

CHAPTER 9

WHERE TO GO FOR HELP

TECHNICAL SUPPORT

Federal Government

The drive to reduce dependence on foreign oil and fossil fuels and to cut greenhouse gas emissions has led federal and state governments to greatly increase funding for renewable energy development. The American Resource Recovery Act (ARRA) of 2009 appropriated \$50 billion for the U.S. Departments of Energy and Agriculture to assist renewable energy projects. These agencies also offer technical assistance with the new waste conversion technologies. However new legislation is needed to continue assistance for some of these programs.

U.S. Environmental Protection Agency (EPA)

Although it doesn't provide much financial help, the EPA offers a great deal of valuable technical assistance through a large staff of experts at national headquarters, regional offices, and state offices.

The Office of Resource Conservation and Recovery (www.epa.gov/rcc) is the key office at EPA headquarters, and the starting point for all issues related to waste to energy. It is tied in with other important offices, such as the **Office of Solid Waste** and the **Office of Research and Development** which have large databases of instructive documents.

The State and Local Climate Change Energy Program (www.epa.gov/statelocalclimate) of the EPA works closely with local governments to help them develop plans and strategies to be more energy efficient. They offer analytical tools, training opportunities

and even an occasional grant to encourage local governments to be more energy conscious. There is a listserv for updates on new developments in clean energy programs as well as upcoming events and announcements about funding (subscribe-state-local-climate-energy@listserv.icfi.com). Their webcasts and podcasts, highlighting lessons learned and best practices, are very instructive and they are done routinely.

EPA's Clean Energy program (www.epa.gov/cleanenergy), helps local governments develop and implement local energy policy using various technology solutions. Like the State Local Climate Energy Program, the Clean Energy Program provides analytical tools mainly to measure a community's environmental impact. They can customize a program to fit your local needs.

The Clean Energy Environment Municipal Network, as its name implies, is a network of resources for local governments to help in their efforts to advance clean energy strategies and policies. Another key resource is the **Clean Energy Resources Database** (www.epa.gov/cleanenergy/energy-programs/napee/resources/database.html).

U.S. Department of Energy (DOE)

Although DOE is best known for providing financial assistance for renewable energy projects (see below), it has several offices that also provide technical assistance to local governments.

The Office of Biomass Programs in the Office of Energy Efficiency and Renewable Energy is the place to start (www1.eere.energy.gov/biomass/program). This office works with local governments and industry to provide research and development on different types of feedstocks and conversion technologies. Although its focus is on biofuels, its R&D work and some of its programs include biopower or electricity. It was this office that helped with the determining the right mix of feedstocks and appropriate conversion technology for the Warrenton/Fauquier project. It funded scientists from the Pacific Northwest National Laboratory, one of four DOE laboratories, to evaluate several types of gasification conversion technologies that best suited the size, scale and feedstock mix for the Warrenton project.

The National Renewable Energy Laboratory (NREL) is DOE's primary laboratory for renewable energy research and development (www.nrel.gov/learning/re_basics.html). It can provide local governments with information on existing and emerging technologies, like plasma gasification, and will help localities analyze, plan, site and finance projects.

To help you navigate all the programs available, there is the **Energy Efficiency and Renewable Energy Clearinghouse** (www.eren.doe.gov). Located in Merrifield, Virginia, just outside of Washington D.C., it is billed as THE centralized source of information and technical assistance and your Internet Gateway to renewable energy information.

U.S. Department of Agriculture (USDA)

Like the DOE, the USDA is better known for its loan and grant programs for, "rural" communities. But the definition of rural can be misleading. For example, within highly urban Prince William County, Virginia, there are pockets of USDA rural communities, one of which is next to the landfill. As such, a waste to energy plant at that landfill would be eligible for USDA loan or loan guarantee assistance.

Your state office of **USDA Rural Development** is the best place to go for help. They are the principal contact for all the programs coming out of headquarters in Washington, such as feasibility studies, grants and loans for renewable energy projects. The Virginia office in Richmond provided the funds for the feasibility study for Warrenton/Fauquier.

The USDA's **Rural Development Energy Programs** is perhaps the single best source of grant funding for landfill waste-to-energy projects (www.rurdev.usda.gov/Energy.html). It has resources to support not just feasibility studies but also to help finance projects.

The USDA's **Water and Environmental Programs** make financial and technical assistance available for solid waste management (www.rurdev.usda.gov/UWEP.html). Which includes wastewater improvements so a sewer sludge-to-energy project could qualify for

a grant or loan under this program.

If the project produces electricity and the local rural electricity cooperative is involved then yet another program, **Rural Utilities Service**, will provide a long term (30-year) loan at below market rates to finance the project. (www.rurdev.usda.gov/UEP_HomePage.html).

State and Local Governments

Every state has offices that promote renewable energy and a better environment. In **Virginia**, it is the **Division of Energy in the Department of Mines, Minerals and Energy**, (www.dmme.virginia.gov/divisionenergy), which through a federal stimulus grant paid for this book as well as other efforts to promote waste-to-energy alternatives. The Division of Energy has several programs that advance various sustainable energy practices, including waste-to-energy projects. It also administers the funds allocated to Virginia for energy-related projects from the 2009 stimulus program, the American Recovery and Reinvestment Act (ARRA), which included substantial funding for green jobs and green energy. One such program exclusively for local governments is the U.S. DOE's Energy Efficiency and Conservation Block Grant Program, administered in Virginia by DMME. Their website provides details on the program and how to apply for funding.

Local Governments for Sustainability (ICLEI) is a group of 1,220 local governments in 70 countries that provides technical consulting and information services. Its comprehensive sustainability toolkit guides localities through the process of greening their communities.

The many counties and municipalities which have investigated technology projects for WTE facilities at their landfills are another resource to help evaluate the risks and the companies promoting specific technologies.

Several governments have already done a thorough review and analysis of these technologies and their suppliers. The City of Los Angeles Department of Public Works issued a comprehensive

report prepared by URS Corporation that compared the technologies, ranked them and scored the suppliers with a sophisticated rating system that even included a fatal flaw analysis. It is titled, “**Summary Report: Evaluation of Alternative Solid Waste Processing Technologies**” and has been updated since its original release in September 2005.

Also, there is the “**Conversion Technology Evaluation Report**” put out by the County of Los Angeles and its Solid Waste Management Committee. The 110-page report reviews the different technologies and the companies providing those technologies. It also employed a comprehensive scoring and rating system. Moreover, the staff visited most of the facilities that have these new generation technologies operating at a commercial scale in Japan and Europe.

Trade Associations

There are a number of renewable energy organizations that are good sources of information. The largest of these is the **American Council on Renewable Energy** (ACORE) which is comprised of members from renewable energy industries, trade associations, financial institutions, governments, end users and other affiliated nonprofits that support renewable energy. Through its Renewable Energy Finance Network, ACORE provides information on funding sources for renewable energy projects.

One that provides direct assistance to local governments is the **Interstate Renewable Energy Council** (IREC), a nonprofit group that assists local governments with information on renewable energy generation technologies. It operates a comprehensive database, **Database of State Incentives for Renewable Energy**, which is funded by DOE’s Office of Energy Efficiency and Renewable Energy. **The Solid Waste Association of North America** (SWANA) is a trade association that provides excellent workshops and conferences on renewable energy and waste management with the **North American Waste-to-Energy Conference** (NAWTEC) as its featured conference.

This is just a brief selection of some of the resources available. See the table on page 10 for links to more information.

FINANCIAL ASSISTANCE

There are several financial aid programs available to help local government assess and implement waste-to-energy projects. Here are some of the sources of grants, loans, bonds, and tax credits that can be used to determine if a project is economically and technically viable as well as finance a project.

Grants

State Energy Program. Each state received an allotment from ARRA to provide grants to local governments for local renewable energy projects. Virginia, for example, received \$70 million and the program is administered by DMME.

Energy Efficiency & Conservation Block Grant program. Each state received an allotment from ARRA to provide grants to local governments. Virginia received \$16 million and must give 60 percent of this amount to small counties and cities. Also, there is an open, nationwide competition for the \$400 million authorized under ARRA for renewable energy projects and this program is administered by DOE.

USDA has several programs that provide grants for “rural,” communities. Unlike the ARRA funded programs, these are not one-time authorizations but continue to be funded every year. **The Rural Energy for America program (REAP), Rural Business Enterprise Grant Program (RBEG) and the Rural Business Opportunity Grants program (RBOG)** all provide grants ranging from \$10,000 to \$500,000 for renewable energy development assistance. REAP specifically provides up to \$50,000 for feasibility studies for renewable energy. The Warrenton/Fauquier feasibility study was funded under this program.

EPA Renewable Energy Grant program assists local governments to develop renewable energy projects by providing grants for all stages of project planning such as feasibility studies and work

related to the design and construction of a plant. Grants for feasibility analysis and conceptual design are capped at \$500,000 or 20 percent of anticipated construction costs.

The **DOE Office of Energy Efficiency and Renewable Energy** provides grants on a competitive basis and usually only when solicited. Unsolicited, non competitive grants are highly unusual and rarely given. Check with their financial opportunities database or www.grants.gov.

In addition to grants, there are other programs that provide financial assistance to local governments. These are loans, bonds or tax credits that a local government can access to help finance a waste to energy project either on its own behalf or own behalf of its private partner.

Bonds

There are two types of bonds particularly useful for financing renewable energy projects because of their zero interest rate cost. The **Clean Renewable Energy Bonds (CREB's)** program has authorized \$800 million to local governments with a maximum of about \$2.5 million per project. The **Quality Conservation Energy Bonds (QCEB)** are allotted to state governments under a formula. Virginia has received \$80 million in QCEB bonding authority and has a maximum of \$2 million per project.

Additionally, some states like Virginia issue bonds on behalf of local governments by pooling bond requests for a single issuance which allows for attractive, below-market financing. The **Virginia Resource Authority**, which issues these bonds, recently included renewable energy projects eligible for such financing.

Loans

The **DOE** has a \$30 billion loan guarantee and \$10 billion loan program from ARRA to assist renewable energy projects. Most of the funding has gone to solar and biofuels projects, although some applications for waste-to-energy projects are under consideration. The turnaround time can take 2 years and there are up-front fees payable to DOE at various stages of the loan application.

There is a special loan program for which certain waste gasification projects would be eligible. This is a \$6 billion loan guarantee program for “the commercialization of advanced technologies to reduce greenhouse gas emissions.” The next funding announcements should be coming out in early 2012.

One caveat: most federal loan and loan guarantee programs cannot be combined with other sources of federal financing such as CREB’s or QCEB’s for a single project.

USDA offers loans and loan guarantees for renewable energy projects to produce electricity and that involve a rural nonprofit electric cooperative that will buy the renewable electricity. These programs are administered through the Rural Utilities Service. Their terms are more attractive than DOE, as the loans can be for up to 30 years and at below-market rates (i.e. the rate of federal borrowing). There is an administrative fee tacked on to this rate. Again, there is a long turnaround time due to the large number of applications and the necessary due diligence.

Tax Credits

Local governments are entitled to receive up to 1.1 cents per kwh for renewable electricity they produce under the **Renewable Electricity Production Incentive (REPI)**. However, authorized funds for this program have been decreasing and are on a first-come, first-served basis. Even then, the amount received would be only 25% of the eligible amount. Also, eligible projects must comply with very arduous **National Environmental Protection Act (NEPA)** requirements.

There are several other tax credits available which are better used by the private partner to help finance the projects. These are the production and investment tax credits, carbon credits, and renewable electricity credits (REC’s) which were discussed in the earlier chapter on project economics.

FINANCIAL RESOURCES

Resource	Description	Website
State Energy Programs	Grants from DOE to States	http://aaps1.eere.gov/state_energy
Funding Database	Database of State financial and regulatory incentives at the State level with monthly updates	www.epa.gov/chp/funding/
USDA	programs providing grants, loans and loan guarantees	www.rurdev.usda.gov/energy .
USDA State Office (Virginia)	all programs administered by VA	www.rurdev.usda.gov/va
VIRGINIA –DMME	biomass grants and EECBG	www.dmme.virginia.gov/energy
EPA Renewable Energy Grant	grants to local governments	www.epa.gov/agstar/tools/funding/incentive
Renewable Electricity Production Incentive	direct payment to local gov	www.aaps1.eere.energy.gov/rep1
DOE EERE	competitive, solicited funding	www1.eere.energy.gov/financing/grants
Funding Landfill Gas Energy Projects. EPA	sources of federal, state and foundation resources	www.epa.gov/lmop/res/guide

FURTHER RESOURCES

Resource	Description	Website
Clean Energy-Environment Guide to Action: Policies, Best Practices, and Action Steps for States	Policy guide for states.	http://www.epa.gov/statelocalclimate/resources/action-guide.html
Database of State Incentives for Renewable Energy	Incentives for bioenergy by State and by type of renewable energy, technology	www.dsireusa.org
American Council on Renewable Energy		www.acore.org
Interstate Renewable Energy Council		www.irecusa.org
Local Governments for Sustainability		www.iclei.org
Solid Waste Association of North America		www.swana.org
Environment and Energy Institute	Information on bioenergy as well as state/federal incentives	www.eesi.org/sustainable_biomass
Job and Economic Development Impact (JEDI) models	Spreadsheet tools that analyze economic impacts of building and operating WTE plants	www.nrel.gov/analysis_tools_tech_bio.html
Electricity from MSW	basic, practical information	www.epa.gov/cleanenergy.muni.htm

US Mayors Best Practices Guide	guide to sustainability, energy and environment best practices	www.usmayors.org/uscm/best_practices
Bioweb	online catalog of a broad range of resources on bioenergy	http://bioweb.sungrant.org
EPA Landfill Methane Outreach Program	useful database on landfill gas projects	www.epa.gov/lmop
Biomass Energy Data Book	Energy values from 150 samples of potential bioenergy feedstocks	www.leere.energy.gov/biomass
