
FINANCING COMBINED HEAT AND POWER:

TOOLS, TECHNIQUES, AND STRATEGIES

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Lack of available and affordable financing is a critical barrier that manufacturers and other business operators face as they consider CHP systems. The nation's current booming economy has meant an explosive growth in the level of capital invested, but existing manufacturers are often frustrated in their quest for some share of it – resources that will help them become more efficient and effective players in the global economy. Plenty of capital is available nationally, but many manufacturers have trouble gaining access to the money they need at affordable rates. This is especially true for small producers, who often have great difficulty in securing financing. Many cannot obtain capital for long-term investments in plant and equipment.

This paper will highlight the key issues that companies face when seeking private sector financing and examine:

- types of financing available to companies pursuing projects like CHP;
- conventional lenders and their reaction to risk, which affects their view of innovative projects like CHP;
- factors in choosing the right lender – and how the lender may “choose” the borrower; and
- basic information on public-sector program types.

What's really out there? All sorts of private financing sources are out there, ranging from traditional banks to energy service companies (ESCOs) to various vendor financing schemes. And, billions of dollars worth of federal and state financing resources are available through a number of programs. ***Businesses must get a sense which are most appropriate and gain an understanding of how these public and private financing offerings work. They must also be able to show***

that their needs coincide with program missions, and that their needed projects can be shaped to meet lender eligibility requirements and program award criteria.

Why is traditional financing so hard to get? In addition, the normal problems associated with underwriting reviews of loan applications are complicated by several factors, including:

- lender uncertainty about the viability of proposed process-related changes, like CHP;
- lender adversity to operations involving new technologies; and
- environmental uncertainties that many lenders associate with manufacturing projects (in terms of lender liability and collateral devaluation).

Why do lenders operate this way? Financing institutions typically limit their lending to low-risk propositions. There are a number of reasons for this; one of the most important is lenders' concerns over how their own regulators will view the viability of their bank operations and lending practices. The federal Office of the Comptroller of the Currency and other bank regulators have laid down specific loan performance criteria for lenders to meet, and no financial institution wants the stigma of too many bad or "nonperforming" loans.

In practice, this means that lenders are most comfortable with certainty, with things they know, and processes they understand. As a result, many often view innovations or new technologies as "red flag" situations to be avoided in favor of other types of lending. Many small manufacturers, in fact, are not able to land long-term capital or construction loans at any price; they are viewed as too risky. Their owners often lack enough collateral to meet underwriting requirements or enough cash to meet loan processing costs and environmental assessment requirements. While product development initiatives, new technologies, and efficiency improvements receive a lot of attention from public and corporate leaders, they often are shunned by bank underwriters. Innovative projects without a record of success and certainty often do not compete well in financial markets because lenders, looking to their own bottom line, are not sufficiently convinced that they will be repaid.

Individual institutions determine their own lending procedures to avoid this stigma, and these procedures vary. Some lenders have developed a speciality and an in-house expertise in certain types of lending, such as manufacturing equipment and facilities. Because they understand the needs, the practical risks, and true nature of collateral value in such circumstances, they are likely to be much more receptive to a loan request from an industrial company than a financier that focuses on shopping centers or commercial businesses.

WHAT TYPES OF FINANCING SHOULD COMPANIES CONSIDER FOR CHP?

Companies seeking financial assistance to improve their energy efficiency, production processes, and overall competitiveness—including installation of CHP systems—have an array of financing options to choose from, including:

- commercial loans, including those backed by federal or state guarantees
- lease-purchase or vendor financing
- energy services or shared savings contracts (through ESCOs)
- retained earnings or company cash flow
- federal or state agency financial assistance

Businesses need to remember that the most appropriate approach will vary, company by company, depending on a number of factors: the size of the operation, nature of investment needed, primary purpose of capital proceeds, financial health of the company, etc. This section will lay out these options, and highlight a few special considerations.

(1) COMMERCIAL LOANS

The majority of the commercial loans made to industrial companies are used to purchase inventory goods or raw materials, and typically the term on them is for a year or less. These are also known as working capital loans. These are typically secured by accounts receivable or the materials they acquire. Established manufacturers usually have little difficulty getting such financing.

Manufacturers need to borrow money for longer terms, up to ten years (or even longer), to finance new equipment, more capital-intensive efficiency improvements, or building renovation or acquisition. These loans are often more difficult to secure, as noted above.

The next section of this paper will focus on issues of risk and other factors that affect commercial lenders' willingness to provide financing to manufacturers for various types of projects, including CHP systems.

Many lenders are more inclined to provide money to manufacturers if they can gain the extra comfort afforded by a loan guarantee. At the federal level, the Small Business Administration may participate in loans for these purposes. ***Companies should keep in mind that SBA typically guarantees up to 90 percent of the principal balance of loans up to \$155,000, and 85 percent of loans up to \$500,000, to make them more acceptable, and less risky, to participating private lenders.*** SBA has designated several hundred lenders from around the country as Preferred Lenders; these banks have expedited decision-making authority delegated to them by SBA. ***Manufacturers should also note that SBA-backed loans are not necessarily cheap money;*** rates range from prime-plus 2.25 percent

to prime-plus 2.75 percent.

(2) LEASE-PURCHASE OR VENDOR FINANCING

Most manufacturers are familiar with the leasing concept. Leasing can be an attractive financing option to use to get new equipment. In energy project financing, the energy efficiency savings realized from new equipment -- the bottom line impacts on the electric or gas bill -- usually can offset the lease payment. This will result in a positive cash flow situation for the company. Sometimes the value of the equipment and the cost of its installation is amortized over the term of the lease, making its eventual acquisition by the leasing company more affordable. In many cases, the lease term is shorter than the useful life of the equipment; most such leases include a purchase option pegged to the fair market value at the end of the lease. ***Companies thinking about CHP systems should explore the two types of lease arrangements that are typically available.***

(1) **FINANCE LEASES** are essentially installment purchases. ***Companies pursuing this option will need little or no initial money to purchase the equipment.*** The lessee company is considered the owner of the equipment for tax purposes, and is entitled to take deductions for depreciation and the interest portion of the payments to the lessor. Finance leases may be offered by leasing companies, ESCOs, suppliers, installation contractors, and utilities.

(2) **OPERATING LEASES** are also known as vendor financing. In this scenario, the lessor owns the equipment and leases it out for a pre-determined contract period. The lessor is often the maker of the equipment being acquired. In the case of energy efficiency equipment, ***the vendor often guarantees that the customer will pay no more for the lease than the energy savings it generates.*** Vendors, on occasion, may act as an ESCO and offer a broader range of services. The lessor takes the tax benefits, and the lessee writes off the lease payments as a business expense.

Lease financing options offer several advantages:

- the entire cost of the property or equipment is financed
- company constraints on taking on new debt or using lines of credit can be circumvented
- more flexible payment schedules can be structured (for example, to reflect seasonal business cycles)
- more advantageous tax treatment (i.e., a lease is treated as an operating expense and not a capital investment)

This approach also carries several disadvantages:

- contracts that may carry penalties upon cancellation, an important consideration if the equipment becomes out-dated before the lease expires
- higher real cost, after taxes, when total term considered

- no ownership value of the property or equipment at the end of the lease term, even if value remains
- cost of removal usually borne by lessee if the equipment is not purchased or leased again at the end of the lease term
- loss of tax advantages such as accelerated depreciation

(3) ENERGY SERVICE COMPANIES (ESCOs), AND SHARED SAVINGS CONTRACTS

ESCOs provide energy efficiency improvements and energy management services to companies, and get paid out of the savings realized from the improvements. Unlike many traditional vendors, most ESCOs do not require or expect any cash up-front for the energy efficiency measures that they acquire and install on behalf of participating companies. This makes ESCO projects especially attractive for companies where cash flow or environmental concerns make traditional financing hard to get or much more costly to secure.

(4) COMPANY EARNINGS OR INTERNAL CASH FLOW

Some companies may choose to finance CHP systems out of cash flow generated from company activities. The potential return on investment may make this quite attractive economically. In addition, loan transaction costs and environmental testing costs can be avoided with self-financed projects.

(5) FEDERAL OR STATE FINANCIAL ASSISTANCE

The federal government offers several loan and loan guarantee programs that businesses of all types, including manufacturers, can tap to support energy efficiency and production modernization activities. Nearly all of these are general business development assistance programs that manufacturers -- along with commercial and service enterprises -- are eligible to use.

Only one federal financing initiative -- tax-exempt industrial development bonds - is targeted exclusively to manufacturers. Therefore, ***the challenge manufacturers face when contemplating use of these programs to help finance CHP systems is linking their specific financing needs with broader program criteria, and building a competitive case for their applications.***

Every state offers a host of financing programs that could be linked to CHP project needs, although few of them are reserved exclusively for manufacturing use. Each state has a website posting its economic development and business financing programs; ***companies looking for state help with CHP will have to figure out a***

way to fit their project needs within the broader eligibility and funding criteria of these broader state program efforts.

More information about the types of public sector financing available, and how the different program types work, can be found in the last section of this paper.

CONVENTIONAL LENDERS AND RISK: WHAT INFLUENCES THEIR APPROACH TO MANUFACTURING PROJECTS?

What do companies need to know about their lenders? Various factors affect any given lender's basic view about financing business initiatives, especially manufacturing projects. Therefore, borrowers must know their lenders. When seeking financing for energy efficiency or process improvements—like CHP— they should try to determine the following:

- ˘ the lender's **MARKET POLICY-MAKING STRUCTURE** -- are they a local bank with purely local interests, are they a national bank with policies set in a distant home office, etc. This will influence the lender's flexibility and approach to specific local situations.
- ˘ the lender's **SPHERE OF ACTIVITY OR MARKET NICHE** -- is the lender's focus primarily on commercial projects, multi-family housing projects, shopping malls, or industrial projects; determining this will offer some sense of the lender's receptivity to manufacturing modernization and energy efficiency projects.
- ˘ the lender's **LEVEL OF SOPHISTICATION AND KNOWLEDGE** base -- the more the lender knows about and understands industrial facility issues and needs, the more willing they are likely to be to finance such projects.
- ˘ the lender's **PAST EXPERIENCE** in financing similar modernization and energy efficiency projects -- financiers who have undertaken such projects are less likely to be swayed by horror stories and more likely to be open to this type of loan
- ˘ number of lender **"TRIGGER" ISSUES** -- the types of red flags that will dissuade them from lending, such as past problems with collateral disposition or adequacy of value, etc.
- ˘ lender's **COMFORT LEVEL WITH NEW TECHNOLOGIES**, and their internal capacity to understand how new technologies can work and how likely they are to achieve the benefits they project

In short, *companies must remember that rejection by one lender may only reflect that financier's view of the risk involved with that sector or technology, and not the broader credit-worthiness of the applicant.*

Therefore, manufacturers should seek out lenders that may be a better fit with the project needing financing.

What are the faces of Risk? Risk -- ways to quantify it, avoid it, and manage it -- is the number one concern of lenders. As they consider it, many bankers follow the credo of the so-called "*Five Cs of credit*," namely:

- **Capacity** to repay the loan;
- **Collateral** value offered to secure the loan
- **Capital** on hand -- the borrower's liquid assets or cash-on-hand;
- **Conditions** -- special situations or extenuating circumstances that could impact the borrower during the life of the loan; and
- **Character** of the borrower -- their reputation for integrity and forthrightness (in presenting information to underwriters, their position in the community, and similar types of intangibles)

Within these parameters, the decision-making process is a fluid one within any given bank, in the context of loan officer interpretations, the reputation of the loan officer (within the bank) who may be handling your loan request, the nature of the bank loan committee and their comfort with basic data presented, and so forth.

Business borrowers must remember that, in the final analysis, the key factor is risk -- the chances that problems are likely to arise with a project, relative to the potential payoff for the lender. Risk may take many forms, depending on the financial institution, its perceptions of various production or operating situations, and the specific circumstances of the individual project. ***Manufacturers must realize that, in the case of projects involving new process equipment or new technologies, the nature of the risks that lenders fear as they consider loan applications fits into one of the following categories:***

- ˘ that the equipment or technology will not perform as promised, undermining the ability of the manufacturer to repay the loan based on predictions of that performance;
- ˘ that the equipment or technology is so tailored to the specific borrowing company that it will not be marketable to others and that its purchase price will not be recovered in the event of a foreclosure (even accounting for normal wear and tear)
- ˘ basic concerns over environmental liability, prominent in many heavy industrial manufacturing sectors (such as printing or metal-plating), will translate into one of two situations: (1) either the lender will not be able to gain liability-free access to manufacturing facilities to reclaim equipment used as collateral in the event of default, or (2) that borrowers will be saddled with environmental cleanup costs and their ability to repay the loan may be jeopardized.

Numerous factors affect any individual lender's decision whether or not to lend to companies seeking to finance equipment acquisition or capital improvements related to competitiveness. ***Companies must recognize that some of these factors will be out of the prospective borrower's control and may not even be relevant to the specific loan request at hand;*** some lenders clearly follow the "once burned, twice shy" philosophy when dealing with projects in certain industrial sectors. Therefore, ***manufacturers often have to make a considerable effort to educate their lenders on the nature of their industry and the scope of the project they propose to undertake.*** In many cases, they are not successful in establishing a necessary level of comfort. Thus, ***manufacturers are encouraged to try other lenders if the first one they approach rejects their application.*** Technical information available through DOE and various state programs can prove valuable in this regard.

What types of Manufacturing-related Risks do Lenders Most Often Consider? Most lenders are traditionally conservative in their lending policies, often because they feel that their own regulators place them in that position. This varies for a number of reasons, but the size, specialty, and expertise of a given institution plays a key part. For example, some financial institutions focus on certain types of commercial lending; others may be much more open when considering loan requests from manufacturers. Some lenders are much more versed in environmental issues. Moreover, within a specific institution, some loan officers are more conservative than others, for a variety of reasons. ***Manufacturers must not forget that some lenders simply do not understand various manufacturing technologies and processes.*** And no bank officer wants to be party to a bad or "nonperforming" loan. The fact of the matter is that manufacturing loans are perceived as having a greater chance of going awry than most other types of lending.

Lenders concern themselves with various types of risk, but how any company addresses the following three types will be crucial in a lender's decision on a project loan request.

- (1) **Basic credit risk** -- the likelihood that the borrower will be able to make payments.

Lenders address this risk by looking at the credit rating and financial situation of the borrower, to review such factors as past record of loan repayments and current debt to income ratios.

- (2) **Collateral risk** -- the possibility that the lender will not be able to recover the loan amount due in the event of foreclosure because of a decline in collateral value (with manufacturing equipment, these concerns arise because the equipment is not viewed as marketable to others at a sufficient price).

Potential borrowers need to know that lenders confront this risk in two related ways: (1) by minimizing the value of the collateral to a level they are

comfortable with (in the case of equipment, this may involve reducing its value to scrap value); or (2) by reducing the loan-to-value ratios they will accept for the project to a level they feel addresses the uncertainty. For equipment loans, this means, in practice, that lenders might only provide 20 or 30 percent of the purchase price, rather than the 70 or 80 percent that they might loan in other situations.

Borrowers must remember that loan-to-value is an important concept in financing, and is especially key in evaluating potential risks in manufacturing loans. Basically, the smaller the loan request relative to the size of the overall project, the lower the loan risk to the lender, and the more likely the loan is to be approved. This boils down to a simple cash flow issue; the profits that manufacturers would earn from their own investment in the project could be shifted to cover the loan payments if that became necessary. In practice, this may mean that if manufacturers have limited cash to commit to a modernization strategy, they might be better off tackling initial segments, rather than a major effort. Thus, the gains from the initial investments can be used to make subsequent projects less risky and more bankable. In this way, it may be possible to get financing for a greater share of the purchase price; in the example above, perhaps 40 percent instead of 20 percent or 30 percent.

- (3) **Liability risk** -- lender's concerns that they will somehow be exposed to environmental risk for contamination if they move to claim collateral at a facility where production results in environmental contamination.

Lenders have interpreted the rulings in several court cases in the 1990s as particularly onerous barriers. In one instance, the manner of removing equipment used as collateral from a bankrupt manufacturer triggered Superfund liability. Lenders want to avoid such situations at all cost, and many do so by simply not lending to such companies. ***Manufacturers must remember that, to overcome lender concerns, they usually must provide environmental assessments and other detailed information to their banks about the condition of their facility, the nature of their production, and their waste disposal plans.*** All of this drives up transaction costs considerably.

Manufacturers may be able to circumvent environmental fears over collateral value for specific equipment acquisitions simply by offering alternative collateral. For example, some banks may accept other real estate holdings, or other assets such as stocks or bonds as collateral for the equipment loan. (In practice, of course, this forces manufacturers to make some hard decisions about what they are willing to risk to secure the loan.)

Finally, insurance products are available that provide lenders the comfort they need when considering loans where environmental risks may be present. However, in practice, such insurance is very expensive (although the costs of typical coverage have dropped by more than a third over the past few years and continue to decline as an actuarial track record in this arena is developed). Currently, policy fees typically make

such insurance prohibitively expensive for projects needing less than \$500,000 in capital— a level which may, in practice, limit the applicability of insurance to support CHP projects.

FACTORS TO CONSIDER WHEN CHOOSING THE RIGHT LENDER

Companies need to recognize that lender size can be a consideration when seeking a loan for a CHP project. As with broader manufacturing projects, the nature of CHP projects means that prospective borrowers may have to search for the right match between their needs and the inclinations of the possible lending institution. For example, loan size/complexity and bank size may have to be matched properly. In some instances, if the needed amount of loan proceeds is small and for routine purposes, the best bet may lie with a small community bank that specializes in tiny loans for projects in the local area. In other cases, where the technology proposed may be complex or relatively new, or a sizable amount of financing may be needed, the right lender may be a large, multi-billion lender with staff expertise and experience in making such loans.

Advantages of small lenders (with less than \$100 million in assets)

- ˘ tend to focus on smaller loans
- ˘ market niche is the local area, and they may be more interested in making loans in their immediate community

Disadvantages of small lenders

- ˘ project size may exceed maximum loan amount (while such banks often participate in local lending consortia to meet higher capital needs, working through such an arrangement adds to the transaction costs)
- ˘ may be rigid when dealing with contamination concerns (automatically rejecting applications for this reason) or overly conservative when faced with loan requests involving innovative technologies or equipment

Advantages of large lenders (with more than \$100 million in assets)

- ˘ tend to be more open when considering loans involving manufacturing equipment and contamination concerns, because of greater staff expertise and experience
- ˘ can consider larger size loans (because of their size, any individual loan will constitute a small proportion of their loan portfolio, allowing risk to be spread)

Disadvantages of large lenders

- ˘ minimum threshold for a loan may be too large for the typical CHP equipment loan need (in some cases, lenders have established floors of as much as \$10 million)
- ˘ some may view manufacturing loans as too complex, and their servicing too time-consuming (basically, they may have easier ways to make more money, via commercial or real-estate lending)

Finally, manufacturers need to know that sometimes, other factors will affect a bank's willingness to finance manufacturing-related projects -- even if they have little or no direct bearing on either the specific project or the prospective borrower. They may include the following:

- ˘ basic institutional attitude towards certain types of risk -- top bank leadership simply decrees that the organization will not finance this type of project
- ˘ the lender's need to make loans -- "hungry" banks needing to shore up their level of lending activity may be more willing to finance innovative projects like CHP than institutions having a number of prospective borrowers at their door competing for limited loan funds
- ˘ the extent to which the lender pursues good ratings under the Community Reinvestment Act and needs to make qualifying loans to maintain those ratings -- a factor that can work to the advantage of smaller companies in distressed community areas who employ local, lower-income persons
- environmental factors.

The latter can have a significant, if more invisible impact on a lender's openness to lending. Historically, many manufacturing operations are viewed as "dirty" -- rightly or wrongly -- and companies seeking financial assistance must be prepared to prove that they can still meet the 5 Cs of credit and will not compromise a participating lender in terms of environmental liability. ***Manufacturers in particular need to be aware that lenders continue to be very nervous over the prospect of incurring liability for environmental contamination from loans they make.*** While Congress and the federal EPA have acted over the past year to reduce this risk, many lenders remain extremely reluctant to lend to companies for projects or related systems that involve manufacturing; this could include CHP. This is particularly true of loans for improvements to long-time manufacturing operations. ***Manufacturers need to be aware that certain types of situations which will raise red flags with lenders, and they could require additional borrower effort to establish the right lender comfort level.*** These include the following.

- ˘ use of the facility for perceived "dirty" manufacturing operations, such as those which involve the use of toxic substances, such as cyanide or lead;

- ˘ presence of discarded industrial batteries, paints, pesticides, or other chemicals, or waste ponds or lagoons;
- ˘ evidence of lead-based paint, asbestos, or underground storage tanks, or transformers, capacitors, or hydraulic equipment that may contain PCBs

WHAT PUBLIC-SECTOR HELP FINANCING TOOLS ARE BEST SUITED FOR MANUFACTURERS?

Several federal agencies and nearly all states have devised financing tools to help companies gain access to the money they need for efficiency and production process improvements. Some of these tools are relatively simple, like loan or grant programs; others are quite sophisticated, such as equity investment initiatives. The structure of these tools vary; some offer direct financial assistance, while others provide indirect incentives via the tax code.

What do these programs do, and how can they help companies gain access to needed financing? In particular, manufacturing needs are as diverse as the industrial sectors they represent. And CHP represents—for virtually all public-sector financing programs—an area into which they have not ventured. Therefore, creativity is key—no one “best” public sector financing approach will fit all modernization and energy efficiency needs. ***Companies need to remember that when they are used, separately or in combination, they need to meet one or more of the following goals to help make the project work,*** including:

- ˘ Reducing the lender’s risk, making capital more available by providing incentives such as loan guarantees to attract private lender participation;
- ˘ Reducing the borrower’s cost of financing, for example, by making capital more affordable with reduced interest rates or by using assistance programs that reduce loan underwriting and documentation costs;
- ˘ Improving the financial situation of the manufacturer seeking financing, by providing incentives such as tax credits or abatements that can help improve the project’s cash flow; and
- ˘ Providing greater comfort to lenders or investors, through technical assistance information or programs that show that planned improvements will yield the benefits that they claim.

All types of companies, including manufacturers, need to know where to look for the help that is available. At the federal level, some financing tools are administered directly by federal agencies; others by authorized private organizations; still others by local development agencies or non-profit institutions or corporations, in accordance with federal rules and in conjunction with federal agency partners. Similar variations are found in state programs.

What types of financial assistance is available? The financing tools available to manufacturers take many forms, but three types seem most suited to CHP projects: **DEBT, EQUITY, TAX INCENTIVES, and GRANTS.** Different tools are best suited to different needs, and *different types of companies need to understand these variations in order to come up with the best fit with their financing needs.*

(1) Debt -- loans, loan guarantees and other tools

Most public assistance seeks to make financial resources more available to business through loans, loan guarantees, and other types of interest subsidies. ***Companies should recognize that the general goal of all these programs is this: to make loan capital more available, at the best rates and terms possible.***

At the same time, ***manufacturers need to understand the context in which all these programs operate, and what they can support--namely, that they are available to all qualifying businesses for a wide variety of projects, no matter what sector of the economy. No non-DOE programs specifically target CHP.*** Most programs only limit company participation on the basis of size (usually, number of employees or annual sales). ***No federal programs (other than tax-exempt industrial development bonds), and very few state programs, are targeted solely to manufacturers.***

The Small Business Administration (SBA) is the leading federal agency in this arena; many states have similar programs in place as well. These programs either subsidize the cost of capital or help ensure its availability. Rates of interest are at or below prevailing market rates, depending on the program's objectives and constituency. These debt programs often are used to help attract capital for expansion projects or general business operation. They also seek to support promising firms that private lenders view as high risk, as well as otherwise solid companies unable to meet standard commercial lending terms.

Depending on the specifics of any given program (i.e., what's eligible for assistance, private match required, etc.) manufacturers can use them for a variety of business capital needs — financing building construction, acquiring equipment and machinery, funding plant expansions, or supporting export activity. Some programs meet a company's need for working capital, chronically in short supply for smaller manufacturers. In recent years, SBA loan guarantees have helped a number of manufacturers who needed capital to incorporate new technologies or make important efficiency improvements.

Debt programs are designed to improve the availability and affordability of capital. ***Manufacturers in particular need to realize, though, that most public program officials follow their own guidelines to minimize risk, and these may be rigid as well.*** They are accountable to state or federal agency oversight, and are just as concerned about business failure as their private-sector counterparts. Therefore, to the extent, they can, ***companies seeking help with CHP projects***

need to shape their requests for financial assistance to meet the requirements of the program being considered. As a result, capital access remains a problem for many new or small operations, despite state and federal attempts to improve it.

Although debt financing is the primary federal financing approach, and well suited to many situations, ***companies need to realize that debt programs will not work in every case.*** Loans and loan guarantees may not fit with the financial needs of various new or expanding business situations, modernization or efficiency improvements, or of manufacturers engaged in technology-related projects. Many such firms have initial cash-flow difficulties, and debt programs require a constant stream of repayments beginning almost immediately. Manufacturers trying to modernize or diversify often must borrow considerable sums to invest in production facilities and equipment. As small manufacturers are only too well aware, many small firms fail — not from lack of demand for their products or services — but because they cannot meet debt installments. The time lag on accounts receivable, for instance, can cause an insurmountable cash-flow barrier for small businesses.

(2) Tax Incentives

The only significant federal tax incentives specifically targeted to manufacturers are tax-exempt industrial development bonds (IDBs), which can be used for a variety of financial needs, including site preparation and equipment acquisition. ***Manufacturers need to remember that CHP activities can be eligible for financing as part of an IDB package that the company pursues.*** IDBs are available in every state, and each state authorizes its own set of issuing entities; typically, they include state agencies, local governments, development authorities, and similar organizations.

State and local governments offer most of the tax incentives to promote manufacturing activity, including abatements, investment incentives, exemptions or moratoriums for capital improvements, and incentives for job creation. State and local tax incentives often are linked to or packaged with federal financing assistance. They are offered on the premise that reducing taxes lowers the cost of doing business in an area, making it more attractive for companies to locate there or to maintain or expand existing operations. The latter rationale often is cited when long-time manufacturing companies seek help to retool. Thus, ***manufacturers and other companies can make a stronger case for tax relief or tax-code linked assistance by showing the community impact and local benefits of their proposed project.***

(3) Grants

Many companies, when they decide to seek public financing assistance, think of grants. Grants are direct transfers of money to the recipient, usually with no payback obligation. ***Businesses need to know that little direct grant assistance is available to private interests, and the competition for it is fierce*** -- and not just from other companies, but also from things like health care facilities and low-income housing providers. The average grant dollar amounts for each project are kept as low

as possible because grants are designed to help leverage other sources of financing. Many grants are cost-shared — requiring financial commitments from grant recipients. Most grants are done as “pass throughs” — funds are provided to an intermediary, such as a city or development organization, which, in turn, provides funds to the private company. Virtually all federal grant assistance is delivered this way.

In short, ***companies can tap several types of public resources***, and use them in a variety of ways to help finance manufacturing efficiency and modernization projects— including CHP. ***The most suitable approach depends on the specifics of any given program, the current development climate in a given area, and the financial requirements of the companies wanting to carry out improvements.*** It is limited only by the creativity of the participants.

WHAT SHOULD BORROWERS KNOW ABOUT THEIR LENDERS?

- market policy-making structure
- sphere of activity or market niche
- level of sophistication and knowledge
- past experience in financing similar types of projects
- “trigger” issues or red flags
- comfort level with new technologies

FINANCING OPTIONS FOR COMBINED HEAT AND POWER

Commercial Loans

- *may be backed by public-sector guarantees*

Lease purchase or vendor financing

- *finance leases*
- *operating leases*

Energy Service Companies (ESCOs)

- *financing contracts based on shared savings*

Retained earnings or company cash flow

Federal or state financing programs

- *debt*
- *tax incentives*
- *grants*

**FEDERAL FINANCING PROGRAMS THAT
COULD SUPPORT C.H.P. --
The Most Likely Suspects**

Small Business Administration

- *Section 7(a) loan guarantees (including Low-Doc)*
- *Section 504 Development Company debentures*
- *Small Business Investment Companies (SBICs)*
- *Micro-loans*

HUD

- *Community Development Block Grants*
- *Section 108 loan guarantees*
- *Economic Development Initiative (EDI) grants*
- *Brownfield Economic Development Initiative (BEDI) grants*

Economic Development Administration

- *Public works grants (Title II)*
- *Revolving loan fund capitalization grants (Title IX)*

Tax Incentives

- *Small-issue industrial development bonds (IDBs)*
- *Low-income housing tax credits*