ENERGY AND EFFICIENCY BUSINESS STARTUP GUIDE
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So you are interested in starting an energy business in Ohio. As you know, planning for a new business will require hard work, discipline and creativity. As an entrepreneur with a startup business, you will be focused on solving energy and efficiency problems with access to limited resources. Your hallmark will become innovation, planning, execution, efficiency and leveraging your limited resources to support your strategic business goals in the energy industry. As an energy business in Ohio, you have the advantage of state support through S.B. 221 enacted in 2008 that encourages the development of renewable, efficiency and advanced energy resources in the state. You also benefit from Ohio’s investor-owned utilities, focused on supporting and developing these in-state energy resources. Widespread local and regional initiatives encourage energy efficiency and renewable energy resources as building blocks for Ohio’s future economic development. Finally, federal incentives may continue for many energy technologies through 2016 and beyond. In short, the resources and support you have to grow your energy-related business in Ohio are numerous. Noting the current economy and global competition, the time could never be better to cut energy consumption and lower your costs.

Some practical insights to share from those who have walked down this path before—and succeeded—should be noted (Jordan, R., How They Did It: Billion Dollar Insights from the Heart of America, 2010):

1. A lack of funding forces discipline and innovation.
2. Within your company large financial ventures can break up at the end, so always plan for standby investors as additional sources of funding.
3. Develop a business plan that is also a marketing tool. Be able to articulate your plan and show your problem and the solution in under 10 minutes or less.
4. Build your company’s mission on honesty, integrity and passionate beliefs.
5. Get started, and do not let perfection become the enemy of the good. Optimize and improve along the way based on what you learn on your journey.
6. Build a quality team based on key employees as shareholders; they are one of your biggest and most important sources of customers and marketers.
7. Correct your mistakes quickly with sensitivity and sensibility

In following these insights, and those from others you trust, you will build your energy business in the region on a foundation of strength, planning, organization and growth, and develop your energy industry market niche for the region. A successful business will be tailored to your strengths and skills in the community that you serve, focused on the needs of your intended market and maintaining a realistic picture of the resources you have at your disposal in the near- and long-term. In the beginning, be watchful and frugal with those resources, and reinvest your limited funds right back into the business itself. Solid record keeping and keeping expenses in check with full and careful accounting sets the stage for a successful launch.

Starting this way will keep your business simple and focused until profit is generated over a consistent period of time. A monthly record of profit-loss will give you an improved understanding of the direction of the business, what needs to be improved, and why it may be changing. In the beginning, the successful energy startup company will leverage free or inexpensive support from
the internet, local colleges and universities and the government. It is important to note, however, when beginning or advancing critical discussions and relationships, all company agreements should be committed in writing.

As a startup, you must also have an intimate understanding of the energy product or services your company is offering and how it compares with existing industry offerings, existing (or future) infrastructure needs, and existing (or planned) policies that will affect the outcome of your business. Understanding the energy product and solution will offer better communication, positioning, branding and effective opportunities to succeed and eventually grow your supply chain and competitiveness. There are many steps involved in creating projects that require your products and services to meet with success. See Appendix A.

**Small Business Best Practice Benchmarking**

Today’s small business owner is confronted with new business problems and opportunities on a regular basis. Learning from other businesses using best practices benchmarking allows you to effectively borrow or adopt ideas, tactics and strategies that can translate to success for your business. Often general contractors in your region are in a unique position to offer advice, as they too are small businesses and are experienced in managing projects and growing sales. They can give you ideas from their vantage point in the marketplace that can save time and help you succeed, and your new energy business can supplement their existing focus on construction.

**What is a Best Practice?**
A best practice is the process of finding and using ideas and strategies from outside your company (and perhaps outside your industry) to improve performance in a given area.

Businesses have used best practice benchmarking for decades and realized billions of dollars in savings and revenues in all areas of business operations and sales. Small business owners and startups can reap even greater rewards from implementing best practices because of the scale proposition, saving valuable time in their journey to successful operations.

**Benefits of Best Practices for Small Businesses**

- **Reduce Costs:** By learning what other companies have successfully done, a small business can save money without testing new ideas, or running up undesirable or excessive costs.
- **Avoid Mistakes:** Solving business problems on your own can result in costly errors. Learning what others have done ahead of you can keep your business viable.
- **Find New Ideas:** Learn to borrow the best from beyond your company to save time and incorporate more efficiencies and more powerful ideas.
- **Improve Performance:** When your business looks for best practices from others, a wonderful thing happens. You raise the bar of performance and set new standards of excellence to propel your company forward.
**Steps for Best Practices**

Start by cataloguing your current capabilities and competencies, and what you know your business is lacking. What is your reputation for quality work and efficiency with others in the industry? What relationships can you foster with drillers, electricians, and engineers, building departments, plumbers and roofers, or other ancillary businesses? By comparing and contrasting these answers against those businesses that you admire for their organization, product line, business model or overall success, you will learn how to review your future more objectively.

- Identify one business process or service to improve. (For example, product delivery)
- Develop one activity or action to measure and enhance performance. (Late shipments or installation schedule)
- Find competitors and companies within your industry and outside your industry. (Utility program comparisons)
- Collect information on the successful best practices of other companies. (Utility, companies in other states)
- Modify the best practice for your situation.
- Implement the process, then measure the results.

Borrowing best practices from other businesses and industries can dramatically improve your small business’s operations and bottom line. Take the time to learn the ingredients of success from others, and your business will excel in good times and bad.

**Nuts and Bolts of Small Business Finance**

In the energy and environmental space, there is an array of federal and state incentives to facilitate the structuring and financing of your projects. These offer an opportunity for enhanced project economics, increased returns, and success for your startup energy efficiency and renewables projects.

Don’t overlook utility-based programs and support. Since 2008 and the passage of S.B. 221, electric utilities in Ohio are incentivized to develop programs to diversify their supply portfolios. Utilities should be approached regarding these projects and partnerships or projects can be formed with the utilities for a mutual benefit. A summary of available incentives and programs is provided in Appendix B.

**Small Business Loans**

Since the Small Business Jobs and Credit Act of 2010, entrepreneurs and small business owners qualify for better access to loans. (See [www.sba.gov](http://www.sba.gov) for availability, eligibility, applications and funding levels). The following tips on borrowing and applications are equally valuable for any lending situation. Here are some nuts and bolts to always remember:
1. **Find the right lender with solid financials.** Banks heavily involved in construction, residential and commercial mortgages are still recovering their lost capital positions since 2008.

2. **For an SBA bank loan, seek a Certified or Preferred Lender under the Small Business Administration (SBA) program.** See [www.sba.gov/category/navigation-structure/loans-grants#](http://www.sba.gov/category/navigation-structure/loans-grants#).

3. **Do your homework to understand the lending process.** Be ready to provide information on your application regarding cash flow, financial statements and available collateral.

4. **Seek a smaller community bank.** Smaller banks often foster closer relationships with their small business clients than a larger bank and may rely on more qualitative data. They also know the community well. Check different services and lending programs at your local or regional banks as you prepare for the future. Consider your lender’s ability to serve and grow with you.

5. **What is the lender’s experience and reputation as a small business lender?** What is the percentage of loans made to small and startup businesses? How much lending has been solely on real estate?

6. **Before applying, seek advice from your own resources.** Expert advice can come from your county, small business development centers, local colleges and universities, or the Third Frontier Entrepreneurial Signature Program in the State of Ohio. See [www.thirdfrontier.com](http://www.thirdfrontier.com).

7. **Establish your credibility as a company and customer through your business plan, network and advising relationships.**

8. **Outline the problem you address, your solution and the effectiveness of your business model** in the relevant marketplace.

**Loans, Grants and Taxes**

Grants also open third-party funding possibilities, but are often based on specific qualifications, are highly competitive, and not widely available. In today’s budget environment, grant programs are increasingly on the decline. Whether filing for a loan, grant or using tax advantages as provided under federal or state law, there are several practical tips to consider when reviewing different sources of capital from various funding sources:

- Find out as much as you can about the granting agency, its financial programs, and its personnel. Make sure you share critical details of your business, including your risks, opportunities, operating cycle and cash flow with your lender for a more accurate representation. Prospective financials should go out at least every three years to show your future financial plans and targets.

- What do you have in the game? Equity, personal investment or a personal guarantee on loans will appear in the discussions as a tool to manage risk from your lender(s).

- Complete all necessary paperwork, use attachments from your existing documentation or studies, and file all applications and forms on time.

- Know your personal and professional credit rating and be ready to discuss it.
• Have a plan for future use(s) of funds in your business plan. Don’t seek the maximum amount of financing unless you have plans to actually use it for the business.

• Be honest with yourself and your lender about the business, risks and challenges. Be prepared with a plan to address them. Show your awareness of government incentives and how they fit within the loan program profile of the lending institution.

• Be prepared to invest some equity as collateral. It demonstrates your willingness to share the risks of the venture.

• Line up your professional advisors including attorneys, CPAs, bankers, insurance agents, and engineers. The quality of the team you consult and their experience makes a statement about your company and your commitment to excellence, and demonstrates to your backers an access to expert guidance when necessary.

• Have a business plan that is compelling and that provides the best, probable and worst case scenarios.

• Collect and document your company’s relevant experience to show demonstrated ability to succeed.

• Today, a solid website is the first impression and the face of your company and defines its image and brand. Make sure you are sending a consistent message about your company across all platforms.

The Energy Business

Like all businesses, energy businesses require service, quality, technical expertise and capital. But there is nothing more fundamental to community well-being than access to reliable sources of energy, in conjunction with housing, water, food and jobs availability. Energy efficiencies, new technologies, and alternative energy sources like renewables, heat recovery, or shale energy can be job creators in the local economy. Energy fuels both our economy and our well-being. A constant need for safe, reliable and affordable energy-related products and services increases your startup’s ability to be identified as both an economic development opportunity for your local area and makes you stand out for other types of new businesses. Connecting with the local economic development officials in your region can help you gain visibility and traction in the industry in your area. Choosing your type of business will also be driven by liability, taxation considerations and a careful review of advantages and disadvantages in various business types.

Regulations arise in energy, and seemingly often at the local, state and federal levels. Local permitting and ordinances may affect your installation of products and performance of services positively or negatively. Similarly, utilities often have exclusive contracts for gas, electric, water and thermal services—certain delivery structures for your product or services can overcome such limitations. Utilities can also be wonderful partners for communities and energy-related businesses. Make sure you are familiar with their programs, and any incentive payments and terms under which you may qualify for assistance. Seeking meetings early with agency officials and utility representatives can remove barriers in your business dealings and increase support for your business locally.
In rural areas not served by Ohio’s investor-owned utilities, a different suite of resources is available. The U.S. Department of Agriculture (USDA), the Rural Utilities Service, and Touchstone Energy (which offers unregulated energy products on behalf of rural electric coop members) all offer resources, loans, grants or programs that can be useful to your energy-related startup company. (See Appendix B for a listing of resources that may be available to you.) Their programs and processes can offer additional financial resources and support.

Teaming and partnering with other companies, contractors, non-profit entities, or utilities can often address barriers to capital and market access. Startup energy services raise different scale and deployment issues that effective partners can help address from a community or economic development view point. Teaming up can create a better scale and improved risk management approach for your company.

Business entrepreneurs should also seek collaboration with universities and community colleges who administer Ohio programs such as the Third Frontier Entrepreneurial Signature Program which assists in clean-technology acceleration and expansion. These programs can provide technical assistance such as management, finance and strategic mentoring. Skills development and orientation to create better workforce training can also be a resource as your company grows and strives to stay competitive.

Finally, new technologies that lack commercial market success, proven operations or maintenance track records with warranty support, will be difficult to market to customers and financial backers. Work with commercial, tested products with performance guarantees or warranty support wherever possible as those products will support your financing goals. See Appendix A.

**Future Trends**

As funding and incentives shift among policy makers, creative mechanisms are being discussed for the future:

- Bulk purchasing efforts by green procurement programs in cities and counties are appearing to create natural markets for these energy products or services. Explore opportunities for load aggregation in the state.

- Cooperatives are being developed in communities to aggregate purchasers and create a more attractive scale for development and financing through concession contracts with certain efficiencies and conditions on procurement for the benefit of the community. Ohio laws with cooperative financing benefits may make this newer business model attractive.

- Utility-owned distributed generation such as solar installations on customer rooftops, or wind farms on community property are increasing. Support for community development of renewable energy resources, energy efficiency improvements, cogeneration, and waste heat recovery, can focus on dispersed and decentralized delivery support.

- Entrepreneurial, economic development, venture capital and crowd sourcing techniques to access individual capital through loans or grants are growing. Crowd financing will become a new option in 2013 after guidance is provided from the U.S. Securities and Exchange Commission and the Financial Industry Regulatory Authority.
• Net metering with feed-in tariffs and automated online payment options are appearing. What is your utility’s position on these new tools and how can your business take advantage of these infrastructure upgrades?

• Explore the development of new technologies and have products tested at state colleges or universities, then seek a wider deployment in the local community or region. These could include energy technologies that could be expanded as part of solutions for statewide information and convenience-based services such as retirement, education, broadband expansion and health communications. Instead of managing energy needs in silos, integrating energy with other community-based services will address the larger, multifaceted issues of our day.

• Develop a regional bonding authority to leverage the needs of the region to a different level to raise capital aligning both public and private needs and outcomes through better partnerships. The public sector cannot do what needs to be done without private sector support.

• Social enterprise models using a B-corps or L3C designation can leverage the power of the public sector in corporate models that seek a profit with a conscience. These alternatives might better fit your company’s needs. (A “B-corp” is a hybrid business organization bridging the space between for-profit and non-profit enterprise. Its charter must ensure the corporation conforms to practices that support socially responsible investing, corporate social responsibility and social entrepreneurship. The low-profit limited liability company (“L3C”) model uses a version of the limited liability company (LLC) to advance a charitable or socially beneficial purpose. This enables teaming or venturing different interests under one LLC umbrella in support of a charitable or socially beneficial goal in the community.)

• Utilities should be approached to improve their models, with pilots run in the region using advanced renewable energy credits (RECS), net metering to account for better values for electricity produced when production is greater than electrical demand. Regional feed-in tariffs could be created for solar, biomass, geothermal and combined/heat power projects to diversify supply.

• Incentives for clean/green technology/industrial parks could be developed by counties using multiple technologies that anchor startup and manufacturing companies.

• Other innovative financing models could be built around increased utility billing for energy efficiency, expanding Property Assess Clean Energy (PACE) financing and Special Improvement Districts (SIDs) beyond municipalities to include rural utility distribution and port authority jurisdictions to attract capital in Ohio.

For the future of your community and the success of your nascent energy business, remember the wisdom of Eleanor Roosevelt, the wife of President Franklin D. Roosevelt: “The future belongs to those who believe in the beauty of their dreams.”
This checklist outlines the basic steps to start a business.

Before starting your energy company, you should conduct some research to see whether your idea really is feasible. That means finding out who your competitors will be and whether there is a market (or customer) need for your product or service in the region or area you will serve. You will also need to assess if you have the necessary skills to run the business. Gathering and analyzing this information will help you formulate your business plan and goals.

Your initial research and discussions with the community/market you will serve should focus on these key questions:

- Is your idea feasible?
- Do you have the financial capacity to carry out the project? To which funding sources do you have access? Do you qualify for grants or incentives?
- Is there a market for your product or service? Check with local contractors, vendors and service providers.
- How will you protect your idea?
- Who are your competitors, and how is your product different from theirs?
- Who is your team, and who can you partner or venture with to succeed?

Once you have answered these questions confidently, it’s time to draw up a business plan. Most financial institutions provide business plan templates. Alternatively, you could use a computer software program as a model. Also look to colleges and universities with business service offerings. Your business plan should contain:

- A summary describing the elements of your business.
- A description of your business concept; your business model; what problem it addresses and how it works.
- An analysis of your business within the market; how and where your company or products or services fit.
- Strategies and goals for overcoming the competition you face in your area.
- An outline of how your products or services match your strategies and goals.
- How you will market or advertise your products.
- An estimate of your sales forecasts with revenues and costs incurred.
- Any unique regulatory or permitting hurdles with which you are required to comply.
- What type of financing you will need, who will provide it, and at what cost.

With thorough preparation you will have all the relevant information available and evaluated before you initiate business operations. As you go through the planning process, you will develop your knowledge and understanding of the proposed business, improve your chances of success, and reduce your risk of failure as a new entrepreneurial owner.
First impressions count, and an accurate, easy-to-read, well-organized business plan with an executive summary will convey professionalism and credibility. Have your figures checked by an accountant and the text proofread. Coordinate development of your business plan with your website.

Naming your business accurately is important. Do not abbreviate your business name to make communications and correspondence easier. An acronym does not always convey the intent of the business name you decided upon. The general rule is: Keep it simple and try to describe what you do in your name. Check website domain availability before you settle on your name.

There are advantages in starting your own business

• Starting a business allows you to be your own manager and allows you to make the decisions that shape your success.
• You get to choose how long and how hard you work.
• The owner receives the profits, meaning that all earnings go to the sole proprietor or the venture members.
• If the business is successful, you will be integrated into the community you serve with stature and recognition.
• Energy services and resources are an important building block for community development and success.

But there are also challenges and disadvantages

• All the responsibility falls on your shoulders. You have to make decisions that may affect the livelihood of your family, employees and the community you serve.
• If you incur debts of any sort, you may have to repay them out of your personal income and assets. Consult with an attorney about ways to limit your personal liability based upon your business structure.
• You may find it difficult to go on vacation or be absent from work for long especially in the startup years.
• Barriers to capital and market access must be overcome.
• Difficulties exist for new technologies or products in the energy space so choose wisely.

Action checklist to succeed

• Conduct basic research to see whether your idea really is feasible. Ask yourself whether you have the financial capacity to carry out the project, and does it offer long term potential? Is there a market for your product or service, and how will you protect your idea? Who are your competitors, and what distinguishes your product? If the answers are positive, start to build a detailed business plan.
• Ask yourself whether you are made of the “right stuff” to run your own business. Do you have the character, temperament, drive and staying power?
• Build your team of talents and professional resources to cover the basics of the business. Check with local contractors, lenders and vendors.

• Take the time to develop an effective business plan with an attractive website. It will not only help you assess your business idea, it will also tell you whether you are ready and able to carry it out.

• Develop your technical, engineering, installation and construction expertise as a resource and source of market differentiation.

• Don’t use your savings to set up in business without researching and evaluating your ideas. Many chambers of commerce have successful, retired business people who will be happy to provide you advice on a voluntary basis.

• Assessing your access to capital is critical. An energy business on a starvation diet or without partnering will be at risk because this business requires more capital to succeed.

• Help people solve problems by satisfying their needs while exceeding expectations.
1. TAX INCENTIVES

Federal Tax Incentives

**Biodiesel Income Tax Credit**
Companies that put biodiesel fuel into a vehicle or use biodiesel fuels in their business vehicles are eligible for a tax credit.

**Program Sponsor**: Internal Revenue Service  

**Builders & Manufacturers Incentives**
Credits are available to manufacturers of high-efficiency refrigerators, clothes washers and dishwashers. Due to these manufacturer incentives, special consumer promotions may be available for qualifying products.

**Program Sponsor**: Internal Revenue Service  
Website: [http://energytaxincentives.org/builders/appliances.php](http://energytaxincentives.org/builders/appliances.php)

**Business Energy Tax Credit**
The Business Energy Tax Credit covers 10-30% of the cost of the energy system. The tax credit expires December 31, 2016.

**Program Sponsor**: Internal Revenue Service  

**Combined Heat and Power (CHP)**
A 10% investment tax credit for CHP property, applicable to only the first 15MW of CHP property.

**Program Sponsor**: Internal Revenue Service  
Website: [http://energytaxincentives.org/business/chp.php](http://energytaxincentives.org/business/chp.php)

**Corporate Tax Credit**
In addition to receiving a tax credit for solar photovoltaic generation, a non-residential manager can receive a tax credit of 10-30% for geothermal energy, microturbines and fuel cells.

**Program Sponsor**: Internal Revenue Service  

**Fuel Cells and Microturbines Tax Incentive**
Tax credits of up to $3,000 per kWh are available for the purchase of fuel cells, while tax credits of up to $200 per kWh are available for microturbines.

**Program Sponsor**: Internal Revenue Service  
Website: [http://energytaxincentives.org/business/fuel_cells.php](http://energytaxincentives.org/business/fuel_cells.php)

**On-Site Renewable Tax Incentive**
Businesses are eligible for tax credits for qualified solar water heating and photovoltaic systems, for certain solar lighting systems, for the deployment of small wind turbines (100 kW and smaller), and for geothermal heat pumps. Each program has specific definitions of qualifying equipment and dates of eligibility.

**Program Sponsor**: Internal Revenue Service  
Production Tax Credit (PTC)
Through the 2009 American Recovery and Reinvestment Act, Congress acted to provide a three-year extension of the PTC through December 31, 2012. Additionally, wind project developers can choose to receive a 30% investment tax credit in place of the PTC for facilities placed in service in 2009 and 2010, and also for facilities placed in service before 2013 if construction begins before the end of 2010.

Program Sponsor: U.S. Department of the Treasury
Website: http://dsireusa.org/incentives/incentive.cfm?Incentive_Code=US13F

Renewable Energy Generation Tax Credit
Non-residential managers can receive a 10-year tax credit if they help create renewable energy from one of the following sources: wind, closed-loop biomass, open-loop biomass, geothermal, solar, small irrigation power, municipal solid waste and refined coal.

Program Sponsor: Internal Revenue Service
Website: http://www.novoco.com/energy/retc/irsguide.php

State of Ohio Tax Incentives

Agriculture Revolving Loan Program
Ohio Department of Agriculture’s Agriculture Revolving Loan Fund provides loans for the creation and expansion of businesses and industries that support agriculture and rural Ohio that focus on aquaculture, food processing and biofuels.

Program Sponsor: Ohio Department of Agriculture
Website: http://www.epa.gov/agstar/tools/funding/incentive/OHagriculturerevolvingloanprogram.html

Ohio Air Quality Development Authority Clean Air Resource Center (CARC)
CARC offers qualifying small businesses a grant of up to 4% of the eligible portion of the project financed though CARC as reimbursement for financing and other fees. Qualifying projects include those addressing: Air contaminants; Solid waste; Ethanol or other bio-fuel facilities; Energy efficiency or conservation measures; Power purchase agreements (PPAs); and Various advanced energy technologies.

Project sponsor: Ohio Air Quality Development Authority
Website: http://www.ohioairquality.org/clean_air/small_bus_financial_benefits.asp

Energy Conversion Facilities Sales and Use Tax Exemption
Ohio may provide an exemption for certain state sales and use taxes. The exemption applies to property used in energy conversion, thermal-efficiency improvements and the conversion of solid waste to energy. Eligible technologies may include solar-thermal systems, photovoltaic systems, wind, biomass, landfill gas and waste recovery systems.

Program Sponsor: Ohio Department of Taxation
Website: http://tax.ohio.gov/faqs/Sales/sales_taxability.stm - A02
Qualified Energy Project Tax Exemption
The Ohio Development Services Agency’s Qualified Energy Project Tax Exemption program provides owners (or lessees) an exemption from the public utility tangible personal property tax. Qualified energy projects include renewable, clean coal, advanced nuclear, and cogeneration energy projects.

Program Sponsor: Ohio Development Services Agency
Website: http://development.ohio.gov/bs/bs_qepte.htm

2. UTILITY INCENTIVE PROGRAMS

AEP Ohio - Commercial Custom Project Rebate Program
AEP Ohio offers commercial customers incentives to upgrade inefficient equipment in their facilities. The program is open to all non-residential customers of AEP Ohio. Types of high-efficiency equipment eligible under this program include industrial process improvements, refrigeration, controls, non-standard lighting (those that do not qualify under the Commercial Lighting Program), HVAC system replacements, and other technologies that reduce energy consumption and peak demand. User registration/log-in required.

Program Sponsor: AEP Ohio
Website: https://www.aepohio.com/save/

AEP Ohio - Commercial Energy Efficiency Rebate Program
AEP Ohio offers commercial customers incentives to upgrade lighting in their facilities to more energy efficient lighting. The program is open to all non-residential customers of AEP Ohio. Small businesses, below 200,000 kWh annually, are eligible for incentives as well through the AEP Express program. The AEP Ohio Express Program is part of the gridSMART initiative offered to help residential and commercial customers use less energy. User registration/log-in required.

Program Sponsor: AEP Ohio
Website: https://www.aepohio.com/save/programs/

AEP Ohio - Commercial Self Direct Rebate Program
AEP Ohio offers incentives for commercial customers who have implemented energy efficiency upgrades on their own as long as the customer commits the energy efficiency savings and/or peak demand reductions to AEP Ohio (subject to Public Utilities Commission of Ohio approval). The program is open non-residential customers of AEP Ohio that use more than 700,000 kWh per year or who are part of a national account that involves multiple facilities in one or more states. Only energy efficiency upgrades implemented since January 1, 2008 are eligible. User registration/log-in required.

Program Sponsor: AEP Ohio
Website: https://www.aepohio.com/save/programs/SelfDirectProgram.aspx

AEP Ohio - Renewable Energy Technology Program
As part of the Renewable Energy Technology (RET) Program, AEP Ohio offers incentives to customers that commit their Renewable Energy Credits (RECs) to AEP Ohio for 15 years. Incentives are available for wind and solar photovoltaic systems that are installed after July 1, 2011 and before June 30, 2013. User registration/log-in required.

Program Sponsor: AEP Ohio
Website: https://www.aepohio.com/global/utilities/lib/docs/save/renewable/AEPOhioRETProgramFactSheet.pdf
American Municipal Power (Public Electric Utilities) - Commercial Efficiency Smart Program
Efficiency Smart provides energy efficiency incentives to the American Municipal Power, Inc. (AMP) network of public power communities. The Efficiency Smart service organization assists residential, commercial, and industrial customers to install energy efficient equipment and systems, effective through December 2013.
Program Sponsor: Efficiency Smart
Website: [http://efficiencysmart.org/for_your_business.aspx](http://efficiencysmart.org/for_your_business.aspx)

Dayton Power and Light - Business and Government Energy Efficiency Rebate Program
Dayton Power and Light’s (DP&L) non-residential electricity customers are eligible for energy efficient technology rebates.
Program Sponsor: Dayton Power and Light
Website: [http://www.dpandl.com/bizprograms.php](http://www.dpandl.com/bizprograms.php)

Duke Energy (Electric) - Commercial/Industrial Energy Efficiency Rebate Program
Duke Energy’s Smart $aver Incentive program offers rebates to non-residential customers to install energy efficient equipment in commercial/industrial facilities.
Program Sponsor: Duke Energy
Website: [http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=OH18F&re=1&ee=1](http://www.dsireusa.org/incentives/incentive.cfm?Incentive_Code=OH18F&re=1&ee=1)

3. FEDERAL LOAN AND FINANCE PROGRAMS

Biorefinery Assistance Loan Guarantee
Loans are available to help biorefineries conserve and use energy more effectively. Loan guarantees are available up to $250 million.
Program Sponsor: U.S. Department of Agriculture
Website: [http://www.rurdev.usda.gov/BCP_Biorefinery.html](http://www.rurdev.usda.gov/BCP_Biorefinery.html)

Business and Industry Guaranteed Loans
Loans of up to $10 million are available to rural industrial manufacturers to improve the economic and environmental climate in their communities.
Program Sponsor: U.S. Department of Agriculture
Website: [http://www.rurdev.usda.gov/rbs/busp/b&i_gar.htm](http://www.rurdev.usda.gov/rbs/busp/b&i_gar.htm)

Energy Efficiency Improvements Loan
Loans are available for the purchase of renewable energy generating systems by small rural businesses or agricultural producers.
Program Sponsor: U.S. Department of Agriculture
Website: [http://www.rurdev.usda.gov/BCP_gar.html](http://www.rurdev.usda.gov/BCP_gar.html)

Renewable Energy Systems and Energy Efficiency Improvements Program
This program provides grants and loans to small businesses in rural communities that are interested in making their buildings more energy efficient.
Program Sponsor: U.S. Department of Agriculture
Rural Energy for America Program Guaranteed Loan Program (REAP LOAN)
The REAP Guaranteed Loan Program encourages the commercial financing of renewable energy (bioenergy, geothermal, hydrogen, solar, wind and hydro power) and energy efficiency projects. Under the program, project developers will work with local lenders, who in turn can apply to USDA Rural Development for a loan guarantee up to 85% of the loan amount.
**Program Sponsor:** U.S. Department of Agriculture

U.S. Department of Energy Loan Guarantee Program
DOE offers loans to projects that “avoid, reduce, or sequester air pollutants or anthropogenic emissions of greenhouse gases.” Loans are available for biomass, hydrogen, wind, solar, hydropower, advanced fossil energy coal, carbon, electricity delivery and reliability, alternative fuel vehicles, pollution control equipment, and industrial energy efficiency projects.
**Program Sponsor:** U.S. Department of Energy
Website: [https://lpo.energy.gov/?page_id=29](https://lpo.energy.gov/?page_id=29)

4. STATE LOAN AND FINANCING PROGRAMS

Energy SIDs and PACE Financing
PACE laws allow property owners to borrow money through governmental loans or bonds to pay for energy improvements to their properties.
**Program Sponsor:** Bricker & Eckler Attorneys at Law (informational resource)

Ohio Development Services Agency—Annual State Energy Plan
Each state receives allocated grant funding from the Department of Energy through the annual State Energy Program (SEP) to address energy priorities to adopt emerging renewable energy and energy efficiency technologies. Funds are made available through Notices of Funding Availability (NOFAs).
**Project Sponsor:** Ohio Development Services Agency
Website: [http://development.ohio.gov/bs/bs_seprogram.htm](http://development.ohio.gov/bs/bs_seprogram.htm)

Ohio Development Services Agency—Advanced Energy Fund
The Ohio Development Services Agency Office of Energy administers incentive programs, supported by the Advanced Energy Fund, to support investments in renewable energy and energy efficiency projects in the industrial, agricultural, public, and residential sectors.
**Project Sponsor:** Ohio Development Services Agency Office of Energy
Website: [http://development.ohio.gov/bs/bs_renewenergy.htm](http://development.ohio.gov/bs/bs_renewenergy.htm)

Ohio Air Quality Development Authority—Bond Assisted Finance
Through the issuance of project revenue bonds, the Ohio Air Quality Development Authority can assist businesses in achieving better project costs. The benefits are derived from a combination of tax incentives and innovative structuring. The agency can support projects in a broad array of advanced energy technologies and energy efficiency.
**Project Sponsor:** Ohio Air Quality Development Authority
Website: [http://www.ohioairquality.org/clean_air/default.asp](http://www.ohioairquality.org/clean_air/default.asp)
Ohio Air Quality Development Authority—Qualified Energy Conservation Bonds
These bonds are a financing instrument that provides the lender (bond purchaser) with a tax credit roughly equivalent to the interest rate that would otherwise be paid. As a result, the project (borrower) pays little or no interest on the loan. Although the program is set up to benefit government entities for the most part, it does allow a portion of the state’s allocation to be used for private sector projects. The Authority is assigned the responsibility of allocating the state’s assigned part of the QECB program.

Project Sponsor: Ohio Air Quality Development Authority
Website: http://www.ohioairquality.org/oaqda/default.asp

5. OTHER PROGRAMS

Land Resources

The Office of Redevelopment’s Brownfield Revolving Loan Fund
The Office of Redevelopment’s Brownfield Revolving Loan Fund (BRLF) program has available the following financing opportunities: Up to $1 million in loan financing available for asbestos, lead-based paint or petroleum. Municipalities, nonprofits, and private entities can apply for program funding to conduct remediation activities at eligible sites.

Project Sponsor: Ohio Development Services Agency
Website: http://www.development.ohio.gov/cs/cs_brownfieldloan.htm

OWDA Brownfield Loan Program
The Brownfield Loan Program is a partnership between the Ohio Water Development Authority and the Ohio Development Services Agency. It provides below-market-rate loans for the assessment, cleanup, and/or demolition of brownfield sites. Public and private entities are eligible to apply.

Project Sponsor: Ohio Development Services Agency
Website: http://development.ohio.gov/cs/cs_owda.htm

Workforce Training Resources

OhioEnergyPathways.org
The Ohio Board of Regents has launched OhioEnergyPathways.org to boost job creation by better aligning education and training resources with the demands of job creators. The new website connects Ohioans seeking education and jobs in the energy industry with specific job training and employment opportunities that meet their needs and interests. The tool features information about each energy sector as well as energy efficiency to help those who are interested in energy careers connect with the types of occupations and training programs available throughout Ohio. Featured content areas include: Advanced energy, Renewable energy, Energy efficiency, Oil and Gas.

Program Sponsor: The Ohio Board of Regents
Website: http://www.ohioenergypathways.org/
PROJECT DEVELOPMENT WORKSHEET

The following worksheet is meant to suggest the many steps involved in organizing a project but it is not comprehensive. Project organizers will need to create their own list of steps, based on their unique circumstances.

Feasibility Analysis
Assess site for access
Secure control of property and/or site
Evaluate the resource
Understand participant motivation
Conduct market research/focus groups/surveys
Investigate interconnection options
Research financing mechanisms
Gauge community receptivity and support

Project Development
Prepare a financial plan
Determine ownership structure
Develop operating agreement between host and project owner (if different)
Develop participant agreement
Obtain legal and tax consultation for contracts
Define system and other technical specifications
Execute agreement for the sale of power
Complete permitting and environmental compliance requirements
Execute interconnection agreement
Conduct an RFP for design/build

Construction
Prepare the site for construction: grading, road improvements, other
Dig trenches, lag cables, install transformer(s)
Install fencing and site security features
Complete inspections and commissioning
Restore site/surrounding vegetation
Complete paperwork for incentives

Operations & Maintenance
Schedule and perform panel cleaning
Save for inverter replacement
Monitor system output
Distribute benefits to participants (incentives, tax credits, etc.)
File tax returns, state production incentive paperwork
File annual business license requirements

<table>
<thead>
<tr>
<th>ENTITY TYPE</th>
<th>LIABILITY FOR OWNERS</th>
<th>TAXATION</th>
<th>PRIMARY ADVANTAGES</th>
<th>PRIMARY DISADVANTAGES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>General Partnerships</strong></td>
<td>Personal liability</td>
<td>Pass-through</td>
<td>Ease of formation; pass-through taxation</td>
<td>Personal liability of partners</td>
</tr>
<tr>
<td><strong>Limited Partnerships</strong></td>
<td>Personal liability for general partners; limited liability for limited partners</td>
<td>Pass-through</td>
<td>Pass-through taxation; limited liability for limited partners</td>
<td>No liability shield for general partner</td>
</tr>
<tr>
<td><strong>Limited Liability Companies</strong></td>
<td>Limited liability</td>
<td>Usually pass-through</td>
<td>Pass-through taxation; fewer formalities to maintain the LLC structure than corporations</td>
<td>Relatively new structure; may be harder to get financing</td>
</tr>
<tr>
<td><strong>Cooperatives</strong></td>
<td>Limited liability</td>
<td>Separate tax entity</td>
<td>Cooperative principles</td>
<td>Inflexible structure</td>
</tr>
<tr>
<td><strong>“S” Corporations</strong></td>
<td>Limited liability</td>
<td>Pass-through</td>
<td>Liability shield; ease of investment; ease of transfer of shares in larger, non-close corporations</td>
<td>Limitations on number and identity of members</td>
</tr>
<tr>
<td><strong>“C” Corporation</strong></td>
<td>Limited liability</td>
<td>Separate tax entity</td>
<td>Liability shield; ease of investment; ease of transfer of shares in larger, non-close corporations</td>
<td>Complexity; double taxation</td>
</tr>
</tbody>
</table>

## COMPARISON OF MODELS

<table>
<thead>
<tr>
<th>ADMINISTERED BY</th>
<th>UTILITY</th>
<th>SPECIAL PURPOSE ENTITY</th>
<th>NON-PROFIT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Owned by</strong></td>
<td>Utility or 3rd party</td>
<td>SPE members</td>
<td>Non-profit</td>
</tr>
<tr>
<td><strong>Financed by</strong></td>
<td>Utility, grants, rate-payer subscriptions</td>
<td>Member investments, grants, incentives</td>
<td>Donor contributions, grants</td>
</tr>
<tr>
<td><strong>Hosted by</strong></td>
<td>Utility or 3rd party</td>
<td>3rd party</td>
<td>Non-profit</td>
</tr>
<tr>
<td><strong>Subscriber Profile</strong></td>
<td>Electric ratepayers of the utility</td>
<td>Community investors</td>
<td>Donors</td>
</tr>
<tr>
<td><strong>Subscriber Motive</strong></td>
<td>Offset personal electricity use</td>
<td>Return on investment; Offset personal electricity use</td>
<td>Philanthropy</td>
</tr>
<tr>
<td><strong>Long-term Strategy of Sponsor</strong></td>
<td>Offer options</td>
<td>Sell system to host</td>
<td>Retain for electricity production for life of system</td>
</tr>
<tr>
<td></td>
<td>Add generation (possibly for Renewable Portfolio Standard)</td>
<td>Retain for electricity production for life of system</td>
<td></td>
</tr>
</tbody>
</table>