



Economic Impacts of Cost-Effective Energy Efficiency: Final Report on Proposed CPS Programs

Prepared for:



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1

INTRODUCTION

City Public Service (CPS), which provides electric and gas service to the city of San Antonio, Bexar County and some additional surrounding communities, is investigating the development of energy efficiency initiatives. The investigation is being carried out by KEMA Consulting, Quantum Consulting and Economic Development Research Group (EDR Group). EDR Group has prepared this report. As part of these efforts, KEMA analyzed the technical, economic and market potential for energy efficiency in the CPS service territory.¹ In the next phase, KEMA developed a series of recommended energy programs designed to save energy and reduce peak demand for residential, commercial and industrial customers². KEMA also recommended best practices adoptions for each proposed program.

This report builds upon two prior reports produced under this contract, *City Public Service Technical and Economic Energy Efficiency Potential Study*, September 2004 and *The Business Case: Economic Impacts of Cost-Effective Energy Efficiency*, November, 2004. It also builds upon EDR Group's profile of regional economic activity and energy usage, which was appended to the *Business Case* report. The combined EDR reports present the business case for the development of energy efficiency activities in the CPS territory by examining how initiatives based on promoting cost-effective energy efficiency measures will affect the San Antonio/Bexar County economy over the next 10 years, and beyond. The initial *Business Case* report presented an initial estimation of how energy efficiency programs could affect the local and regional economy through the program years and beyond. The *Economic Impact* report refines the initial estimations based upon the program designs and estimations about which commercial and industrial business types are most likely to participate in the early years of the programs.

The presentation of economic impacts of energy efficiency programs proposed for CPS extends the work of the technical, economic and potential study and presentation of proposed energy efficiency programs in two substantial ways, by showing:

1. How potential CPS energy efficiency activities can affect the San Antonio-Bexar County area economy directly through the creation of jobs, increased personal income and business output and indirectly through downstream growth among suppliers to the energy efficiency programs and businesses ancillary to suppliers;

² KEMA Consulting, *City Public Service Initial Program Designs*, May 16, 2005

2. How San Antonio can potentially leverage its energy efficiency efforts to reinforce San Antonio's strategic economic development goals and efforts.

By including such factors into the overall program conception and specific program targeting strategies, CPS can develop energy efficiency programs that produce not only direct energy savings for participants, but also serve to optimize support for key industries in its service territory. In the City Public Service Initial Program Designs report, KEMA generally advised CPS not to target specific business types in the early years of the programs. It is rarely clear who the early adaptors are going to be in any given region. However it is possible to look at how economic impacts might differ in the region given somewhat different sets of early program participants. We therefore present four scenarios, examining key indicators: jobs, business sales, personal income under varying distributions of participant business types.

Table 1. Summary of Economic Impacts after 10 -Year Implementation of CPS DSM Programs

| Program Aspect | Direct Program Impact, Million. 2005\$ | Business Sales in Bexar County, Mil. 2005\$ | Jobs Supported | Labor Income in Bexar County, Mil. 2005\$ |
|---------------------------------------------------------------|-----------------------------------------------|----------------------------------------------------|-----------------------|--------------------------------------------------|
| 1. CPS Spending on Program^{1, c} | \$19.4 | \$37.0 | 450 | \$14.6 |
| 2. Savings to Households^c | \$21.0 | \$40.8 | 297 | \$10.4 |
| 3. C&I Savings | \$47.1 | \$224.0 | 790 | \$64 .0 |
| 4. Participants' Demand for Local Services^c | \$5.5 | \$9.5 | 216 | \$4.7 |

¹ This amount shows program spending for *marketing & admin.* Incentive dollars are embedded under 2. and 3., and utility costs for *Peak Saver* equipment are not shown.

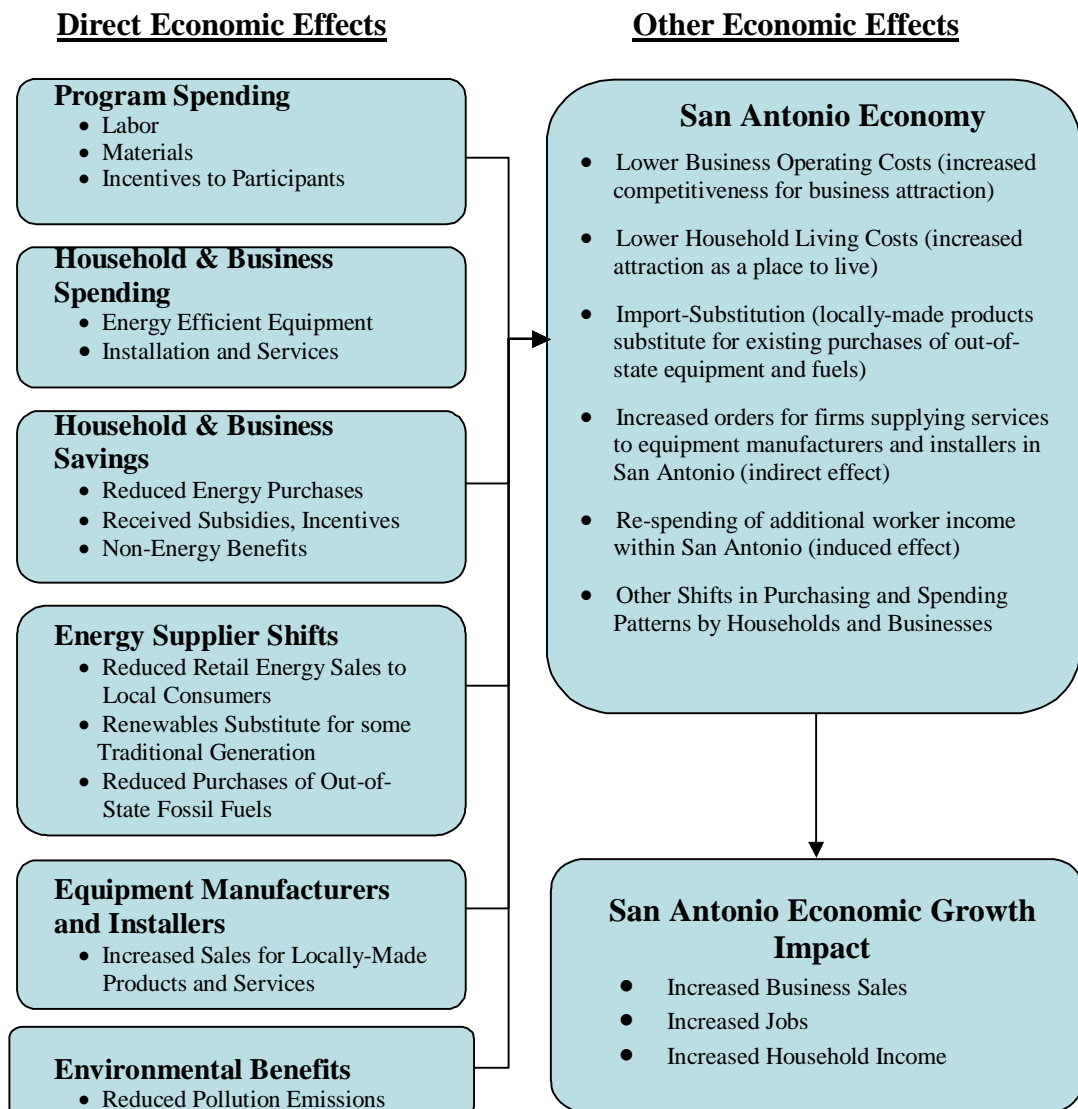
^c Estimated using the IMPLAN model for Bexar County, 2001 BEA data

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HOW WILL ENERGY EFFICIENCY PROGRAMS AFFECT SAN ANTONIO'S ECONOMY?

Chart 1, below, illustrates how energy efficiency programs affect the flow of dollars through the San Antonio economy.

Chart 1. Energy Efficiency Programs' Effect on San Antonio Economy



Energy efficiency programs affect participating businesses' and residential customers' energy costs in several ways. First, there are direct effects on program participants. Decreasing energy costs through increased energy efficiency and conservation can make business operations more profitable and can also leave more money in the families' pockets to spend on other necessary or desired purchases. Second, by lowering the costs of doing business, energy efficiency programs can make San Antonio/Bexar County more competitive with respect to attracting new business, investing in existing (but more efficient facilities) and business expansion.

Increased competitiveness brought about by increased energy efficiency can strongly affect the San Antonio/Bexar County economy. Businesses choosing to relocate consider many factors, including utilities costs and development assistance provided by communities. The availability of energy efficiency programs is not likely to be a deciding factor for businesses making a decision to build new facilities, relocate or expand existing facilities. However, San Antonio can use the availability of energy efficiency programs as a demonstration that it is accommodating to businesses, thereby increasing its attractiveness as a place to do business in a very competitive landscape.

Energy efficiency programs also create other direct and indirect impacts throughout the San Antonio/Bexar County economy. The programs developed by CPS will stimulate the development of increased services related to the equipment and energy efficiency services offered to residential and non-residential customers. The programs may also stimulate the local manufacture of items such as insulation or energy-efficient windows, increasing the flow of dollars that stay within the region. This latter effect of *market transformation* is not considered in this analysis. Each of these effects produces jobs, increases personal income and, overall, makes the San Antonio economy more efficient and competitive.

There are also cost effects. When customers make energy-efficiency purchases, whether as part of a *scheduled replacement* or not, they are also spending some of their own money apart from what CPS programs will offer through incentives to encourage buying of energy-efficient equipment. The subsidized purchase, representing the cost difference between conventional and energy-efficient products may initially crowd out other purchases made by area households or businesses, but over time the savings reaped from energy-efficient investments will support additional spending or growth.

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APPROACH TO ESTIMATING ECONOMIC IMPACTS

The report evaluates how CPS' proposed energy efficiency strategy creates economic impacts in Bexar County. The analysis perspective is different from evaluating impacts on the utility as a result of implementing the proposed programs, in that it focuses on the effects of potential energy efficiency efforts upon the region's economy. In the November 2004 *Business Case* report, EDR Group examined the performance of an assumed set of energy efficiency measures for CPS residential customers, and non-residential customers (including commercial, industrial, military, and educational activities) in the CPS service-area after *five-years* and *ten-years* of program implementation. This report examines the impact of residential, commercial and industrial program designs developed by KEMA subsequent to the initial economic potential study.

KEMA has developed and recommended residential, commercial and industrial energy efficiency programs that reduce customer demand and electric use in key areas such as residential air conditioning, lighting, efficient appliances, commercial equipment, cool roofs and customer commercial and industrial measures. Each of the programs will have direct and indirect impacts upon the San Antonio economy. Direct impacts will be seen in such effects as increased personal income for purchases that would have otherwise been used for energy purchases, jobs created as a direct result of the program in energy services support services ancillary to the programs and possibly increased demand for locally manufactured energy efficient products.

There are also indirect effects that arise from the spending of income created by dollars of energy saved and increased profitability for businesses. These effects are experienced in local and regional economies somewhat differently from region to region, depending to some extent on what sorts of goods and services are produced in the region, what's imported from other regions, whether the programs affect leakage of dollars from the San Antonio region to other parts of the state or country. The rest of this section discusses the San Antonio economy and critical factors related to energy consumption in the area's economy.

Profile of the San Antonio Economy

The EDR Group project team developed its economic impact analysis from several sources. First, the project team developed a profile of business patterns

and energy use in Bexar County.³ The CPS service territory includes Bexar County and small, thinly populated portions of several surrounding counties. The great bulk of economic activity within the service area occurs within Bexar County; the profile therefore concentrated on the Bexar County area and the rich data available at that level. The profile was developed with a variety of sources, including economic and capacity forecasts prepared for CPS, data from *County Business Patterns*, the U.S. Census, Bureau of Economic Development and the IMPLAN economic database. After assembling a basic picture of economic activity in the region, EDR Group used CPS' database of energy use by industry type to develop energy use intensities for each major industry present in the service territory. Energy use intensities were developed for:

- Electricity cost and use per worker;
- Electricity cost and use per dollar of output;
- Gas use and cost per worker.

These intensities, shown in Table 2 on the next page, suggest high-energy use and cost industries, which might be targeted for energy efficiency efforts. Industries where the electric costs are high both per worker and per unit of output include Retail Trade, Information Technology, Accommodation and Food and Drinking, and Public Administration.

Table 2. San Antonio Metro Area: Electricity Intensity Ratio Estimates

| <i>NAICS Two Digit</i> | <i>Electricity Cost per worker (\$)</i> | <i>Electricity Usage per worker (kWh)</i> | <i>Electricity Usage per dollar of output (kWh)</i> | <i>Electricity cost per million dollars of output (\$)</i> | <i>Gas Usage per worker (Th)</i> | <i>Gas cost per worker (\$)</i> |
|----------------------------------------------|-----------------------------------------|-------------------------------------------|-----------------------------------------------------|------------------------------------------------------------|----------------------------------|---------------------------------|
| <i>Military</i> | \$1,391 | 31,718 | 18,177 | \$797 | 187 | \$141 |
| <i>Retail trade</i> | \$1,143 | 18,933 | 40,947 | \$2,473 | 84 | \$62 |
| <i>Information technology</i> | \$1,050 | 17,822 | 2,691 | \$159 | 70 | \$53 |
| <i>Accommodation & food and drinking</i> | \$1,069 | 17,086 | 30,215 | \$1,891 | 406 | \$290 |
| <i>Utilities</i> | \$1,077 | 16,408 | 404 | \$26 | 389 | \$256 |
| <i>Forestry, Fishing, & Ag. Services</i> | \$1,096 | 15,366 | 468 | \$33 | 76 | \$58 |
| <i>Manufacturing</i> | \$839 | 13,769 | 4,208 | \$256 | 492 | \$302 |

³ *Economic Profile and Energy Data for San Antonio*, attached as an Appendix to the Oct. 2004 EDR Group report submission.

| | | | | | | |
|------------------------------------------|--------------|---------------|--------------|--------------|------------|--------------|
| <i>Educational services</i> | \$798 | 12,331 | 3,851 | \$249 | 1,948 | \$1,262 |
| <i>Transportation & warehousing</i> | \$650 | 10,647 | 1,982 | \$121 | 117 | \$92 |
| <i>Public Administration</i> | \$635 | 10,353 | 29,558 | \$1,812 | 59 | \$41 |
| <i>Arts & entertainment services</i> | \$646 | 9,705 | 4,779 | \$318 | 118 | \$86 |
| <i>Wholesale trade</i> | \$564 | 8,889 | 2,053 | \$130 | 60 | \$47 |
| <i>Mining</i> | \$583 | 8,030 | 147 | \$11 | 1 | \$1 |
| <i>Other services</i> | \$572 | 7,967 | 5,728 | \$411 | 227 | \$164 |
| <i>Health care services</i> | \$454 | 7,602 | 8,505 | \$508 | 205 | \$120 |
| <i>Finance & insurance</i> | \$287 | 4,649 | 1,661 | \$103 | 33 | \$24 |
| <i>Professional services</i> | \$205 | 3,147 | 2,225 | \$145 | 54 | \$37 |
| <i>Construction</i> | \$164 | 2,477 | 1,905 | \$126 | 15 | \$12 |
| <i>Management services</i> | \$97 | 1,377 | 52 | \$4 | 0 | \$0 |
| <i>Administration services</i> | \$65 | 1,022 | 2,015 | \$129 | 2 | \$1 |
| Average | \$791 | 12,844 | 8,229 | \$496 | 254 | \$173 |

Methodology: Formulation and Analysis

EDR Group first identified the ways in which the proposed energy efficiency initiatives can directly affect the Bexar County economy – its households and businesses. We estimated the economic impacts of the residential and private-sector businesses' energy efficiency measures using economic models.

Since the majority of the proposed energy efficiency measures involve residential customers, commercial sites, and some industrial participation (C&I), we directed the *net savings* for each customer group into an appropriate economic analysis technique to identify subsequent economic impact generation. Two approaches were used. An input-output model of Bexar County was used to measure how household savings, once spent, create impacts for local businesses, in terms of sales, workers and wages. This same model also identifies how CPS spending on the program, and a portion of the participants' outlay to achieve energy-

efficiency⁴, creates added local economic impacts. A second approach captured how savings to the CPS commercial and industrial clients translate into enhanced competitive benefits of doing business in San Antonio relative to elsewhere. This aspect of our analysis builds upon EDR Group's years of national experience examining industry-specific production function responses to changes in the local cost-of-doing-business – whether these savings arise from a direct energy cost savings or from business productivity improvements made possible by use of more efficient equipment.

⁴ The portion of the *participant's cost* that creates a requirement for local energy-related services is traced through the Bexar County IMPLAN model.

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ECONOMIC IMPACTS OF THE PROPOSED CPS ENERGY EFFICIENCY INITIATIVE

This section of the report shows the results of modeling the expected economic impacts of energy efficiency programs to be developed by CPS using the technical, economic and feasible potentials identified in the baseline analysis and the economic data inputs described above. In addition to estimating the effects of the baseline scenario, EDR Group also projected cumulative impacts at the conclusion of this section.

Table 3 below identifies how the proposed energy efficiency initiative establishes an initial (or *direct*) economic consequence for Bexar County under the baseline scenario. The five-year program budget of \$25 million over five years includes \$8.6m for administration & marketing, \$6.3m for residential incentives, \$3.4m for incentive payments and \$6.8m for equipment costs. The consequences for the Bexar County's economy occur as a result of both spending and saving effects:

- program spending on administration and marketing directly support jobs and associated income within the county (line 1 below),
- households and businesses save additional energy costs on top of the incentive payments received (lines 2 and 3 below), and
- household spending on installation of energy-efficiency products (required for receiving incentives) generates additional jobs and income for equipment installation services (line 4 below). (Note: This analysis assumes that all installation is provided locally, but that none of the equipment is currently manufactured locally.)

Table 3. CPS Proposed Energy Efficiency Initiative and Cumulative Direct Implications for Bexar County Economy

| | <i>Over 5 Years</i> | <i>Over 10 Years</i> |
|-----------------------------------------------------------------|---------------------|----------------------|
| 1. CPS Spending on Admin & Marketing | \$8.6 m | \$19.2 m |
| 2. Savings to Households^a | \$ 5.0 m | \$21.0 m |
| 3. Savings to Com. & Industrial Business^a | \$12.6 m | \$47.0 m |
| 4. Participants' Demand for Local Services | \$3.8 m | \$5.5 m |
| 5. Equipment Cost to CPS- Peak Saver | \$6.8 m | \$14.8 m |

^a Savings reflect energy saved net of equipment outlay, *plus* CPS incentive payments.
Note: All future spending and savings is expressed as *constant* 2005 dollars.

The EDR Group project team then measured the full regional economic impacts tied to:

- (a) Household spending of the energy-related savings;
- (b) Area businesses' growth as a result of energy-savings;
- (c) CPS's requirements, both in-house and contracted, for administration and marketing aspects of the program; and
- (d) The requirements created by households and work-sites for locally available technical/installation services on new equipment.

Equipment purchases are not expected to stimulate the county's manufacturing base since the products tied to the specific measures are not currently made in Bexar County.⁵ The county's retail and wholesale sectors will handle some of the sales associated with the energy-efficient equipment purchases stimulated by CPS programs. We do not have information on the extent to which these purchases would coincide with regular replacement versus the extent to which they would be early replacements. Therefore, we have provided a conservative estimate that assumes no early replacement.

Competitiveness. Impacts tied to the savings to either commercial or industrial work-sites are derived differently from residential impacts. In order to gauge how businesses leverage the energy efficiency programs' opportunity to *lower the cost of doing business* in Bexar County into growth in their sales, we examined a set of industry-specific response parameters to changes in their cost of doing business. This is what is called the competitiveness benefit.

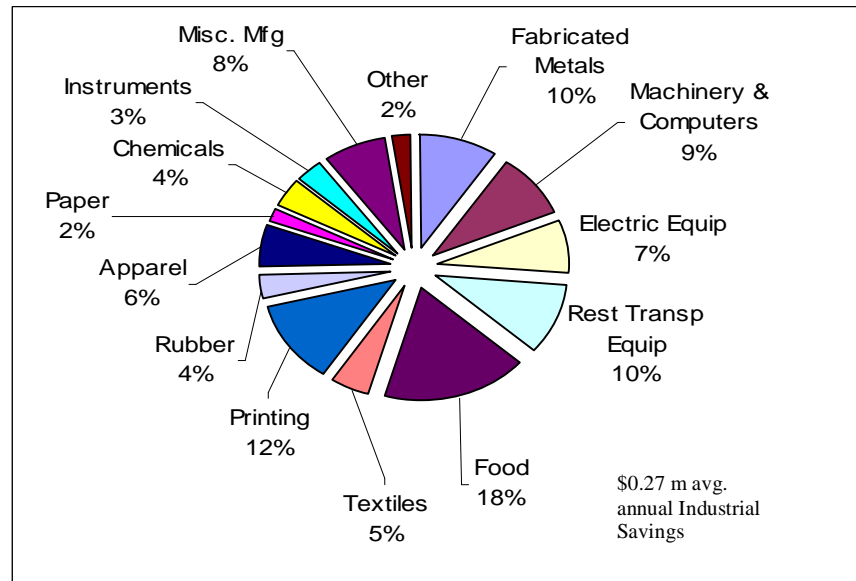
Profile of C&I Participant Savings

KEMA's program projections propose a moderate level of program activity in the first two years, followed by a ramping up to a substantially higher level, with program savings to be sustained at the higher levels for the remainder of the projected programs.

Savings distributions presented in the following exhibits are similar to those presented in the *Business Case* report. The program levels are similar and the recommendations are that the initial program years not target specific industries or customer types within customer sectors (residential, commercial, industrial). Therefore although the program magnitudes have changed slightly, the expected distribution of benefits should be about the same.

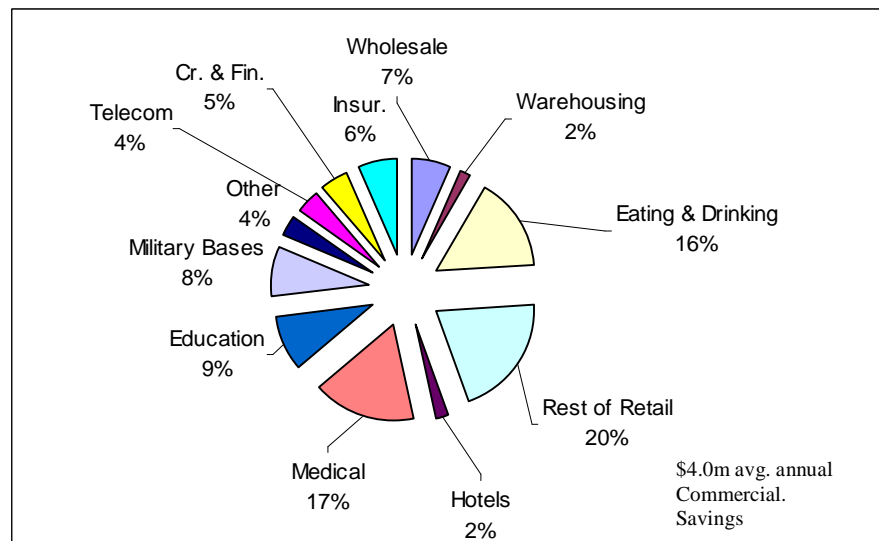
⁵ The potential does exist for the eventual development of local manufacture of products like insulation and high-efficiency windows, with the stimulus of long-term energy-efficiency programs.

Exhibit 1. Allocation of Net Savings to Industrial Customers



Allocation based on employment shares from 2001 CBP data for Bexar County

Exhibit 2. Allocation of Net Savings to Commercial Customers



Allocation from KEMA with additional disaggregation of OFFICE activities based on 2001 County Business Pattern employment data for Bexar County

The above annual savings, anticipated over 10 years of program participation, are small in the context of the value of annual output of the specific businesses, let alone an entire industry or the county economy. Nonetheless, we can see what additional value is associated with these savings.

Tables 4 and 5 below show the economic impact potential of the CPS energy efficiency program in 5-year and 10-year implementation periods. The impacts associated with the stream of CPS spending (Table element 1) would be reduced by any opportunity cost of the utility spending on this program, a cost born by ratepayers.

An opportunity cost is the value of the next-highest-valued alternative use of that resource. If, for example, you spend time and money going to a movie, you cannot spend that time at home reading a book, and you can't spend the money on something else. If your next-best alternative to seeing the movie is reading the book, then the opportunity cost of seeing the movie is the money spent plus the pleasure you forgo by not reading the book⁶. Thus, when totaling the overall economic impacts of the programs, CPS spending (besides incentives) should not be included.

The job impacts generated by CPS spending on program administration and marketing (excluding program incentives) occur largely within the local government sector because CPS is a government entity. The remainder of the job creation is accounted for by (1) local businesses providing supplies to these CPS activities, and (2) local businesses that fulfill household spending from CPS wages associated with the program. Hiring or contractual work that results from the programs produces additional personal income which is spent primarily on goods and services provided by local businesses.

After the CPS program spending, the job creation impact is largest when new demand for the programs create local installation/diagnostic services. The reason for this is two-fold. First, we can expect that county firms will provide 100 percent of this demand. (In contrast, when commercial or industrial customers put their savings to work, part of the savings realized goes for production-specific purchases from outside the county, which represents a leakage of dollars from the local economy.) Second, stimulation of direct services has a higher labor reliance and wages paid, than, say, the retail sectors that become the ultimate recipients of the household savings.

⁶ Henderson, David R. *The Concise Encyclopedia of Economics*, 1983

Table 4. 5-Year Program Implementation – Cumulative Impacts

| Program Aspect | Direct Program Impact, mil. 2005\$ | Business Sales in Bexar County, mil. 2005\$ | Jobs Supported | Labor Income in Bexar County, mil. 2005\$ |
|---------------------------------------------------------------|------------------------------------|---------------------------------------------|----------------|-------------------------------------------|
| 1. CPS Spending on Program^c | \$8.6 | \$15.0 | 182 | \$5.92 |
| 2. Savings to Households^c | \$5.00 | \$7.00 | 51 | \$1.79 |
| 3. C&I Savings | \$12.70 | \$41.0 | 187 | \$12.0 |
| 4. Participants' Demand for Local Services^c | \$3.80 | \$6.6 | 149 | \$3.5 |

^c Estimated using the IMPLAN model for Bexar County, 2001 BEA data

Table 5. 10-Year Program Implementation – Cumulative Impacts

| Program Aspect | Direct Program Impact, mil. 2005\$ | Business Sales in Bexar County, mil. 2005\$ | Jobs Supported | Labor Income in Bexar County, mil. 2005\$ |
|---------------------------------------------------------------|------------------------------------|---------------------------------------------|----------------|-------------------------------------------|
| 1. CPS Spending on Program^c | \$19.4 | \$37.0 | 450 | \$14.6 |
| 2. Savings to Households^c | \$21.0 | \$40.8 | 297 | \$10.4 |
| 3. C&I Savings | \$47.1 | \$224.0 | 790 | \$64.0 |
| 4. Participants' Demand for Local Services^c | \$5.5 | \$9.5 | 216 | \$4.7 |

^c Estimated using the IMPLAN model for Bexar County, 2001 BEA data

What are the Downstream Effects of the Programs?

The tables presented above portray the *direct* effects of CPS energy efficiency programs on the residential and non-residential program participants. The direct effects arise from dollars of increased demand for products and services required by the energy efficiency programs, increased demand for local business involved in program marketing and advertising efforts, reduced household and business expenditures on energy that result from the savings realized by CPS' customers. These direct aspects are defined as dollar changes – whether in an outlay, or as business sales. Each of these direct dollar impacts has a certain number of direct jobs and wages associated with it. They are not explicitly reported in the above tables but are represented in the *total* impacts discussed next.

In addition to the direct impacts, there are also equally significant *indirect* and *induced* “downstream” impacts on area businesses that are created by energy efficiency programs. The downstream impacts are defined as the activity generated by monetary transactions among suppliers, first to the program participant’s daily activities, and then among themselves (termed the *indirect* impacts), and by the activity generated by Bexar County household spending from the labor income created (termed the *induced* impacts). The sum of the direct, indirect, and induced impacts equals the *total* impacts reported above.

The induced impacts (as well as the direct household energy efficiency program savings) are directed towards businesses that fulfill consumer needs – predominantly retail, restaurants, and select types of services. The indirect impacts occur in those local businesses that are suppliers to CPS’ commercial and industrial clients. Other sectors that benefit include *Services to Dwellings & Buildings* as CPS customers install new energy-saving equipment, and *Commercial Printing, Advertising, and Design* services as a result of CPS marketing of the program.

Since the proposed energy efficiency program savings are modest for both commercial and industrial sectors, especially when further allocated to specific commercial or industrial businesses, it is difficult to portray the non-direct job and business sales impacts on the individual industries. Instead, we identified the stimulus the entire county’s business base might expect to incur, knowing that the direct energy efficiency savings will first increase the sales activity (and jobs) of the program participant. Subsequently, additional sales activity results from the *downstream* impacts as a result of the program participant reaping the initial competitiveness benefit of energy efficiency program savings.

Impacts of Target Scenarios

For purpose of scenario-building, EDR Group assumes that roughly 50% of the early program participation will occur within the military and schools sector of public industries, primarily because of the scale of energy use and demand in those industries in the CPS service territory. These levels of participation are likely to naturally happen because of the customer population makeup.

The program designs developed for CPS do not anticipate specific targeting. The lack of targeting in early program years allows programs to find their natural markets and exposes all industries and customer segments to the programs’ features and benefits. However, it is often the case that specific industries or customer segments are heavily represented in the early stages of a program. These participants may be early adopters, or may be part of an industry in which early adoptions of new ideas, techniques and equipment are more common than the average. In some cases, one customer’s participation in a program leads to other, similar customers’ participation through informal communication, a kind of self-

directed marketing phenomenon.

The potential importance of targeting different industries with CPS programs is that participation by different industries can produce different economic impacts. Variations in impacts can include the types of jobs produced, wage levels, education and/or skills required, and so on. Participation by different industries may serve to prop up industries that have stagnant growth or are in decline in the area, or conceivably contribute to the sectors that are already naturally growing, increasing their strength.

To illustrate how such participation can affect the local economy, whether through targeting or through natural market response, EDR Group examined the economic impacts associated with predominant program participation (apart from the military and public education sectors) for each of the following: *Credit-Finance-Insurance, Health Services, Manufacturing*, and within manufacturing, *Aviation/Aerospace MFG*. The result for each of these sectors is shown in Table 6 below. This example is not the only possible target for the C/I programs. We present this to show the opportunity presented by the availability of targeting strategies to integrate CPS energy efficiency programs into larger economic strategies and initiatives for the San Antonio area.

Table 6. Potential Program Adoption* and Resulting Economic Impacts

| Predominance by.... | Cumulative impact for County | | | |
|----------------------------------------|------------------------------|--------------|------------------|--------------|
| | 5 Year Interval | | 10 Year Interval | |
| | Jobs | Sales (m) | Jobs | Sales (m) |
| <i>Credit, Finance & Insurance</i> | 90 | \$18 | 381 | \$77 |
| -or- | | | | |
| <i>Manufacturing</i> | 18 | \$9 | 73 | \$37 |
| <i>Aviation/Aerospace Mfg</i> | 57 | \$15 | 238 | \$63 |
| -or- | | | | |
| <i>Health Services</i> | 164 | \$26 | 690 | \$106 |

* All scenarios shown above assume that ¼ of program expenditures are associated with military, school and other public facilities, and the other ¾ are associated with specific industry sectors as shown below.

Based on the current *scale* of the *Health Services* sector in terms of number employed, the remaining C&I *net energy savings* (after schools and military facilities claim their portions) most greatly improve the relative competitiveness of health services delivered in the San Antonio area when compared to the other select sectors considered. As a result, Bexar County incurs the largest gains in jobs and business sales economy-wide (in both 5- and 10-year implementation periods) when the *Health Services* sector benefits from energy-efficiency measures.

5

CONCLUSION

The development and implementation of energy efficiency programs derived from the cost-effective measures identified in this planning process can produce real, positive economic effects on the San Antonio/Bexar County region over the course of 5- or 10-year program cycles. The economic impacts of the planned programs will produce both direct and indirect benefits to the region's economy. Further, CPS' energy efficiency programs can be a means of supporting and maintaining the development of key target industries over the next decade, by not only providing direct benefits, but also strengthening the region's competitiveness for increased development in the target industries.

There are thus significant opportunities for further development and refinement of more targeted energy programs in future years, and these programs may be optimized to further reinforce local economic development targets