

Section 3: Choosing the Energy-Plus-Health Program Model that is Right for You



For readers who plan to develop Energy-Plus-Health programs and need support finding the right program model and tips for getting started. This section reviews three program tiers and helps readers determine which is the best fit for their situation.

3.1 Introduction

This Playbook offers a three-tier framework for energy efficiency program administrators (PAs) interested in creating Energy-Plus-Health programs. While not every Energy-Plus-Health program fits neatly into a tier, the framework is intended to help PAs determine which program model is the best fit for their goals and resources. The three program tiers represent a continuum in their level of complexity, collaboration, comprehensiveness, and impact:

- Tier 1 programs are the simplest to design and deliver but achieve modest health impact. These programs focus on doing no harm by offering basic health and safety measures through light engagement with community-based partners that may or may not combine efficiency measures with healthy home principles.
- Tier 2 programs are more complex but provide greater benefits by offering cross-sector referrals between efficiency, health, and housing partners to proactively address needs and deliver responsive services, particularly for low-and-moderate-income households.
- Tier 3 programs are the most resource-intensive to design and deliver but offer the greatest potential for positive impact through fully integrated Energy-Plus-Health services. They can support improved health outcomes for households with chronic respiratory illness and unlock new funding streams from the health sector.

 Tier 1: Basic health and safety	 Tier 2: Cross-sector referrals	 Tier 3: Integration
<ul style="list-style-type: none"> • Best option for PAs who lack the time and resources to build external partnerships or develop new programs • Supports PA goals to “do no harm” • Many existing residential retrofit and weatherization programs fit in Tier 1 	<ul style="list-style-type: none"> • Best option for PAs who have healthy home resources available and are willing to invest in a referral network, but are not ready to invest in learning about the needs of the health care sector and building a full partnership with them • Supports PA goals for community and low-income impact • Usually doesn’t require major changes to existing efficiency programs 	<ul style="list-style-type: none"> • Best option for PAs who are willing to make a significant investment to understand the needs of the health care sector and develop a mutually beneficial cross-sector partnership • Supports quantification of health-related non-energy impacts for inclusion in cost-effectiveness screening. • Supports PA goals to develop new health-related funding streams • May require approval by regulators or other oversight bodies

For each tier, the Playbook includes the following information:

- Overview and list of program elements
- Program example
- Summary of program benefits
- Tips for getting started with a program
- Links to helpful resources and tools

3.2 Tier 1: Basic Health & Safety Programs



3.2.1 Overview

Tier 1 programs seek to “do no harm” by meeting minimum health and safety guidelines when installing energy efficiency measures during home energy upgrades. Tier 1 programs can also be delivered by Community-Based Organizations (CBOs) that offer energy efficiency incentives or promotions to customers without formally partnering with an efficiency PA. Home Performance with ENERGY STAR® programs delivered by efficiency PAs and low-income weatherization programs (usually delivered by CBOs such as Community Action Agencies) usually meet Tier 1 requirements by including basic health and safety checks and remediation during delivery of home energy assessments and retrofits.

Tier 1 Required Elements	Tier 1 Optional Elements	Elements Not Usually Present in Tier 1 Programs
<ul style="list-style-type: none"> • Do no harm health and safety checks during energy assessments and retrofits 	<ul style="list-style-type: none"> • Health and safety messaging included in program marketing • Certain measures packaged and delivered directly or through community partners, such as efficiency kits, direct install measures, and HVAC safety checks • Health-related non-energy impact adders in cost-benefit tests 	<ul style="list-style-type: none"> • Dedicated funding from Medicaid or other health funding sources to pay for in-home assessments for eligible patients • Formal referral and tracking systems between efficiency and health or housing providers • Comprehensive in-home assessments addressing energy and health

3.2.2 Roles of Key Stakeholders



Energy Efficiency Program Administrator

- Delivers efficiency measures directly or through contracts
- Work meets “do no harm” and minimum code standards
- Best practice combines building shell, HVAC and electrical efficiency measures for whole-house approach



Community-Based Organization(s)

- May deliver PA's efficiency services
- Finds value in integrating efficiency program offerings into other service offerings
- Well-positioned to leverage other funding for hazard remediation and/or home repairs



Home Energy Contractor

- Implements efficiency measures, may be delivered in combination with other home improvement offerings
- Have training and expertise to meet “do no harm” standards

3.2.3 Tier 1 Program Example

WarmChoice®

Columbia Gas of Ohio's (CGO) WarmChoice program offers a “do no harm” strategy, delivered via four community-based organizations in 64 of Ohio's 88 counties. WarmChoice serves 2,000+ customers annually. The organizations leverage CGO's ratepayer-funded program resources to treat homes holistically on a case-by-case basis. Contractors check for mold, mildew, gas leaks, carbon monoxide, and anything else that could be aggravated by or prevent building weatherization. Under certain circumstances, this covers disturbance of asbestos and lead-based paint. CGO occasionally pays for reasonable repairs and refers households with lead hazards to a lead-based paint hazard abatement program. Electricity utilities cover electrical efficiency measures; other home repair funding comes from local donations, Community Development Block Grant funding, or other sources leveraged by the CBO delivering WarmChoice.

3.2.4 Benefits of Tier 1 Programs for PAs

- ✓ Linking energy efficiency to a “do no harm” standard prevents unintended adverse health effects from efficiency measures and services.
- ✓ Formalizing the health and safety approach to energy efficiency program design underscores the message to customers and stakeholders that energy efficiency resources are an important component of healthy homes. Promoting the increased comfort and healthier living environments created by energy efficiency programs helps to motivate and engage customers.
- ✓ Adding energy efficiency resources to the toolkits of CBOs that are coordinating housing and/or weatherization services can increase energy savings and program impact.
- ✓ For residential retrofit programs that are subject to a cost-benefit test, promoting a non-energy impact adder that recognizes the health and safety benefits of energy efficiency can also support additional program spending on minor repairs that reduce deferral rates, increase customer participation, and help achieve low-income spending metrics.
- ✓ For residential retrofit programs that have a goal to be cost-effective but may not be subject to a cost-benefit test, health and safety investments can capture residential savings that would otherwise be unattainable. Columbia Gas of Pennsylvania contracted with the Applied Public Policy Research Institute for Study and Evaluation (APPRISE) to assess the extent to which health and safety issues prevent major efficiency measures from being installed, causing weatherization project deferrals, and whether the investments in repairs would be cost-effective.¹ Based on their analysis of job costs related to health and safety issues, and the resulting savings enabled by those investments, APPRISE concluded that, “when there are good opportunities for energy saving, a significant amount can be spent on health and safety remediation. Because the high savings can be achieved, the job will still be cost-effective. Given the increasing prevalence of health and safety barriers in low-income weatherization jobs, it is important for program managers to assess where such additional spending is warranted and make these investments when significant cost-effective savings can be realized.”²

³⁴ “Health and Safety Investments to Increase Energy-Saving Opportunities.” By Jacqueline Berger, APPRISE and Deb Davis, Columbia Gas of Pennsylvania. Presented at the 2018 American Council for an Energy-Efficient Economy (ACEEE) Summer Study on Energy Efficiency in Buildings, August 15, 2018. <http://www.appriseinc.org/wp-content/uploads/2018/08/13-409-Berger-seconddraft-PDF.pdf>

³⁵ Ibid, p. 11

3.2.5 Getting Started with a Tier 1 Program

Marketing and Outreach	<ul style="list-style-type: none">• Ensure program marketing and outreach materials emphasize how the current program meets health and safety standards and delivers healthy homes benefits, such as thermal regulation, ventilation, and safety.• Align outreach materials with messages about increased comfort and healthier living environments.
Training	<ul style="list-style-type: none">• Dedicate funding to train program implementers and contractors on basic health and safety standards and deliver efficiency improvements that are broadly related to healthy home principles.• Address topics such as smoke detectors and CO alarms, whole-house and spot ventilation standards, combustion safety checks, moisture and mold remediation, use of intumescent coatings on exposed spray polyurethane foams, and addressing knob-and-tube wiring, asbestos, lead, radon, and other hazards.

3.2.6 Tier 1 Tools & Resources

A variety of tools and resources, including training resources for contractors and customers and sample marketing materials, are available to support efficiency PAs interested in developing Tier 1 programs.

<u>Section 6</u>	Energy-Plus-Health Program Case Studies: For readers interested in learning from real-world experience implementing Energy-Plus- Health Programs, including information on program designs, key partners, and lessons learned. Provides detailed case study of the CGO WarmChoice program.
<u>Section 7</u>	Energy-Plus-Health Program Resources and Sample Materials: For readers seeking further resources, templates, and training and marketing materials to support development of Energy-Plus-Health programs.

3.3 Tier 2: Cross-Sector Referrals



3.3.1 Overview

Tier 2 programs build new or strengthen existing collaborations between efficiency PAs and CBOs to create strong referral systems. These referrals engage entities that seek to meet energy, health, or housing needs through delivery of education, home energy upgrades, housing repairs, or social services.

Tier 2 Required Elements	Tier 2 Optional Elements	Elements Not Usually Present in Tier 2 Programs
<ul style="list-style-type: none"> • Do no harm health and safety checks during energy assessments and retrofits • Agreements between energy efficiency and community partners for systematized cross-sector referrals to local healthy home information and services • System to track referrals made among energy, health, and housing partners • Partners deliver their own program services for either energy efficiency or health, or PAs may contract with CBOs to deliver services 	<ul style="list-style-type: none"> • Use of electronic tracking platforms such as One Touch • Coordinated marketing between CBOs and efficiency PAs to reach target customers and communities • Energy or healthy homes coaching to strengthen customer engagement • Health-related non-energy impact adders in cost-benefit tests • Testing and remediation of asbestos, mold and radon hazards 	<ul style="list-style-type: none"> • Fully integrated healthy homes service delivery • Comprehensive in-home assessments conducted by BPI-certified Healthy Home Evaluators • Dedicated funding from Medicaid or other health funding sources to pay for in-home assessments for eligible patients

3.3.2 Roles of Key Stakeholders



Energy Efficiency Program Administrator

- Delivers efficiency measures directly or through contracts
- Work meets “do no harm” and minimum code standards
- Best practice combines building shell, HVAC and electrical efficiency measures for whole-house approach



Home Visiting Programs: Energy, Health, Housing

- Assess household needs for health, housing repairs, well-being and energy efficiency needs
- Coordinate referrals to multiple entities that agree to participate in a formal referral network



Community-Based Organization(s)

- May deliver PA's efficiency services
- Finds value in integrating efficiency program offerings into other service offerings
- Well-positioned to leverage other funding for hazard remediation and/or home repairs



Home Energy Contractor

- Implements efficiency measures, may be delivered in combination with other home improvement offerings
- Have training and expertise to meet “do no harm” standards

3.3.3 Tier 2 Program Example

Vermont Healthy Homes Initiative

Efficiency Vermont's Healthy Homes Initiative is a partnership with the state's WAP partners and CBOs coordinated through the state Office of Economic Opportunity through the electronic platform for healthy home resources, One Touch. The program has combined Tier 2 and 3 strategies to survey 2,300 single-family homes and refer 20% of One Touch energy homes to health or housing partner services. At the Tier 2 level, Efficiency Vermont has developed an internal roadmap for integrating healthy home principles into their residential program design and fostered awareness of the connections between health, indoor environmental quality, and energy efficiency in Vermont. Program staff have also leveraged data to support One Touch, quantifying health-related non-energy benefits of weatherization retrofits for low-income customers and developing new procedures for measuring and reporting pre- and post-efficiency program indoor air quality measurements. Efficiency Vermont has expanded the One Touch program to new consumer markets, fostered new organizational partnerships, and identified health and indoor environment products that provide opportunities for home efficiency improvements.

The need for fall prevention support among Weatherization Assistance clients was identified through a Tier 2 referral partnership. It spurred greater collaboration between the Vermont Department of Health, a hospital, a local weatherization agency and the PA to design a Tier 3 pilot to integrate fall prevention measures at the time of energy upgrades. This was modeled after a CT study which documented that "significant reductions in falls and fall risks can be obtained by integrating home assessments conducted by an occupational therapist working with an energy auditor and home repairs overseen by energy weatherization programs... [A]dded injury prevention home assessment with modifications/repairs...in 35 homes were associated with significant reductions in falls from baseline to 6 months post-intervention from 94% to 9% and with calls for assistance from 23% to 3%."³

3.3.4 Benefits of Tier 2 Programs

- ✓ Referral networks can increase efficiency program participation in target markets, such as low-income and hard-to-reach customers, by leveraging existing referral-partner-customer relationships to provide warm leads to efficiency programs.
- ✓ Formal referral networks can build a broader web of stakeholders who understand and can promote the value-add that energy efficiency brings to the community.
- ✓ Partnerships with housing and health partners can help to address residential retrofit deferrals by leveraging partner-provided resources to address housing conditions that prevent program participation.

³⁶ "Incorporating Injury Prevention Into Energy Weatherization Programs." Ellen Tohn, MCP; [AQ] Jonathan Wilson, MPP; Tracy Van Oss, DHSc, MPH, OTR/L; Michael Gurecka. *Journal of Public Health Management and Practice*. Copyright © 2018 Wolters Kluwer Health, Inc. All rights reserved

- ✓ Engaging customers through initial home assessments tailored to their specific needs can increase the likelihood that they accept services from other providers participating in the formal referral network.
- ✓ Collectively, partners can reduce duplicative administration costs for customer recruitment and engagement, avoid duplicative application processes for customers, and streamline implementation through coordination of service delivery.
- ✓ Data collected can be used to generate valuable customer insights and demonstrate benefits to public health and other policymakers, spurring development of Tier 3 integrated services.
- ✓ CBOs can support higher customer engagement in energy efficiency programs and reduce participation barriers. Leveraging or working with CBOs and others that can support, fund, and/or complete home repairs to address the conditions that require deferred work will help expand the reach of energy efficiency programs.
- ✓ For residential retrofit programs that are subject to a cost-benefit test, promoting a non-energy impact adder that recognizes the health and safety benefits of energy efficiency can also support additional costs for minor repairs that reduce deferral rates, increase customer participation, and assist with meeting low-income spending metrics.

3.3.5 Getting Started with a Tier 2 Program

Training	<ul style="list-style-type: none"> • Support costs of BPI Healthy Homes Evaluator training for energy contractors. • Consider supporting in-depth training in non-lead hazard remediation work, such as mold and asbestos, as a strategy that may build local workforce skills and capacity for reducing barriers to weatherization. • Consider offering trainings to customers and health/housing partners in how energy efficiency can improve indoor environments and reduce conditions that exacerbate respiratory illnesses to begin building a culture of healthy homes through energy efficiency.
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Referrals	<ul style="list-style-type: none"> • If not already in use, establish an automated system for delivering and managing referrals to ensure timely referral transmission and follow-up. • Talk to social service agencies, housing rehab programs, public health offices, and health care sector partners to broaden referral systems. • Analyze referral data for program impacts, community needs, and opportunities for Tier 3 collaborations that target people with overlapping energy and health risks such as poor respiratory health or injury hazards.
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3.3.6 Tier 2 Tools & Resources

A variety of tools and resources, including training resources for contractors and customers and sample marketing materials, are available to support efficiency PAs interested in developing Tier 2 programs.

<u>Section 4</u>	Designing a Successful Energy-Plus-Health Program: For readers who are committed to developing a Tier 2 or 3 program and want in-depth program design guidance.
<u>Section 5</u>	Navigating Health Care Industry Partners as You Build Collaboration: For readers who want in-depth information on health care industry trends, key health care providers and funders, and the emerging delivery and payment models that are opening new opportunities for Energy-Plus-Health collaborations.
<u>Section 6</u>	Energy-Plus-Health Program Case Studies: For readers interested in learning from real-world experience implementing Energy-Plus-Health Programs, including information on program designs, key partners, and lessons learned. Provides detailed case studies of Tier 2 programs offered by the City of Fort Collins, Colorado, Connecticut Children’s Hospital, and Efficiency Vermont.
<u>Section 7</u>	Energy-Plus-Health Program Resources and Sample Materials: For readers seeking further resources, templates, and training and marketing materials to support development of Energy-Plus-Health programs.

3.4 Tier 3: Integrated Energy-Plus-Health Services



3.4.1 Overview

Tier 3 programs coordinate advanced healthy-home interventions with energy efficiency retrofits and intentionally target specific populations with health issues exacerbated by poor indoor environments. Such initiatives deploy trained health professionals alongside energy efficiency healthy home professionals to optimize services to residents while tracking health and energy-related program impacts.

The most comprehensive programs integrate delivery of the eight principles of healthy homes (dry, clean, safe, well ventilated, pest-free, contaminant-free, maintained, and thermally controlled) through:

- ✓ Auditors and contractors certified in BPI’s Healthy Home Evaluator credential for home performance professionals or the WAP’s health and safety guidelines, and
- ✓ Community health workers or other trained home health visitors who deliver patient education and who coordinate with and refer patients to energy efficiency programs.

Tier 3 Required Elements	Tier 3 Optional Elements
<ul style="list-style-type: none">• Formal partnership between efficiency PA and health providers to integrate or braid service delivery• Screening and targeting of patients with health conditions for which integrated efficiency and health retrofits offer a remediation strategy• In-home visits by community health workers or other health professionals• Comprehensive in-home assessments conducted by BPI-certified Healthy Home Evaluators• Health impact data collection and tracking• List of eligible repairs and services and consistent delivery protocols• Protection of client health information	<ul style="list-style-type: none">• Dedicated funding from Medicaid or other health to pay for in-home assessments for eligible patients• Coordinated marketing between CBOs and efficiency PAs to reach target customers and communities• Health-related non-energy impact adders in cost-benefit tests

3.4.2 Roles of Key Stakeholders



Energy Efficiency Program Administrator

- Delivers efficiency measures directly or through contracts
- Work meets “do no harm” and minimum code standards
- Best practice combines building shell, HVAC and electrical efficiency measures for whole-house approach
- Provides training and quality control for contractors that follow BPI, DOE-WAP, or EPA assessment and expanded action standards



Health Care Providers

- Creates systematic customer identification, health-related eligibility screening and direct referral to program
- Implements in-home health-specific services using community health workers or equivalent
- Provides quality assurance for health-related implementation services
- Tracks, evaluates and documents health-related outcomes
- Contributes to funding and supports exploration of other funding opportunities



Contractors – Healthy Home Assessors

- May deliver PA's efficiency services
- Conduct audits and assessments for energy efficiency and expanded action protocols
- Finds value in integrating efficiency program offerings into other service offerings
- May be well-positioned to leverage other funding for hazard remediation and/or home repairs
- May assess for hazards such as asbestos, mold, radon



Contractors – Healthy Home and Energy Upgrade Service Providers

- Implements efficiency measures, may be delivered in combination with other home improvement offerings
- Have training and expertise in BPI, DOE-WAP, or EPA protocols for home energy upgrades plus expanded options established by Tier 3 program design
- BPI Certified Healthy Homes Evaluators conduct audits

3.4.3 Tier 3 Program Example

Washington State Weatherization Plus Health

A statewide Weatherization Plus Health model supports low-income energy programs working with community health workers to deliver integrated services to clients with asthma that is not well controlled, resulting in urgent health care use. In Pierce County, the weatherization program, in collaboration with County Healthy Homes Partnership, delivered home repairs and 1-3 community health worker visits in 48 homes to 73 residents with respiratory health concerns. One year later, 66% of clients with asthma reported their asthma was better controlled, 80% reported an improved quality of life, and evaluators documented fewer asthma emergency department visits or hospitalizations. The program was funded by a state legislation appropriation which expanded the low-income residential weatherization program to include healthy homes improvements.

3.4.4 Benefits of Tier 3 Programs

- ✓ Tier 3 programs support goals to reduce state Medicaid expenses associated with housing-related health issues such as asthma, COPD, and home injuries. Energy-Plus-Health programs have documented reduced emergency department or urgent care use, which can lower state Medicaid spending. Training the existing energy efficiency workforce in home modifications and repairs that prevent falls and support faster hospital discharges or address respiratory risks like asthma and COPD can result in significant reductions in health care use, health cost and deaths. For injury prevention work, these savings are magnified when costs are avoided for recovery in rehab facilities.
- ✓ Collaborations that deliver both energy and health services support a client base that is most in need of services and often overlaps across sectors, increasing participation by low-and-moderate-income customers in both energy and health services.
- ✓ Braiding resources increases efficiency program impact and stretches available funding and may unlock new sources of program funding from the health sector.
- ✓ Integrated programs advance policy goals that recognize the value of non-energy health, safety, and comfort impacts. Energy-Plus-Health pilot projects can provide data to quantify the health benefits of efficiency for inclusion in the PA's cost-benefit test.
- ✓ Existing efficiency program data tracking and reporting tools often meet the rigorous customer information management and privacy standards required for health data.

3.4.5 Getting Started with a Tier 3 Program

Data	<ul style="list-style-type: none">• Develop standardized protocols and document outcomes to build body of data demonstrating success.• Use data to demonstrate to health care payers the impact of leveraging efficiency programs to address high risk patients, population health, and the SDOH.• Use collected data to demonstrate the health benefits of efficiency programs for recognition in the jurisdiction’s cost-benefit test.
Program Design	<ul style="list-style-type: none">• Bring health provider partner and payer to the design process to ensure targeting high risk clients from the health perspective.• Ensure energy workforce has sufficient health training (e.g., Healthy Homes Evaluator) and protocols exist for health-related home repairs incorporated with efficiency work.• Consider offering trainings to customers and community partners in how energy efficiency can improve indoor environments and reduce conditions that exacerbate respiratory illnesses, to begin building a culture of healthy homes through energy efficiency.• Expand partner pool to continuously increase package of services for comprehensive environmental and household health treatments.• Integrate emerging efficiency technologies into program design meeting new efficiency program goals.
Communicate	<ul style="list-style-type: none">• Open conversations about sustainable reimbursement mechanisms from health payers (e.g. Medicaid and private insurers) to pay for integrated program delivery.• Share program findings through formal and informal communication and publications to accelerate Energy-Plus-Health programming in other markets.

3.4.6 Tier 3 Tools & Resources

A variety of tools and resources, including training resources for contractors and customers and sample marketing materials, are available to support efficiency PAs interested in developing Tier 3 programs. The following resources may be particularly useful:

<u>Section 4</u>	Designing a Successful Energy-Plus-Health Program: For readers who are committed to developing a Tier 2 or 3 program and want in-depth program design guidance.
<u>Section 5</u>	Navigating Health Care Industry Partners as You Build Collaboration: For readers who want in-depth information on health care industry trends, key health care providers and funders, and the emerging delivery and payment models that are opening new opportunities for Energy-Plus-Health collaborations.

Section 6

Energy-Plus-Health Program Case Studies: For readers interested in learning from real-world experience implementing Energy-Plus- Health Programs, including information on program designs, key partners, and lessons learned. Provides detailed case studies of Tier 3 programs in Massachusetts, Vermont, New York, and Washington State.

Section 7

Energy-Plus-Health Program Resources and Sample Materials: For readers seeking further resources, templates, and training and outreach materials to support development of Energy-Plus-Health programs.