

# Quantification of NEBs: A Review of Two Options



**Presented to:**  
International Energy Agency Fuel Poverty Workshop  
Evaluating the Co-Benefits of Low-Income Weatherisation Programmes

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January 2011

# Home Energy Insecurity Scale: Purposes to be Served



- ❧ Measure outcomes, not outputs, activities.
- ❧ Integrate various NEBs into a single measurement of “self-sufficiency.”
- ❧ Allows measurement of incremental progress.
- ❧ Applies irrespective of program:
  - ❧ Government vs. utility.
  - ❧ Weatherization vs. fuel assistance.

# Home Energy Insecurity Scale: What is a “scale”



- ∞ Continuum with a “top” and a “bottom.”
- ∞ Must have benchmarks in between that mark a household’s condition or status.
  - ∞ Benchmarks called “thresholds.”
- ∞ Common scales:
  - ∞ Income quintiles (richest, poorest).
  - ∞ ROMA (Results-Oriented Management & Accountability) (US: CSBG).

# Home Energy Insecurity Scale: The Underlying Survey



- ☞ Eleven questions (see Appendix B)
- ☞ Used to place households in particular thresholds on scale.
- ☞ Presence or absence of each indicator either includes a household or excludes a household.
  - ☞ Every household must go into one threshold; but
  - ☞ Every household must go into no more than one threshold.

# Home Energy Insecurity Scale: Internal Structure: Five Thresholds



- ❖ Thriving
- ❖ Capable
- ❖ Stable
- ❖ Vulnerable
- ❖ In Crisis



See Appendix A for definitions of thresholds.

# Home Energy Insecurity Scale: Reporting Move to Self-Sufficiency



		Beginning Status				
		Thriving	Capable	Stable	Vulnerable	In-Crisis
Ending Status	Thriving	1	2	3	4	5
	Capable	6	7	8	9	10
	Stable	11	12	13	14	15
	Vulnerable	16	17	18	19	20
	In-Crisis	21	22	23	24	25

# Measuring Collections NEBs through “Net Back”



“Net back is the total amount collected minus the total expenses involved with the collection technique.”

Colton, 1997

Factors to consider: effectiveness, productivity, cost.

# Net Back: Begin with Effectiveness

	Without Program	With Program	Ratio
Revenue (as billed)	\$304,072	\$273,626	0.90
Revenue (as collected)	\$194,577	\$215,897	1.11
% collections of billing	64%	79%	---



Net Back:  
Add in the effects of changed productivity

	Without Program	With Program
Collections during program	\$194,577	\$215,897
Pyt per Collection-Month	\$291	\$360
# of Collection-Months	669	600
Cost per Collection-Month	\$50	\$50
Total Cost	\$33,432	\$29,985

Net back:  
Pick up the residual collections

	W/O Program (60%)	With Program (75%)
Residual to be collected	\$109,495	\$57,729
Collections: post-program	\$65,697	\$43,297
Payment/Collection-Month	\$291	\$360
# of Collection Months	226	120
Cost per Collection Month	\$50	\$50
Total Cost	\$11,300	\$6,000

# Net Back: Putting it All Together

	Without Program	With Program
Originally billed	\$304,072	\$273,626
Revenue collected during program	\$194,577	\$215,897
Minus collection cost during program	(\$33,432)	(\$29,985)
Plus revenue collected post-program	\$65,697	\$43,297
Minus collection cost post-program	(\$11,300)	(\$6,000)
Net back:	\$215,542 (71%)	\$223,209 (82%)

# Measuring NEBs through “Net Back”: Lessons Learned



- ∞ Measuring the collections NEBs has implicit within it the notion of alternatives: effective relative to what?
- ∞ Measuring collections NEBs has three components:
  - ∞ Effectiveness
  - ∞ Productivity
  - ∞ Cost

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# Appendix A: Home Energy Insecurity Scale Thresholds



- A “**thriving**” household has achieved generally accepted standards of well-being. Can engage in full range of home energy uses w/o outside assistance and without strain.
- A “**capable**” household is secure, even though not having achieved the generally accepted standards of well-being. May have arrears, but does not put service at risk. Never experiences adverse impact on basic needs. No more than occasional strain or occasional foregone energy use.
- A “**stable**” household does not face immediate threats and is unlikely to be in immediate crisis. May sometimes need outside assistance. May have arrears and threat of loss of service, but no actual loss and no actual foregone basic needs.
- A “**vulnerable**” household is not in immediate danger, but may avoid this danger only through temporary or inappropriate solutions. Occasionally compromises on basic needs. May have threatened loss of service and infrequent actual loss. May have occasional impact on basic needs.
- An “**in-crisis**” household faces immediate needs that threaten the household’s physical and/or emotional safety. Recurring periods of going without energy. Routinely compromise basic energy needs. Routinely compromise basic non-energy needs

For a description of the Home Energy Insecurity Scale, see, Colton (2003). *Measuring the Outcomes of Low-Income Energy Assistance Programs through a Home Energy Insecurity Scale*, prepared for U.S. Department of Health and Human Services, Office of Community Services, Division of Energy Assistance.

# Appendix B:

## The Home Energy Insecurity Survey



- ❧ We worry about energy.
- ❧ We need outside assistance.
- ❧ We can't use as much energy as we want.
- ❧ We reduce energy to uncomfortable or inconvenient levels.
- ❧ We cannot heat or cool our entire home.
- ❧ We compromise on basic energy needs.
- ❧ We do not pay our bills.
- ❧ We use appliances for purposes that they are not intended for.
- ❧ We compromise on non-energy basic household needs.
- ❧ We face a threatened loss of energy service.
- ❧ We experience actual loss of energy service.