

The Findhorn Community in Scotland is primarily a religious community. However, their lifestyle contains many lessons for persons seeking ways to live more in harmony with nature. Members build their own community houses, and grow almost all of their own food in very productive organic gardens. Highlights one possible approach to the worldwide need for new methods of survival. —E.D.

Living the Good Life, 30 min., color, 1977. Director: John Hoskyns-Abrahall. Distributor: Bullfrog Films.

Some 45 years ago, Helen and Scott Nearing decided to drop out of the energy-consuming market economy. They built their own energy-efficient home by hand, grew all their own food, and cut their own firewood as their source of heat in the harsh New England winters. However, they have not dropped out of involvement with society. As pacifists and vegetarians they have written many books and made many public appearances supporting their political beliefs. For Americans interested in being more self-sufficient, and as a study of the possibilities of such a lifestyle, this is a good discussion film. —E.D.

Mac's Mill, 12 min., color, 1979. Producer: National Film Board of Canada. Distributor: Bullfrog Films.

Mac Armstrong owns 2,000 acres of heavily timbered land in Canada. He also has a stream flowing through the middle of his land, so he works a water-powered sawmill built originally by his father shortly after the turn of the century. Mac and his father reflect on their way of life and on their ability to remain independent in a world where most people are dependent upon others for survival. If carefully harvested, the forest will last forever. Cutting and selling his own timber on request, Mac has the means at hand to maintain a regular income. Simple operation makes it possible for him to manage without hiring an army of workers. Mac's Mill operates on the Schumacher theory that technology should be appropriate to the people whose lives are affected by it and small enough to stay within their control. —E.D.

More Nuclear Power Stations, 48 min., color, 1976. Director: Per Mannstaedt. Distributor: Green Mountain Post Films.

A Danish film which tours nuclear power facilities in various parts of Europe. A good illustration of the wide use of this source of energy which has far-reaching political and social consequences for all people. —E.D.

A Sense of Place, 56 min., color, 1976. Director: René Bonnière. Distributor: National Film Board of Canada.

Studies the problems involved in moving vast numbers of people from a rural to an urban area. Should be of great interest to town planners and government officials who must deal with the ever-increasing problem of the movement to larger urban areas. Another film in the NFBC's *Urban Transportation* series, which also includes **Where Do We Go from Here, A Bus—For Us,** and **Regina Telebus.** —E.D.

8 The International Politics of Energy

The Bottom of the Oil Barrel, 34 min., color, 1973. Producer. BBC-TV. Distributor: Time Life Multimedia.

The oil age has been with us for approximately 100 years. During that time we have become dependent on oil for transportation, heat, and light. Now we are becoming aware that we have been wasteful and selfish; the supply is coming to an end. Engineers and scientists rush around the world desperately seeking to find new deposits of oil and ways to extract the small deposits in inaccessible places. Raises many questions about the possibilities of what will happen after the oil is gone, or if indeed there is still time to save the supply. —E.D.

The Choice Is Ours, 23 min., color, 1976. Producer. Shoshoni Productions. Distributor. University of California, Extension Media Center.

An introductory overview of the problems of a world of finite resources and capabilities. Addresses the problems of overpopulation, famine, dwindling energy resources, and pollution. Discusses both the problems and some possible solutions. —E.D.

Controlling Interest: The World of the Multinational Corporation, 45 min., color, 1978. Director: Janet Roach. Distributor: California Newsreel.

An account of the growing power of the multinational conglomerates and their influence over global affairs and international policies. Raises many of the basic questions about the conflict between the profit motive and expansion needs of the corporation and the human needs of the people of the world. What will happen when the world begins to move to a more simple global economy in the face of waning industrial possibilities? —E.D.

A Modern Egyptian Family, 17 min., color, 1977. Director: Sam Bryan. Distributor: International Film Foundation.

Although Egypt is less endowed with natural resources than many of the Arab countries, it is still very much affected by world pressures on the Middle East. This is the story of one modern Egyptian family, more fortunate than many. The father is an oil engineer, the grandfather is an old-style farmer. A good illustration of the conflicting lifestyles in Arab countries, which struggle to exploit their natural resources and improve their way of life, aware of the many problems that such "prosperity" often brings. —E.D.

Rana, 19 min., color, 1977. Director: Debby Kingsland for Film Australia. Distributor: Wombat Films.

Rana is a young Moslem student living in Old Delhi; she lives the traditional life in a strict Islamic family. However, her family is one of great learning and some modern views. Rana is shown going each day to the University where she hopes to earn a degree. She is also a linguist and gives lessons in several different languages. Seemingly, this is a portrait of a woman in an emerging and developing country who has made the transition from ancient traditions to modern life. Yet Rana expects to marry when her parents find a suitable husband for her. She does not find this strange and comments that she has no fears about her parents' choice; as she puts it, "They know my nature and will choose well for me." A fine film to use in a discussion of the contrasting lifestyles in other parts of the world and the ways in which industrialization affects or does not affect traditions. —E.D.

Saudi Arabia: The Oil Revolution, 30 min., color, 1976. Director: Anthony Thomas. Distributor: Learning Corp. of America.

Explores the contrasting ways of life that make up modern Saudi Arabia. It remains, in most respects, a devout Muslim world where many women still wear the traditional veil and live secluded, protected lives, while their husbands go about the business of commerce. It is also a country where a few men acquire enormous wealth from oil and exploit this resource as widely as possible. This documentary is well-photographed and covers many of the essential differences between the many factions in Saudi Arabia. —E.D.

9 The Global Lifeboat: Energy and the Third World

The Cost of Cotton, 30 min., color. 1978. Director: Luis Arguenta Distributor: Latin American Film Project.

Guatemala has become one of the world's most producers of cotton. This developing nation faces increasing pressure from other countries to develop this industry to supply the world with more cotton. Unfortunately, this industrialization has had a profound effect on the way of life of the people. Because of the chemical pesticides used in the growing of the cotton crop, serious health and environmental problems have resulted. —E.D.

Land of the Broken Sky, 13 min., color. 1972. Producer: Texaco Inc., with Film Counselors, Inc. Distributor: Association Films.

While developed industrial nations begin to look for alternatives to the heavy use of oil, the Third World is beginning to search for ways to increase their supplies. One such project is the building of the Trans-Andean pipeline. This airborne pipe is helping to bring energy supplies to developing Latin American nations. —E.D.

Misa Colombiana, 20 min., b&w, 1977. Director: Anne Fischel. Distributor: Documentary Educational Resources.

The developed countries of the West strive to cut back on their economic and resource waste at the same time as many emerging countries try to gain the "better" living conditions and increased supply of consumer goods they envy. Here we see a shanty town in Colombia, which seeks to find a better way of life for its 370 families. Living next to the town dump, they spend much time reclaiming materials from it in order to supply both food and hardware in the struggle to improve their lifestyle. —E.D.

Sky Chief, 26 min., color, 1972. Producer: Michael Scott. Distributor: University of California, Extension Media Center.

The confusion and conflict brought about when an international petroleum consortium moves into an Ecuadorian village. The lives of the mestizo settlers, traders, and indigenous groups will be disrupted by this "invasion" of foreigners. But, will they benefit from this invasion? Most will not find jobs in the new industry, nor does their way of life permit them to take advantage of the new energy source. A good film to use in a consideration of the problems of foreign exploitation for foreign profit in a rural economy. —E.D.

We Didn't Want It to Happen This Way, 28 min., color, 1978. Director: Herb Goro. Distributor: International Association of Machinists and Aerospace Workers.

One of the problems of our heavily industrialized society has been the high cost of manufacturing the complex materials it needs. To counteract this expense and probably also to increase profits, many multinational corporations have in recent years begun to make an increasingly large part of their products in other, Third World countries. This has had a big effect on American workers, many of whom have lost their jobs to cheap labor in developing nations. —E.D.

10 Conventional Fuels in Transition

Appalachia, Rich Land Poor People, 59 min., b&w, 1971. Director: Jack Willis. Distributor: Indiana University, Audio-Visual Center.

The problems of unemployment and subsequent exodus from the coal mining towns of eastern Kentucky where mechanization of the mining industry is eliminating many jobs. The federal unemployment programs and the coal companies have done little to help the people of the area. Meanwhile, the stripping of the land has contributed to a terrible erosion problem which leaves the land infertile and unproductive once the coal has been taken from it. Indicts the indifference of business interests. —E.D.

Coal: The Other Energy, 15 min., color, 1978. Director: Hal Kirn. Distributor: U.S. Dept. of Energy.

Many believe that coal may well be the fuel source that will last us the longest in the present stage of technology. Unfortunately, coal as a fuel pollutes the air to an alarming degree and has been banned in many places because of this. Now, a great deal of research is being done for ways to make this fuel burn cleaner and more efficiently. Illustrates the washing techniques that remove many of the harmful chemicals from the coal, but does not explore, in depth, the full costs of this additional process and their effects on the final cost to the consumer. —E.D.

The End of the Road, 23 min., color, 1975. Director: John Armstrong. Distributor: BP North America

The building of the 800-mile pipeline from Prudhoe Bay to Valdez. Dramatically shows the hard work involved in such attempts to make accessible the dwindling oil supplies in distant parts of the world. —E.D.

Firewood—The Other Energy Crisis, 10 min., color, 1977. Director: Dick Young. Distributor: Dick Young Productions.

Many people have turned in recent years to wood-burning stoves and open fireplaces as one way to help with energy supplies and the problems of fossil fuels. Unfortunately, use of wood also poses some other problems. Indiscriminate cutting of trees for firewood can also have a very bad effect on the environment. Erosion, flooding, and depletion of resources can follow as a consequence of bad forest management. An effective look at environmental problems that can arise when sources of power are exploited without giving thought to the consequences. See also **The Renewable Tree** (59 min., color, 1975. Director: Ben Shed. Distributor: Time Life Multimedia), which documents the forest industry and questions the claim that trees are a renewable resource. Shows the history of tree farming, genetic research in tree production, and modern management techniques as applied to the cutting of trees. From the *Nova* series. —E.D.

Massachusetts Story, 58 min., color, 1977. Director/Distributor: Gordon Massingham.

Studies the oil exploration off the coast of George Bank, Massachusetts. Shows the fears and concerns of the shipyard owners and the position of the government officials in charge of the project. Gives a good history of the region, highlighting the changes that may come to this region as the quest for energy is pursued. —E.D.

Natural Gas: Supply and Demand, 28 min., color, 1974. Director: Stuart Knickerbocker. Distributor: Consumers Power Company.

A gas company film about the history of the natural gas industry. Discusses the problems of diminishing domestic supply and the need to explore for new sources. —E.D.

Offshore, 19 min., color, 1973. Director: John Ralph. Distributor: National Film Board of Canada.

Off the coast of Nova Scotia, the Canadian government is exploring for undersea oil. The Sedco-H drilling rig operators work 24 hours a day, hoping to hit the oil fields that helped to form the western prairie of Canada. Illustrates the extreme measures that are being taken in many parts of the world in hopes of extending the world's usable reserves of fossil fuels. Discusses some of the problems inherent in this type of exploration and the constant precautions that must be taken to avoid the dangers of pollution and blow-out. —E.D.

Onshore Planning for Offshore Oil: Voices from Scotland, 21 min., color, 1976. Director, Janet Mendelsohn. Distributor: The Conservation Foundation.

As oil supplies dwindle, the big oil companies are constantly searching for new supplies. Modern technology has made it possible for them to begin to tap the oil under the ocean in many parts of the world. Unfortunately, as with so many other methods of mining, this brings with it another set of very special problems. In this instance, the social, physical, and economic effects of the drilling and offshore development in a Scottish seacoast town are considered. Somewhat static presentation of a very important issue. —E.D.

Saving a Big Land, 28 min., color, 1975. Director: Robert Dierbeck. Distributor: Great Plains National Instructional Television Library.

A United Nations film that explores the conflicting issues surrounding the development of the Alaskan pipeline. In theory, this pipeline will help to make the U.S. independent of imported oil and improve its capacity to continue as an industrialized nation. On the other hand, the true impact upon the ecology of the region can only be guessed at; we may find that the price paid for such a pipeline will prove to be too high. —E.D.

The Slender Chance, 17 min., color, 1976. Director: Peter Griffiths. Distributor: BP North America.

A petroleum engineer tries to determine how much oil is actually in a hole that has been drilled thousands of feet deep. He must find the evidence that will help an oil company decide whether tapping this well will bring in sufficient new oil to justify the potential cost of the project. —E.D.

Western Coal: An American Dilemma, 21 min., color, 1976. Director: John Hanson. Distributor: Churchill Films.

Many feel that coal is the best hope for a temporary solution to the energy crisis. Unfortunately, its mining and use present many special problems. One community in Montana is shown discussing the effects of strip mining. Ranchers and townsfolk, officials and corporate interests argue the different problems of preservation of land and a way of life versus jobs for miners and provision of energy supplies. —E.D.

11 Nuclear Energy: A Faustian Bargain?

The Battle Over the Peaceful Atom, 40 min., b&w, 1976. Directors: Philip Loreti & Jon Sutherland. Distributor: Sutherland/Loreti Productions.

Examines many aspects of the continuing debate over nuclear energy, using one Rhode Island community as the focus. Presents both sides as objectively as is possible with such an emotionally charged issue. —E.D.

The China Syndrome, 122 min., color, 1979. Director: James Bridges. Distributor: Swank Motion Pictures.

In a foreshadowing of the Three Mile Island (Pennsylvania) disaster, TV newsreporter Kimberly Wells (Jane Fonda) and cameraman Richard Adams (Michael Douglas) happen on an accident in a California nuclear plant. They secretly film the control-room confusion and then have difficulty convincing the TV station manager to air their report. With the aid of a frightened but conscientious engineer, Jack Godell (Jack Lemmon), Wells and Adams try to expose the near disaster. A sad commentary on scientists and conscienceless, opportunist corporate executives. When **The China Syndrome** premiered, power company spokesmen unanimously agreed the film's thesis was implausible. But only a week later, their credibility was lost because of the Three Mile Island fiasco. —M.C.

Danger! Radioactive Waste, 50 min., color, 1976. Director: Joan Konner. Distributor: Films Inc.

Although the debate over the safety of nuclear energy continues, the major stumbling block in the development of this kind of energy is the problem of disposing of radioactive waste. In 1950, hundreds of barrels of radioactive material were sunk into the oceans in what was then considered a safe method of disposal. In 1975, the Environmental Protection Agency discovered that some barrels sunk off the Farallon Islands west of California had leaked into the sea. At about the same time, scientists discovered the world's largest known marine sponge, leading to speculation that this had been caused by genetic mutations brought about by excessive radiation. Now, radioactive waste is buried in the ground. But no box, bin, or other coffin invented to bury the waste will last forever; radioactivity continues for hundreds of millions of years. This is one of the major problems that scientists must solve if nuclear power is to become a generally acceptable, practical source of energy. —E.D.

Lovejoy's Nuclear War, 60 min., color, 1975. Director: Dan Keller. Distributor: Green Mountain Post Films.

Depicts one man's act of civil disobedience and the subsequent legal actions against him. In 1974 Samuel Holden Lovejoy, concerned for his own safety and that of his neighbors, toppled the 500-foot steel weather tower of a projected nuclear power plant to bring public attention to the dangers of nuclear power. In the subsequent legal battle, Lovejoy was eventually acquitted on a technicality, but his action was instrumental in rousing the area to the possible dangers of the power plant and also in halting its construction. —E.D.

No Act of God, 28 min., color, 1977. Directors: Ian Ball & Sidney Goldsmith. Distributor: Bullfrog Films.

Here, we see some of the characteristics of the liquid metal cooled fast breeder fission reactor, with a discussion of the grim problems involved in the use of

this type of energy source. The filmmakers assembled an impressive list of authorities to speak on the subject. They touch, in general, upon three main issues, the lack of safe ways to dispose of nuclear wastes, the possibilities of sabotage and terrorist activity, and the increased availability of plutonium for weapons. —E.D.

The Nuclear Dilemma, 40 min., color, 1974. Producer: BBC-TV. Distributor: Time Life Multimedia.

For many, the nuclear fission reactor presents the best and easiest solution to the present energy crisis. To others, it is a frightening and deadly method that should not be pursued until and unless it can be made one hundred percent safe, if this is possible. Many feel that we are approaching an inevitable disaster, others feel that without it we are doomed to a "stone-age" existence. —E.D.

Target for Antares, 16 min., color, 1978. Director: Charles R. Barnett. Distributor: Los Alamos Scientific Laboratory.

Many critics of nuclear power reactors of the breeder variety are aware that the alternate possibility of laser-fusion might offer a safe alternative. Here, we see one such experiment being conducted in a government laboratory. Using both microphotography and animation, this beautiful and awe-inspiring film attempts to find a way to use this technology to help solve the dilemmas we face. A very good film which should generate discussion: might well be used with one of the films on breeder reactors in a full exploration of this controversial area. —E.D.

To Imitate the Sun, 33 min., color, 1971. Director: Jim Chimbidis. Distributor: U.S. Atomic Energy Commission.

The workings of a nuclear fusion generator. The many problems that government scientists see in controlling such units and their conviction that these problems must be solved in order to consider using nuclear-generated electric power. —E.D.

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12 Solar Energy and "Appropriate Technologies"

A Building in the Sun, 20 min., color, 1978. Director: Gary W. Griffen. Distributor: Griffen Productions.

Studies the building of the largest privately financed solar heated building in the United States. From the outset of the project, the architects and owners were determined to build with as little environmental damage to the area as possible. The resulting building is pleasing in design and very efficient in function. Unfortunately, the film does not clarify all aspects of the building, and there is much use of cloying classical music throughout. —E.D.

Dawn of the Solar Age I: Solar Energy, 29 min., color, 1977. Producer: Edward Goldwyn. Distributor: Time Life Multimedia.

Dawn of the Solar Age II: Wind and Water Energy, 25 min., color, 1977. Producer: Edward Goldwyn Distributor: Time Life Multimedia

We live in a technologically advanced culture with ever-increasing demands for energy. Will we turn to nature to satisfy these needs? These two films, which can be used either consecutively or individually, clearly present the developing technologies harnessing energy from nature. Superb photography, fine animation, charts, diagrams, and clear presentation detail the efforts to convert, store, and use energy from the sun, wind, or water. Explains the efficiency of these energy sources and the problems inherent in each. From the *Nova* series. —J.R.

Energy for the Future, 17 min., color, 1974. Director: Bert Van Bork. Distributor: Encyclopaedia Britannica Educational Corp.

Several new methods of finding and using energy are surveyed. Scientists look under the sea in the hope of finding cheaper, safer nuclear power. The wind may be used to power more than the conventional windmill. Also looks at one house that has for many years operated as a solar heated and electrified home. —E.D.

Energy: The Problems and the Future. 23 min., color, 1978. Producer/Distributor: National Geographic Society.

The basic elements of the world— water, earth, wind, and heat—are all possible future energy sources. Although many people fear that these will prove to be too expensive to harness, much work is already being done to develop these natural, renewable, nonpolluting resources. In France, the Rance River project uses tidal power to provide electricity; in some areas, hot water springs can provide warmth. Windmills have been used in many parts of the world for centuries, and are beginning to be used again in an increasing number of technologies. In New Mexico, research on the use of passive solar energy is being carried out. A good overview of many "soft" alternatives to current energy problems. —E.D.

Pedal Power, 18 min., color, 1978. Director: John Hoskyns-Abrahall. Distributor: Bullfrog Films.

As we search for ways to reduce our dependence on fossil fuel, the bicycle is returning as a fine alternative. In addition to being used to drive a bike, pedal power has many other possibilities for a variety of household tasks, from grinding corn to making ice cream and chopping wood, etc. A good discussion film for a consideration of alternatives. —E.D.

The Sunbeam Solution, 38 min., color, 1974. Producer: BBC-TV. Distributor: Time Life Multimedia.

Oil is running out, nuclear power stations are at best dangerous and certainly meet with a good deal of community resistance. What then are the alternatives? Here, we see some of the many ways in which we might use solar power as a solution to the problem. Orbiting power stations might provide enough power to operate factories and fuel urban buildings. Individual houses can be built with independent sources of solar power. Wind and wave power, geothermal power, and the use of such natural elements as hydrogen are all new avenues under exploration. —E.D.

Terraset Sun, 20 min., color, 1978. Director: Chris Bedford. Distributor: Solarium Productions.

Reston, Virginia, was faced in 1976 with the need to build a new elementary school. Concerned by the ever-increasing costs of building and maintaining schools, the school board set about finding a more efficient answer to the problem. The Terraset Elementary School was the result. It was built very largely into the ground to utilize the earth's own heat, and it also uses solar energy for both heating and cooling the building. Scenes of the children in their new building give one the impression that this has been a very successful venture. Although this solution is obviously not applicable to all towns, this is a provocative film which would benefit town planners and legislatures, as well as taxpayers seeking to hold down local expenses. —E.D.

Wise Masters of Wind and Water, 16 min., color, 1976. Director: Mafilm Studio. Distributor: Perspective Films.

A non-narrated look at various ways that wind power can be used to drive machinery. The traditional uses of windmills and paddlewheels to sharpen tools, grind flour, and clean clothes are shown. Because the film has no comment, it might call for a little research and input from a group leader to get the most out of a screening. —E.D.

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13 Making Our Own: Synthetic Fuels

Bates' Car, 16 min., color, 1975. Director: Tony Ianzello. Distributor: Arthur Mokin Productions.

Essentially an interview with Harold Bates, who holds to the theory that one does not need gasoline in order to run a car. For years, he has successfully operated his car on gas which he produces from barnyard manure. Mr. Bates maintains that it is perfectly feasible for people to produce their own methane gas this way and be independent of the oil companies. —E.D.

Before the Mountain Was Moved, 58 min., color, 1971. Director: Robert K. Sharpe. Distributor: McGraw-Hill Films.

A docu-drama, based on the fight of a group of West Virginians who were outraged by the effect of strip mining on their land. Shows many of the terrible effects of landslides and other environmental damage to their homes. The residents ran a well-organized campaign against this indiscriminate damage to their land by outside, profit-oriented coal companies. Eventually, they were successful in getting the state legislature to pass a strong strip-mining law. As many now consider coal—in its natural state and as a source for synthetic fuels—to be one of our best hopes for solving the energy crisis, this film takes on a new significance and deserves careful screening. —E.D

Bill Loosely's Heat Pump, 10 min., color, 1976. Producer: National Film Board of Canada. Distributor: Bullfrog Films.

Since 1951, Bill Loosely has heated his house by means of a heat pump which extracts heat from the ground around the house and pumps it into the house. The device is a very simple one: it employs copper tubing filled with Freon gas and is buried in the ground around the house at a depth of about five feet. The gas collects the heat from the ground, which remains a constant 45 degrees year round. The heat is drawn into the house and is distributed by means of a simple electric pump. Mr. Loosely estimates that the pump costs him about $70 a year to operate. This is an impressive case history when one considers that the house is in an area where the ground normally freezes to a depth of about three feet each winter. —E.D.

Buffalo Creek Flood: An Act of Man, 39 min., color, 1975. Director, Mimi Pickering. Distributor, Appalshop Films.

Sometimes the by-product of the industrial processes by which we seek to produce energy is destruction of land and people. A very dramatic instance of this was the Buffalo Creek Valley disaster in Kentucky. A dam built of coal waste burst, flooding the entire valley. Many were left homeless, some killed. Includes interviews with survivors and company officials, each giving their version of what happened and why. —E.D.

Recycling, 21 min., color, 1971. Director/Distributor: Stuart Finley.

One of the ways that some small measure of redress may be made to nature damaged by our wastefulness is in the reclamation of waste products through recycling. The potential for reclaiming many materials is great and many communities are now involved in various recycling efforts. One hope for the future is the production of eco-fuel from non-recyclable waste, which would rescue some of the energy now lost to us. —E.D.

A Well in West Virginia, 15 min., color, 1974. Producer. Stuart Finley. Distributor. American Gas Association.

Gas is still a relatively cheap fuel source, although supplies are by no means as certain as they once were. A geologist and a drilling crew are seen as they go about the business of searching out new sites for wells. —E.D.

14 More Through Less: Effective Energy Use

Backyard Alternative Energy, 26 min., color, 1978. Director. Kirby Brumfield. Distributor. Kirby Brumfield Energy Productions.

The Brumfield family is very interested in utilizing alternative energy sources, so they set out on a journey to see what different people have done to solve their energy problems. The family discovers windmills, solar heated greenhouses and houses, methane gas driven engines, pedal power, horse power, wood and steam power. In most cases, people designed and built their own units using unlikely or ingenious methods. Technically, the film has some flaws, including a rather coy narration, but many of the ideas it presents are of great importance. The film should have many uses in study groups. —E.D.

Regina Telebus, 20 min., color, 1974. Director: Rex Trasker. Distributor: National Film Board of Canada.

The citizens of Regina, Saskatchewan, have a successful mass transit system that operates in an unusual manner. It is a dial-a-bus flexible scheduling system, which relieves many of the problems that often hamper the development of suburban bus systems. Using small buses, citizens call a number and request service as needed; the bus provides on-demand, door-to-destination service. A model that communities would do well to study as they plan for community-wide transit. See also **A Bus—For Us** (14 min., color, 1976. Director: Rex Trasker. Distributor: National Film Board of Canada), for more on innovative busing. —E.D.

Rotary: Engine of the Future, 11 min., color, 1973. Producer. Institut für Film und Bild. Distributor: Films Inc.

The piston engine is generally regarded as an inefficient user of energy. Many feel that it must eventually be replaced by a more practical alternative. Here, we are shown the workings of a rotary engine which many experts feel will eventually replace the older engine. —E.D.

Running on Empty—The Fuel Economy Challenge, 27 min., color, 1978. Producer/Distributor: U.S. Dept. of Energy.

Illustration of the various ways in which car users can help save fuel. Discusses different problems encountered in city and highway driving. A public information film of considerable importance. —E.D.

Saving Energy at Home, 13 min., color, 1974. Director: Alan Barker. Distributor: Ramsgate Films.

The average home is a very wasteful place. Doors and windows leak valuable heat, pilot lights consume considerable amounts of fuel. Careless use of appliances, running two machines when one will do, and many other ways in which we waste energy are explored. Ways to cut down on such waste are noted. —E.D.

We Will Freeze in the Dark, 42 min., color, 1977. Producer: Capital Cities Communications. Distributor: McGraw-Hill Films.

The energy crisis affects all of us in a wide variety of

ways. It is exacerbated by our wasteful, self-absorbed lifestyle. Explores the need to engage in a wide variety of programs to avoid disaster. Recycling, insulation, new building designs, car pooling, solar energy—all of these are ways of approaching the problem. Makes the point that there is an urgent need for stronger government programs to combat the growing crisis. —E.D.

15 Choosing Our Future: Choices and Tradeoffs

Black Coal, Red Power, 41 min., color, 1974. Producer: Shelly Grossman. Distributor: Indiana University, Audio-Visual Center.

A competent, thoughtful exploration of the problems that have been caused by strip mines on the Hopi and Navajo lands in Arizona. On the one hand, such activities have provided jobs for the Indians. On the other, strip mining has caused severe erosion of their land, and damaged the ecology of the desert. Raises one very important question: how can we increase or exploit the supplies of remaining fossil fuels without doing permanent damage to both the land and the people on it? —E.D.

A City Farmstead, 15 min., color, 1977. Director: Louis Schwartzberg. Distributor: Phoenix Films.

Many feel that in order to survive the energy crunch, it may be essential to break up urban areas into smaller units. This film shows a project in Berkeley, California, in which an old house has been transformed into a self-reliant, ecologically sound urban habitat. Covers the areas of heating, waste recycling, and urban food production. Good introduction to this specific problem. —E.D.

Cree Hunters of Misstassini, 58 min., color, 1974. Director: Boyce Richardson and Tony Ianzello. Distributor: National Film Board of Canada.

For 300 years, the Cree Indians of northern Quebec province have managed to preserve their way of life, largely untouched by white men and their culture. In recent years, this has changed. The government has offered the Indians large sums of money as compensation for their traditional hunting grounds, so that a giant hydroelectric dam may be built in the region. What this way of life is really like and what is at stake is explored in this sensitive, respectful docu- [illegible] groups wishing to look at the political procedure [illegible] vent on in this struggle should also screen [illegible] **Is Our Life** (see below). —E.D.

Down to Earth City Living, 18 min., color, 1977. Director: Joaquim Padro. Distributor: Pyramid Films.

Integral Urban House in Berkeley, California, is an urban energy-efficient house. The house is solar heated, and the family raises bees, chickens, and other animals to help supply its own food. Covers the same house as **A City Farmstead,** but is a slightly longer and more in-depth study. One might use either film, depending on the time available and object of the discussion planned. —E.D.

Living Way Out, 25 min., color, 1976. Director: Phillip Robertson. Distributor: Australian Information Service.

Although this film is set in the Australian outback, the problems it raises are universal. A company builds a mine far from civilization and the workers flock to it. Although the mine provides urban consumers with fuel and other needs, the miners pay a heavy price for this. They are isolated from many services and live lonely lives. The effect on the lives of workers is well-illustrated and some possible solutions are offered. —E.D.

The Other Way, 26 min., color, 1975. Producer: BBC-TV. Distributor: Time Life Multimedia.

Economist E. F. Schumacher argues that we exploit our non-renewable resources. His solutions are a series of changes that involve using simpler, more easily operated machinery that gets the job done but requires a less competitive approach to marketing and distribution of products, e.g., more items would be produced locally. —E.D.

Our Land Is Our Life, 58 min., color, 1974. Directors: Boyce Richardson & Tony Ianzello. Distributor: National Film Board of Canada.

In March 1974, the Cree Indian people of Misstassini in northern Quebec met to discuss the government offer of money for their hunting grounds. The land was wanted for the site of a giant hydroelectric project. After considering all aspects of the situation, jobs, money, more contact with other cultures, the Indians decided overwhelmingly that none of these considerations were worth the forfeiture of their land. See also **Cree Hunters of Misstassini.** —E.D

Paul Jacobs and the Nuclear Gang, 58 min., color, 1979. Directors: Jack Wills & Saul Landau. Distributor: The Center for Documentary Media.

In 1957, journalist Paul Jacobs began investigating the story of a possible cover-up by the government of information about the effects of low-level radiation

on those exposed to fallout from atomic tests and on workers [illegible] energy plants. He pursued this story for the next 20 years until his death in January 1978 from lung cancer, which he may have contracted as a result of exposure to low-level radiation in the course of his investigations. Two of his colleagues, Willis and Landau, filmed Jacobs during his last months and pursued the story of the cover-up after his death. Their investigations, verified by revelations of government-sponsored studies, indicated that the incidence of various types of cancer was much higher in areas where nuclear testing had taken place in the 1950s and also among workers in nuclear plants. A powerful, well-documented report on the potential dangers of rapid technological development without adequate safeguards for human beings. —N.C.

A Place to Live, 24 min., color, 1978. Director: Fred James. Distributor: Lumen-Bel

Patsy and Fred Hennin are the founders of the Shelter Institute in Maine. The Institute is a self-help group which teaches its members to build their own houses using many energy-saving techniques. Solar heating, both passive and active, is employed, windows and skylights are skillfully placed in order to collect as much natural heat and light as possible. Also, the natural area in which the house is situated is used as part of the design, e.g., a tree may be incorporated into the building, providing both natural shade and beauty to the interior. For urban dwellers, some of the recommended methods are not possible. Wood-burning stoves are a great saving, but sources of cheap wood are not available in many areas. The houses are generally built in large part by their owners. The advantages are many, enormous savings and respect for one's environment are two of the most obvious. —E.D.

Which Energy, 23 min., color, 1976. Director: Martin Mailin. Distributor: Stuart Finley.

Compares existing and possible future energy sources. Visits a variety of field installations and research laboratories. Shows fossil fuels, nuclear fusion and fission experiments, including breeder reactors, solar, wind, and possible conservation methods. A good overview. —E.D.

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Distributors' Addresses

Los Alamos Scientific Laboratory, P.O. Box 1663, Los Alamos, NM 87545.

American Gas Association, 1515 Wilson Boulevard, Arlington, VA 22209.

Appalshop Films, Box 743, Whitesburg, KY 41858.

Association Films, 866 Third Avenue, New York, NY 10022.

Audio Brandon Films, 34 MacQuesten Parkway So., Mount Vernon, NY 10550.

Australian Information Service, 636 Fifth Avenue, New York, NY 10020

BFA Educational Media, 2211 Michigan Avenue, P.O. Box 1795, Santa Monica, CA 90406.

BP North America, 620 Fifth Avenue, New York, NY 10020.

Barr Films, P.O. Box 5667, 3490 East Foothill Boulevard, Pasadena, CA 91107.

Benchmark Films, 145 Scarborough Road, Briarcliff Manor, NY 10510.

Bitterroot Films, Hammond Arcade, Missoula, MT 59801.

Kirby Brumfield Energy Productions, 10003 S.W. 60th Street, Portland, OR 97219.

Bullfrog Films, Oley, PA 91547.

California Newsreel, 630 Natoma Street, San Francisco, CA 94103.

The Center for Documentary Media, Inc., 1290 Madison Avenue, New York, NY 10028.

Centron Educational Films, 1621 West Ninth Street, Lawrence, KS 66044.

Churchill Films, 662 North Robertson Boulevard, Los Angeles, CA 90069.

The Conservation Foundation, 1717 Massachusetts Avenue, N.W., Washington, DC 20036.

Consumers Power Company, 212 West Michigan Avenue, Jackson, MI 49201.

Documentary Educational Resources, 5 Bridge Street, Watertown, MA 02172.

Encyclopaedia Britannica Educational Corp., 425 N Michigan Avenue, Chicago, IL 60611.

Films Inc., 733 Green Bay Road, Wilmette, IL 60091.

Stuart Finley, 3428 Mansfield Road, Falls Church, VA 22041.

Gould Entertainment Corp., 101 West 57th Street, New York, NY 10019.

Great Plains National Instructional Television Library, Box 80669, Lincoln, NB 68501.

Green Mountain Post Films, P.O. Box 177, Montague, MA 01351.

Griffen Productions, Pells Road, Rhinebeck, NY 12572.

Images, 300 Phillips Park Road, Mamaroneck, NY 10543.

Indiana University, Audio-Visual Center, Bloomington, IN 47401.

International Association of Machinists and Aerospace Workers, 1300 Connecticut Avenue, N.W., Washington, DC 20036.

International Film Foundation, 475 Fifth Avenue, New York, NY 10017.

Latin American Film Project, P.O. Box 315, Franklin Lakes, NJ 07417.

Learning Corp. of America, 1350 Avenue of the Americas, New York, NY 10019.

Lumen-Bel, Box 311, Village Station, New York, NY 10014.

Macmillan Films, Inc., 34 MacQuesten Parkway So., Mount Vernon, NY 10550.

Gordon Massingham, Box 717, Mashpee, MA 02469.

McGraw-Hill Films, 110 15th Street, Del Mar, CA 92014.

Arthur Mokin Productions, 17 West 60th Street, New York, NY 10023.

Moving Pictures, 153 Hollister, Santa Monica, CA 90405.

The Museum of Modern Art, Dept. of Film Circulation, 11 West 53rd Street, New York, NY 10019.

National Audiovisual Center, General Services Administration, Washington, DC 20409.

National Film Board of Canada, 1251 Avenue of the Americas, 16th Floor, New York, NY 10020.

National Geographic Society, 17th and M Streets, N.W., Washington, DC 20036.

Paramount Pictures Corp., Non-Theatrical Division, 5451 Marathon Street, Hollywood, CA 90038.

Perspective Films, 469 West Erie Street, Chicago, IL 60610.

Phoenix Films, Inc., 470 Park Avenue South, New York, NY 10016.

Pyramid Films, P.O. Box 1048, Santa Monica, CA 90406.

Ramsgate Films, 704 Santa Monica Boulevard, Santa Monica, CA 90401.

Solarium Productions, 1061 31st Street, N.W., Washington, DC 20007.

Sutherland/Loreti Productions, 5 Conrad Circle, Wenham, MA 01984.

Swank Motion Pictures, 201 S. Jefferson Avenue, St. Louis, MO 63103.

Time Life Multimedia, Time & Life Building, 1271 Avenue of the Americas, New York, NY 10020.

United Artists 16, 729 Seventh Avenue, New York, NY 10019.

U.S. Atomic Energy Commission, Washington, DC 20545.

U.S. Dept. of Energy, Film Library, P.O. Box 62, Oak Ridge, TN 37830.

Universal 16, 445 Park Avenue, New York, NY 10022.

University of California, Extension Media Center, 2223 Fulton Street, Berkeley, CA 94720.

Gary A. Walkow, 8508 Appian Way, Los Angeles, CA 90046.

Wombat Films, Little Lake, Glendale Road, Box 70, Ossining, NY 10562.

Dick Young Productions, 118 Riverside Drive, New York, NY 10024.