

Industrial Program Attribution: Money Well Spent

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ABSTRACT

When a program is publicly funded, the public rightfully wants to know how that money is invested and that funds are invested cost-effectively. Naturally, then, most energy efficiency programs are scrutinized for their impact on customer energy use. Typically, programs begin with the tracking of gross impacts – best program estimates of energy savings by project. Gross impacts are subject to third-party engineering verification and program attribution to establish net program impacts.

Most programs try to adjust gross impacts for both engineering verification and program attribution. While Wisconsin's Focus on Energy program (Focus) has measured realization rates for several years, performance by program contractors had always been based on verified gross goal achievement. This changed starting Fiscal Year 2008 (FY08) so that contract performance is now based on net goals achievement. In response to this change, Focus's Industrial Program has developed new tools that adjust the way it delivers its program to reflect the way the independent evaluators measure impacts.

These new tools include (1) a customer attribution screener, (2) a customer-signed needs form, (3) a program impact statement, (4) special attention to large projects, and (5) a "needs" selection criterion for ranking competitive offerings, such as Requests for Proposals. These new program tools are geared to improve program attribution, as measured by evaluator-conducted customer self-report interviews. This paper discusses the experience with these tools and their effects on estimated program attribution and industrial program design in Wisconsin.

Introduction

Government and utility energy efficiency programs are paid for by taxes or utility bills collected on behalf of society. These programs are intended to mitigate against the effects of air emissions, the depletion of finite energy resources, and to postpone the need to add power generation capacity.

As with private funds for businesses, the cost-effective use of public funds is imperative. In the use of public funds for energy efficiency programs there is an implicit social contract between a government or quasi-governmental operation and the society it serves. The contract is executed through the promotion and enlistment of willing businesses to partake of incentives to do projects so that both public and participating businesses can share the costs and risks of energy efficiency improvements.

And while those who accept public funds to support their capital projects may see direct benefit through energy savings, the contract is broader in that even those who pay for the program but do not accept project funding (non-participants) extract public benefits. Every unit of energy saved or power generation unit deferred will provide future benefits in better air quality, more available energy, and lower generation costs.

Regardless of participation, everyone expects that tax or ratepayer funds to be used cost-effectively. Ironically, many public programs are not quantitatively evaluated for their cost-effectiveness. For example, we rarely try to quantify the benefits that flow from public education, though we have referenda on costs. Or consider national security or defense spending? We cannot readily quantify the benefits of having an alert system ready to respond to threats.

Energy efficiency programs have been different, however, and typically receive a high level of scrutiny. Programs have strong roots in energy utility planning, rate cases, and the general sense that energy efficiency is part of the ‘portfolio’ – Demand Side Management – of energy resources that a public or quasi-public entity can dispatch to meet load. Many evaluation tools have emerged for the purpose of measuring things such as ‘market effects’, ‘free-riders’, ‘spill-over’, and ‘naturally-occurring conservation’. And these tools have given us confidence that we can do justice to measuring the ultimate impact of these programs. Therefore, cost-effectiveness has always been an important decision criterion for the expenditure of energy efficiency program funds.

This leads us to independent, third-party program evaluation.

Evaluation of Program Attribution

Typical of energy efficiency programs across the country, the implementers of Wisconsin’s Focus on Energy Industrial Program are provided a budget and ‘resource acquisition’ goals for the program year. Since performance is judged in great part on these goals, implementers have a vested interest in maximizing energy impacts. The overseer of the social contract to implement this program, the Public Service Commission of Wisconsin, must ensure that public funds are spent cost-effectively and hire an independent evaluator. This process isolates the analysis from potential stakeholder conflicts of interest.

Measuring cost-effectiveness using the industry standard, the Total Resource Cost test (TRC), relies on several well-established factors in addition to program costs. To get at the energy savings benefits, evaluators begin with the estimate provided by the program engineers who have performed their best estimate by collecting all the necessary customer data and applying engineering calculations. The program estimate, or Gross Tracked Savings, may include *engineering error*¹, *installation error*², and *‘free rider-ship’ effects*.³

The third component, free rider-ship, consists of the savings claimed for those participants who would have undertaken the measures even in the absence of the program. Net program impacts are estimated by accounting for those three errors and only net impacts can be used in the benefit-cost determination. As the term suggests, free-rider-ship has an undesirable effect on program cost-effectiveness. Free-ridership implies the spending of some program funds unnecessarily.

According to evaluation manager for the Public Service Commission of Wisconsin, a lead evaluator for the Focus on Energy Program (Bloch, 2009),

¹ Errors in program-reported engineering assumptions or calculations.

² The difference between actual and reported numbers of units installed or of efficiency levels.

³ A fourth effect not discussed here, ‘spill-over’, are the energy savings provided by those who are influenced by the program, but do not receive program funding. Analysis of spill-over requires broader market analysis which the Focus evaluators have begun to include.

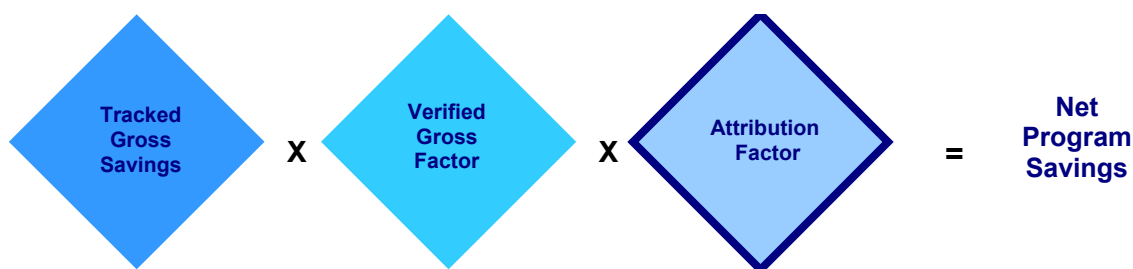
“attribution and free ridership measurements have the most value as tools to shape program design to maximize the effectiveness of energy savings. This means that rather than focusing on the net “score” that a contractor⁴ achieves, it is more consistent with public policy to use attribution to improve both cost-effectiveness and the reach that a program has into new incremental market participants who are less likely to value efficiency without program intervention.”

A typical evaluation method used to measure attribution, called self-report net-to-gross (SR NTG) can be expressed as follows. First, the program provides evaluators their best estimate of program savings, *Tracked Gross Savings*. Through information from sample customer self-report interviews, evaluators first develop their best engineering estimate of energy savings. The ratio of the evaluation engineering estimate to the gross savings estimate is called the ‘verified gross factor’ (VGF). The VGF multiplied by the gross savings yields *Verified Gross Savings*. (While the verified gross adjustment is part of the overall process, this paper focuses only on attribution factor.) Based on survey responses of program participants about their reasons and intentions (Goldberg, et al., 2009),

“...program attribution is determined on a measure-by-measure or an end use-by-end use basis. The calculation includes adjustments for the efficiency, quantity, and timing of measures that the participant may have installed in the absence of the program.”

The ratio of program-induced energy savings to verified gross savings is called the *Attribution Factor*. When the Attribution Factor is multiplied by the Verified Gross Savings, the result is the *Net Program Savings*. **Figure A** shows the steps of this process. Though a two-step process, it can be shown as a single calculation.

Figure A. Net Program Savings from Verified Gross and Attribution Factors



For example, if a program reports to save five million therms in FY2008 and its verified gross and attribution factors are 0.98 and 0.76, respectively, yielding an overall Net to Gross Ratio of 0.74. The calculation for Net Program Savings is the following:

$$5,000,000 \text{ therms} \times 0.98 \times 0.76 = 3,724,000 \text{ therms}$$

⁴ Program implementation contractor

Program evaluators have acknowledge several limitations with the Self Report Net to Gross (SR NTG) method, above. A presentation by Focus Evaluators in 2008 discussed some of these, listed below (Goldberg, 2008):

1. Accuracy depends on the respondent's ability/inclination to give accurate answers
2. If a program offering is altered part way through the year in a way that participating customers may not be able to recognize, self-report results may yield poor accuracy
3. Respondents may simply not know and/or cannot know what would have happened in the absence of program
4. Socially acceptable response bias (respondents giving responses to please interviewer)
5. Cognitive dissonance effects (respondents not wanting to admit that investment of their time or money is not producing identifiable benefits)
6. Recall error (respondents not being able to accurately recall past due to elapsed time)

However, proper application of the SR NTG Questions Framework helps to mitigate the above limitations and threats to validity.

One additional critical point is that the survey sample is drawn heavily from the large incentive projects so that all projects receiving over \$40,000 in incentives are surveyed. Since samples are weighted by their energy savings, these larger projects become very important in the overall determination of attribution.

Another method for estimating net impacts is market sales-based analyses that rely on aggregate sales data in total sales of a particular technology in a specific geographic area. Sales volume data are compared with a baseline estimate of the volume that would have been sold in the absence of the program. Market based models are generally very costly and include major survey efforts that capture the market saturations of equipment and customer behaviors under pre and post conditions. Exogenous variables, such as a change in the economy and supply disruptions, can confound the outputs. It is often difficult to find the program effect within the noise and may take many years to collect the data and run the analyses to make the results usable. Other methods that use historical energy and demand indices for a specific region to estimate the effect of programs and of naturally-occurring conservation are being considered, though these methods also may be subject to the data noise caused by exogenous variables.

All of the top ten programs in the United States, as measured by funding levels, also attempt to measure participant spillover and market effects. Examples include NYSERDA⁵ and the NEEA⁶. Focus has measured participant spillover for several years now. To date, the results have been disappointing. Though market-based measurement of spillover is difficult due to the lack of sales and baseline data, a current effort involves measuring the market effects from Focus's Business Channel Programs⁷, comparing Wisconsin to Illinois. Evaluators expect this effort will ultimately result in quantitatively defensible energy savings. A third approach surveys vendors when interviewers sense that participants may not realize they have been influenced indirectly, and to detect vendors changes in operations due to the program [Bloch, 2009].

⁵ New York State Energy Research and Development Authority

⁶ Northwest Energy Efficiency Alliance

⁷ Business Channel Programs are deemed, prescriptive incentives for standard energy efficiency technologies such as lighting and motors.

Efforts to Improve Attribution

Over the years, the Focus program has been subject to routine impact evaluation, including attribution assessment. Focus program implementers have examined reported results with the idea that program design adjustments can be made to improve attribution. Furthermore, since attribution has a direct relationship to goal achievement, the issue takes on great importance for the program. As net goals become the key performance indicator, the assigned attribution factors are also used to set both gross and net goals. For example, if program intent is to achieve 50 million kilowatt-hours and the assigned attribution factor from the previous year's measurement is 67 percent, the program must achieve a gross tracked savings of 75 million kilowatt-hours.

Over the past few years, Focus on Energy's Industrial Program and Administration staff, working with the Public Service Commission of Wisconsin, have been on a mission to improve program attribution by minimizing free rider-ship. The efforts can be categorized into two types of adjustments: adjustments in program design and adjustments in program delivery.

Adjustments to Program Design

The Focus on Energy program has been formally evaluated for impact since 2002. Until 2007, program goal-setting and performance were based on verified gross tracked savings. The contractors who implemented the programs viewed verified gross savings as the 'holy grail' that served as the basis for comparison with other programs. Through 2007, program implementers and administrators applied the market intelligence they had gathered from years of experience with similar programs to set the incentive eligibility limits, hoping to 'weed out' most free riders. These eligibility limits include:

- Acceptable payback range. For example, a project with a payback under the average industrial payback threshold, would not receive an incentive. Likewise, if a payback was 'too long', such as for a boiler replacement, the project could be deemed as not in need of an incentive since the boiler, necessary for production, would have to be replaced anyway.
- Percent of project paid by incentives. Early in the program, Focus was limited to about a 10 percent of project cost incentive, primarily because implementers believed it would be sufficient, but also because of a limited program budget and desire to 'spread the incentive wealth' (customer equity). It should be noted that the limited budget also caused customer grants to be capped at \$100,000. At the low end, if the calculated incentive went lower than five percent it was thought to be too small to have an impact on the participant's decision.
- Type of technology. Some technologies, even though they may be more efficient than what is currently installed, should not be supported because they already have strong market share, such as some energy efficient lighting or boiler replacements.

The impact evaluation for FY07 (July 2006 – June 2007) received special attention since attribution rates for that year were to be applied to the following year's program (FY08: July 1, 2007 – December, 2008)⁸. The evaluation was meant to provide a more accurate sense of resource acquisition and program cost-effectiveness. Program overseers also saw the need to re-establish energy efficiency gains as a reliable planning resource to fit in with supply-side portfolios of utilities as had been done in the past with integrated resource planning. And the evaluation could provide for a more quantitative, accountable way of assessing implementation contractor performance, if needed. Another driver of increased accuracy and reliability of measurement is the growing need for reasonable accountability in future carbon-reduction programs. Programs, beginning in FY08, were to be judged on their Net Goal performance.

During this transition period the program's budget increased substantially, allowing for more flexibility in design. Program managers adjusted incentive eligibility parameters. One change increased the percent of project cost from between five percent and ten percent to between 15 percent and 30 percent. This change was partially driven by evaluator suggestions that our incentives were insufficient to drive customer decisions. A higher incentive budget, due to increased program funding enabled the upward adjustment without sacrificing customer equity. The program also preserved its discretion to exceed the project dollar cap where there were substantial energy savings, relative to the incentive, and where program attribution was considered high. The increase in the incentive budget also allowed the project incentive cap to rise from \$100,000 per project to \$250,000.

Adjustments to Program Delivery

During FY08, review for project attribution scaled up considerably, due to low reported program attribution for industrial therm projects in the previous year⁹. Preparing for the world of Self-Report Net-To-Gross, the Focus Industrial Program tried to establish new program delivery procedures and tools to maximize attribution.

First, field advisors were coached to set expectations with customers and be careful of potential free rider projects. Second, the concept of a 'program impact statement' emerged. An impact statement, completed by the field advisor, documents the history of the energy advisor's involvement with the customer and provides evidence of how Focus helped to overcome specific customer barriers. The intent was that this documentation could provide evaluators a richer context when conducting their SR NTG surveys. It would also help program participants recall the value of the Focus support they received.

A project attribution review process was also set in place in an attempt to deny applications deemed as free riders. Having been informed that evaluators would draw a weighted stratified sample that would include more, if not all, large incentive projects, special attention was given to larger incentive requests. Under the program's review process, projects with higher incentive requests would receive greater scrutiny. Rigorous review of impact statements, including incremental review by the industrial sector office, administration, and the Public Service Commission, was established. Before a project is sent to the administrator, the impact statement is reviewed at the industrial sector office. This process usually requires going back to the field advisor, customer, or equipment vendor to get the complete story. Each level of

⁸ FY08 was a fiscal year transition period to adjust the fiscal year to a calendar year which is used by Wisconsin utilities.

⁹ In FY06, program attribution for industrial therm savings was 0.37.

approval can result in rejection if the impact statement is inadequate. The current impact statement process includes various levels of review, depending on the potential grant amount (Table 1).

Table 1. Project Review as a Function of Incentive Level

Incentive Range	<\$5,000	\$5,000 - \$40,000	\$40,000 - \$100,000	>\$100,000
Review Required				
Customer/Vendor inputs	✓	✓	✓	✓
Field Advisor review	✓	✓	✓	✓
Industrial Office review		✓	✓	✓
Program Admin review			✓	✓
PSCW review				✓
Evaluation Self-Report Survey	sample	sample	all records	all records

Finally, projects requesting incentives over \$40,000 would also require a Large Grant Form signed by a budget decision authority within the company. The customer was required to specify why they needed the funds and why the project would not be completed without Focus incentives.

In FY08 (July 2007 – December 2008) the program introduced additional efforts to tighten up and streamline the process.

- All new forms and program literature would include a clear statement on the front top that Focus program funds are available “*for projects that would not get done otherwise*”. This statement was intended to set clear customer expectations.
- An *attribution risk guide sheet* for energy advisors to remind them at the beginning of project development of potential free rider-ship.¹⁰ When the industrial program asked the evaluators for guidance in what they believed were risk factors they provided a very useful description. A condensed version is found in **Appendix A**. As you can see, though there may exist a risk factor, there may be mitigating factors or other barriers that reduce the risk. **Appendix A** also gives examples of mitigating factors for each risk factor.
- A customer-signed ‘*Claim Only Form*’ for projects that did not require a grant, but clearly would not have been implemented without Focus intervention. In these cases, the program claims the savings due to some form of non-grant assistance, such as Best Practice training, risk-reduction through third-party review of calculations, or the Focus advisor informing the customer of a new, applicable technology.

¹⁰ Note that the evaluation team had problems with the validity of the net impact results from another program because of the potential for pre-screening to bias post-installation survey results. Pre-screening may create bias by “coaching” participants to realize that they can facilitate financial rewards by answering evaluator questions in a way that reaffirms their response during the screening process. Evaluators have worked with Focus to minimize that risk by advising programs to carefully word their screening questions to avoid any directive influence. It’s a fine balance between using screening to minimize free riders, rejecting potential customers with significant gross savings, and biasing evaluation results.

- A “needs” selection criterion was added for ranking competitive offerings, such as Requests for Proposals. New Request for Proposals require that the proposer include a signed *Statement of Need*.

Recent Efforts

In late FY08 and early FY09 program managers realized that the attribution review process had become complex and, according to some, unnecessarily cumbersome. Complaints about the amount of time and correspondence needed to complete all the information the program required came in from all quarters. After various adjustments, the program has designed its latest version, which tries to balance the accountability needs of the PSCW and the needs for minimizing the paperwork burden for energy advisors and program participants.

Using the evaluation team’s attribution risk guide and the older version of the impact statement, a simplified version of the impact statement was built into a ‘*Grant File*’ (Excel Workbook format) that includes:

- Customer Information Checklist (contact information and project summary data)
- Measure Summary
- Energy and Grant Calculations and Assumptions
- Customer Impact Statement

The *Customer Impact Statement* enables the energy advisor and participating customer to include a brief history of program involvement with the customer and project. One section also provides a menu-driven list of customer barriers to choose from along with a menu-driven of possible program interventions to reduce the identified customer barriers. In cases where the project incentive exceeds \$40,000, a customer-written and signed statement as to why the incentive is necessary for management project approval is also required.

This integrated impact statement is intended to improve organization, reduce multiple entries of the same information, hold accountable those who are responsible for making decisions, serve as a strong reminder of program support to the customer. It was approved for program use by the PSCW in April 2009 and, to date, has received positive response from energy advisors who are using it.

Results

Table 2 shows that attribution can be elusive. Increasing program efforts, including the use of higher incentives, appear to have had little or no effect on program attribution. It is possible that confounding external factors, such as energy price volatility or the economy, are having an influence that either counters or dampens attribution.

Remaining Issues

After all the efforts to mitigate against low attribution and to decipher what the evaluation data actually mean for the program, many issues still remain. Below is a list of some of these:

Table 2. Focus Industrial Sector Program Attribution Over Program Duration (Goldberg 2009)

Evaluation Period	GWh			MW			Therms		
	AF	VG	Net	AF	VG	Net	AF	VG	Net
Start – Jun 02	0.71	0.8	0.6	0.74	0.2	0.1	0.63	0.0	0.0
Jul 02 – Jun 03	0.38	46.1	17.4	0.38	6.2	2.4	0.52	1.5	0.8
Jul 03 – Jun 04	0.58	69.1	39.9	0.55	7.5	4.1	0.87	10.0	8.7
Jul 04 – Jun 05	0.43	55.9	24.3	0.38	8.7	3.3	0.51	4.4	2.2
Jul 05 – Jun 06	0.80	39.9	31.8	0.77	6.9	5.3	0.37	5.3	2.0
Jul 06 – Jun 07	0.57	61.7	35.5	0.54	10.4	5.6	0.63	7.8	4.9
Jul 07 – Sep 08	0.57	101.5	58.0	0.54	14.8	8.0	0.63	6.2	3.9
Start – Sep 08	0.55	374.9	207.4	0.53	54.6	28.8	0.64	35.1	22.5

AF = attribution factor; **VG** = verified gross impacts; **Net** = net impacts

1. How effectively can the SR-NTG measure attribution? Some program managers and even some evaluators believe it is a insufficient methodology and are looking for new ways to measure program effects. One suggestion by an evaluation administrator is that we,

“evolve program designs to maximize new, additional savings (not naturally occurring) by forming formal, committed partnerships with other major players, such as the state, utilities and the private sector contracting community, to deliver joint programs that saturate market sectors. ... evaluation is likely to react by setting up new methods for measuring joint or collective influences over a market sector, not just what [the program] can influence on its own. Self-reporting is not going away, but can be balanced by more frequent assessment of overall market reactions to larger interventions employing joint strategies to overcome barriers that [the program] cannot do by itself.” (Bloch, 2009)

2. There is a widely discussed concern that surveyors do not ‘see’ the same customers that energy advisors do and are very unlikely to get the full story, no matter what questions they ask. The reverse side of this coin may be that energy advisors are too close to the customer to really understand their motivation.
3. The industrial sector is very diverse in terms of its segment types, technology use, and response to economic factors. This diversity creates difficulty in dealing with sample stratification and, hence, reliability of results. This issue is abated somewhat by drawing all records for the larger incentive projects. There may be as yet undetected differences across certain types of customers, segments, and/or technologies. Binary assumption in methodology – 100% free rider or 0% (except for timing of installation) not partial free-riders. The assumption is that a large enough sample will capture this fact and allow for partial attribution.
4. While attribution is typically reported at the sector level (industrial), there is good reason to see if there are differences between program types, such as custom incentives versus prescriptive incentives. These programs see different levels of program review and should be treated differently. (At the time of this writing evaluators are assessing these differences.)
5. There has been concern, based on anecdotal reports, about interviewer skills, particularly in how to deal with angry customers who feel they are being interrogated.

6. In the past, there has been insufficient dialogue between program and evaluation to ensure both a deeper understanding of program procedures and of what factors constitute a risk. This dialogue is certainly improving for the Focus program, though there is certainly a need to maintain arm's length objectivity.
7. How evaluation results are perceived is very important. At a purely contractual level the competition is fierce and attribution levels are considered a reflection of performance, sometimes even more important than overall program cost-effectiveness. Even though there are exogenous variables that are out of a program's control, such as where the economy will be and how effectively we can understand the signals that a customer provides when we enter into negotiations, attribution is considered very critical. Perhaps too much emphasis is given to striving toward 100 percent program impact when the true measure of success is cost-effectiveness, measured against energy supply options and environmental costs.
8. Given all of these concerns, it remains to be seen whether or not the latest program efforts will have any effect on the evaluation team's estimation of program attribution.

Conclusions

When public funds are at stake, it is reasonable to assume a need for accountability for how they are spent. Incentive recipients, program managers, and the public, benefit from high program attribution. As hard as program managers strive to ensure maximum program attribution, self-reports, as interpreted by evaluators, will probably always be in conflict. However, regardless of how difficult and frustrating and even though a correlation between efforts and results may be difficult to find, efforts to improve program attribution are worthwhile. A real benefit of the new integrated mechanisms is that they are a constant reminder to program agents that the public benefit is the driving force for these programs.

In spite of undesirable attribution factors, the bottom line for the program is its overall cost-effectiveness. Even with seemingly low attribution, a program can be very cost-effective. And, if energy efficiency is to be considered a real resource in a region's overall energy portfolio, it must be quantified in net terms. In a contractual world, driven by goals and deliverables and comparisons, this nuance is sometimes forgotten.

This leads to a final question: Given that cost-effectiveness (TRC) is the ultimate test of performance, what is a reasonable balance between trying to control for attribution and striving to implement every project possible?

References

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- Presentation by Goldberg, Miriam, KEMA May 16, 2008 *"Self-Reported Net-to-Gross (Attribution)"* Ralph Prah; KEMA; Glacier; PA Consulting
- Bloch, Oscar; April, 2009. Focus on Energy Program Evaluation Manager, Public Service Commission of Wisconsin, correspondence.

APPENDIX A

Program Attribution Screener

To be completed by Energy Advisor on initial intake for project.

For each Risk Factor checked, describe how Focus intervention may still be critical for project identification or development. The presence of a risk factor does NOT necessarily mean that the project will have low attribution. Other barriers may still exist that require Focus help. For example, even though a company may have an energy manager, the project may still require external funding to overcome internal financial hurdles.

ATTRIBUTION RISK FACTOR	✓	MITIGATING CONDITIONS (EXAMPLES)
Company has an energy manager		<i>But the project under consideration has too high a payback to provide internal capital</i>
Company has a mandate: <ul style="list-style-type: none"> • A regulatory mandate that must be addressed via the project • An internal (or key customer-driven) corporate “green mandate” • A publicly-known goal to reduce energy consumption by a set amount annually 		<i>But the project under consideration is costly and has technical risks that may impact production.</i>
Field Advisor did not identify project and became involved late in project development. (The customer or trade ally identified and developed the project.)		<i>Field Advisor intervened with design recommendations that improve what was being proposed.</i>
The project is the same or similar to a project previously implemented by the company.		<i>However, insufficient capital funds are now available to pursue project. Needs external funding.</i>
More important factors are driving the project. Energy savings play a small role.		<i>But the customer could choose a less energy efficient alternative to meet the non-energy objectives.</i>
Project uses a technology that has good market penetration (i.e. generally accepted and common in this type of business).		<i>But technology is still perceived as risky due to the specific application or... Insufficient internal capital to fund project.</i>
Focus financial incentives are a small percentage of total project costs (under 10 percent).		<i>But the fact that Focus is willing to invest in a project perceived as risky, even at a low percentage, supports customer confidence</i>
Energy payback without Focus incentives is short or the ROI is large.		<i>But a tough economy has reduced the corporate payback threshold on non-production projects.</i>

APPENDIX B

Project Impact Statement - EXAMPLE

Focus on Energy Business Programs – Industrial Sector	Impact Statement for a Custom Project	 focus on energy™ <i>The power is within you.</i>
-----------------------------------------------------------------	----------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------

Company : TPaper USA Address : 234 Kinry Drive -	Contact : Fred Neuman () - Email : Chief Financial Officer
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Project Description : Install efficient dryer management system on paper machine	Project # 0 Grant # 0
-----------------------------------------------------------------------------------------	----------------------------------------

Savings kW : 1.8 kWh : 21,000 Terms : 150,801	Project Cost : \$296,340 Energy \$\$ Saved : \$130,071 Payback w/o Grant : 2.28	Potential Grant : \$88,902 Grant as % of Cost : 30.0% Payback with Grant : 1.59	Vendor : Company Name Contact : Contact Name Phone : Phone
--------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------

Section 1 - Barriers to Implementation - Identify the primary barriers that prevented action on this opportunity prior to involvement by Focus on Energy ?	Section 2 - Focus on Energy Assistance - For identified barriers, describe the EA's history with the project and the assistance provided to overcome the barrier.
1	Lack of interest or support from company decision-makers.
2	Lacked confidence in potential savings.
3	Project implementation costs were too high.

Section 3 - Customer Decision Factors - Indicate if any of the factors below played a role in your decision-making for this project (Yes / No)

Yes	Does TPaper USA have a designated Energy Manager who was involved in this project ?	<div style="border: 1px solid black; padding: 5px; display: inline-block;"> Discuss in Section 4 </div>
No	Was this project part of a 1) regulatory mandate; 2) "green" goal; or 3) specified energy reduction goal ?	
No	Is this project the same or similar to a project previously implemented by your company ?	
No	Would you have undertaken this project in the near future even without assistance from Focus on Energy ?	
No	Would you consider this project or technology to be typical within your industry ?	
No	Are other project benefits more important than energy savings ?	
?	Other ?	

Section 4 - Customer Impact Statement - Complete this statement: "Focus on Energy assistance was essential to this project because..."

When we told them we were interested in having a feasibility study done, but that the cost seemed too high, they offered to pay half the cost. The feasibility study gave us the assurance that we could save a significant amount of energy. However, when we saw the price quote for the installation of a new dryer management system, management shelved the project. When Focus informed us that they could provide an incentive of around \$90,000, that got management's attention and they decided to reconsider the project. If the incentive is provided we will move forward with this project.

Fred Neuman (Signature) _____ for TPaper USA	Chief Financial Officer	date _____
John Doe (Signature) _____ for Focus on Energy	Energy Advisor title _____	date _____