

Appendix A: Evaluating the Cost-Effectiveness of a CHP Program

In evaluating the cost-effectiveness of a CHP program administered by a utility or third party, it is useful to use the standard tests¹⁹⁹ that are used in evaluating the cost-effectiveness of energy efficiency programs. While all CHP programs may not be characterized as “energy efficiency,” these tests are nonetheless useful because they capture the impacts of the programs on the several different affected parties. In the case of CHP, the affected parties include the host customer (i.e., the participant), the electric utility, and the gas utility.

Evaluating the cost-effectiveness of CHP programs is more involved than that for energy efficiency programs because there will be an increase in gas consumption, as well as a reduction in electricity consumption. Thus, the participant’s gas bill is affected, as well as the electric bill, and gas costs are increased while electricity costs are reduced.

Tables A.1 and A.2 below show how the different costs and benefits of a CHP project should be accounted for in evaluating cost-effectiveness. Under the Program Administrator Cost (PAC) test, the Total Resource Cost (TRC) test, and the Rate Impact Measure (RIM) test, there are three different ways of looking at cost-effectiveness—from the perspective of an electric utility that implements a CHP program that does not provide gas to the host customer, from the perspective of a gas utility that implements a CHP program that does not provide electricity to the host customer, and from the perspective of a gas and electric utility that implements a CHP program that provides both gas and electric services to the host customer.

Table A.1. Costs and Benefits of CHP Programs under the TRC and PAC Tests

	PAC: Electric	PAC: Gas	PAC: Electric & Gas	TRC: Electric	TRC: Gas	TRC: Electric & Gas
Benefits						
Avoided Electric Energy	Yes	---	Yes	Yes	---	Yes
Avoided Electric Capacity	Yes	---	Yes	Yes	---	Yes
Avoided T&D	Yes	---	Yes	Yes	---	Yes
Increased Revenues (gas)	---	Yes	Yes	---	Yes	Yes
Reduced Bills (electric)	---	---	---	---	---	---
Reduced Emissions (electric)	---	---	---	---	---	---
Costs						
Utility Program Administration	Yes	Yes	Yes	Yes	Yes	Yes
Utility Incentive to Customer	Yes	Yes	Yes	Yes	Yes	Yes
Customer Install Costs	---	---	---	Yes	Yes	Yes
Customer Annual O&M	---	---	---	Yes	Yes	Yes
Increased Bills (gas)	---	---	---	---	Yes	Yes
Increased Emissions (gas)	---	---	---	---	---	---
Reduced Revenues (electric)	---	---	---	---	---	---

¹⁹⁹ National Action Plan for Energy Efficiency. November 2008. *Understanding Cost-Effectiveness of Energy Efficiency Programs*. www.epa.gov/cleanenergy/documents/suca/cost-effectiveness.pdf.

Table A.2. Costs and Benefits of CHP Programs under the RIM, Participant, and Societal Tests

	RIM: Electric	RIM: Gas	RIM: Electric & Gas	Participant	Societal
Benefits					
Avoided Electric Energy	Yes	---	Yes	---	Yes
Avoided Electric Capacity	Yes	---	Yes	---	Yes
Avoided T&D	Yes	---	Yes	---	Yes
Increased Revenues (gas)	---	Yes	Yes	---	Yes
Reduced Bills (electric)	---	---	---	Yes	---
Reduced Emissions (electric)	---	---	---	---	Yes
Costs					
Utility Program Administration	Yes	Yes	Yes	---	Yes
Utility Incentive to Customer	Yes	Yes	Yes	---	Yes
Customer Install Costs	---	---	---	Yes	Yes
Customer Annual O&M	---	---	---	Yes	Yes
Increased Bills (gas)	---	---	---	Yes	Yes
Increased Emissions (gas)	---	---	---	---	Yes
Reduced Revenues (electric)	Yes	---	Yes	---	---