Income Qualified Program Ideas for IL Utilities' 2022-2025 Plans -Health & Energy Efficiency Ideas



• Presented at IL SAG + IQ Advisory Committee Meeting

• May 13, 2020

- 1. Incorporation of Health and Safety Repairs into Existing IQ SF and MF Retrofit Programs
- 2. Creation of Income Qualified Health + Energy Efficiency Pilots or Programs
- 3. Healthy Building Materials & Income Qualified Retrofits



- All utilities should establish health and safety budgets
- All utilities should further explore opportunities to leverage health care and/or other funding for health and safety improvements associated with IQ EE programs.
- All utilities should assess and report on materials used for IQ retrofits and prohibit worst in class chemicals

Inputs

COMPREHENSIVE HOUSING INTERVENTION

Healthy Homes

Energy Efficiency Weatherization

Direct Energy Outputs Change in kWh supplied Change in kWh consumed

Energy Benefits Reduce energy demand Demonstrate leadership

Non Energy Outputs

Non Energy Benefits

Environmental

Reduce GHG

Improve IAQ

Air Quality Reduce criteria air pollutants **Reduce GHG emission**

Health Improved fire safety Thermal comfort Better Indoor air quality Reduced environmental toxins

Economic

Program costs

Sector transfers

Displacements savings from

energy cost and waste heat

Direct Occupant Health Changes in incidences of: Mortality Hospital admissions Upper & lower respiratory illness Asthma/COPD Lead poisoning Cancer Skin and eye irratation Cardio-vascular disease

Macro-Economic

Employment Gross state product Economic output & growth

Depression and anxiety

Direct Economic Individual: Reduce energy cost

Personal income/savings

Reduce reliance on energy assistance programs

Reduce risk of eviction

Community: Increase home values

Preserve affordable units

Long Term Impacts

Neighborhood & Built Environment Quality of housing Environmental conditions Crime and violence

Health & Health Care

Access to health care

Access to primary care and health literacy

Social & Community

Social cohesion

Civic participation

Perceptions of discrimination and equity

Incarceration/institutionalization

Education

Early childhood education and development

School attendance

Economic Stability Poverty Employment Housing stability



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Incorporation of Health and Safety Repairs into Existing IQ Single Family and Multifamily Retrofit Programs

Proposal:

- All Illinois utilities should allow for minor health and safety repairs and measures to be covered in their income qualified retrofit programs (which ComEd is already doing through their IQ MF program)
- Exact measures and design to be discussed with interested stakeholders.
- Utilities should include robust reporting on health and safety issues in a home, including:
 - the most common health and safety issues found, the issues that are repaired (the cost of those repairs), the issues that are left without repair, and the non-energy impacts of this work



Incorporation of Health and Safety Repairs into Existing IQ Single Family and Multifamily Retrofit Programs

Proposal:

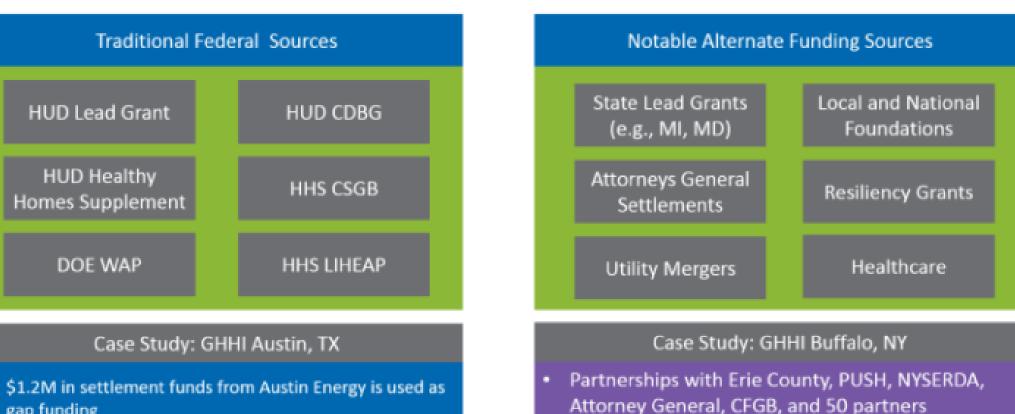
- All the utilities should explore income qualified (single family and multifamily) health plus energy efficiency pilots and programs through pilot or emerging technology budgets (including an extension of ComEd's current work)
- Can include collaborating with a hospital, another healthcare entity, and/or state/local health agencies on collaborative healthy home and energy efficiency work
- Include training and certifying contractors on healthy home repairs (i.e. Building Performance Institute's Healthy Home Evaluator certification)
- This work could add to the non-energy impacts research that is already underway in Illinois
- More details of the health plus energy efficiency work to be discussed with interested stakeholders



Funding for Home Interventions



NRDC



- gap funding
 Braided with HUD Lead Grant and City Home Rehab Funding
- Austin's Home Rehab NOFA requires a comprehensive home intervention

- Integrated funding for weatherization and home health and safety interventions
- Workforce development provides green jobs training and job placement services

- Purpose/Impact:
 - To provide important data and an understanding of materials currently being used in Income Qualified Single Family and Multifamily retrofits
 - Help to remove any of the worst-in-class chemicals that could be exacerbating asthma and other heath issues in income-qualified homes and buildings
 - As Illinois utilities look to understand and potentially incorporate nonenergy impacts into the evaluation of their programs, especially their income qualified programs, this analysis will be beneficial



Healthy Building Materials & Income Qualified Retrofits – Part 1: Reporting requirement on insulation and air sealant materials

Proposal: Reporting requirement on insulation and air sealing materials

- The following data should be reported at the property level:
 - Highest volume insulation application (i.e., attic ceiling)
 - Type of insulation material used in highest volume application (i.e., blown in fiberglass)
 - Highest volume sealant application (i.e., air ducts)
 - Type of sealant material used in highest volume application (i.e. 1-part spray foam)
- Better understand:
 - (1) The effectiveness of various materials in contributing to reduced energy use and (2) use patterns of materials containing chemicals of concern
- Protect the health of retrofit installers and building residents

Background:

 Energy Efficiency For All (EEFA) report entitled <u>Making Multifamily Housing More Energy Efficient: A Guide to</u> <u>Healthier Upgrade Materials</u> r.



Some air sealing and insulation materials contain hazardous chemicals: Data on use needed

Insulation material	Chemicals of concern	Air sealing material	Chemicals of concern
Fiber glass		Noncombustibale sodium silicate caulk	
Cellulose		Expanding polyurethane foam tape	
Mineral wool	Formaldehyde	Acrylic latex sealant	
Polyiso and EPS	Flame retardants	One component silicone sealant	Persistent, bioaccumulative, toxic chemicals
XPS	Flame retardants	One part polyurethane spray foam sealant	Isocyanates
Spray foam	Isocyanates	One-component polyurethane sealant	Isocyanates



Healthy Building Materials & Income Qualified Retrofits – Part 2: Prohibiting insulation materials with worst in class chemicals = respiratory sensitizers

Proposal:

- The Occupational and Safety Health Administration (OSHA) defines criteria for respiratory sensitizers
- Insulation materials containing Category 1 or 1A respiratory sensitizers should be prohibited from use in IQ retrofits
 - Example: Isocyanates
- Could be implemented within existing IQ Single Family and Multifamily retrofit programs by adding the criteria for prohibited chemicals to mandatory program requirements.

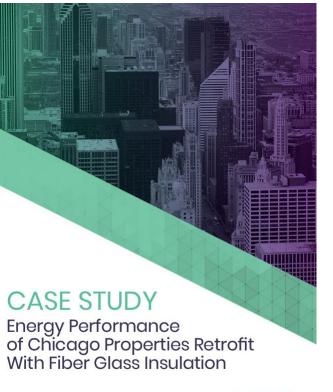
Background:

• A respiratory sensitizer is a chemical that will lead to hypersensitivity of the airways following inhalation of the chemical. It can cause diseases such as asthma and other allergic respiratory diseases.



Healthier insulation materials already utilized and effective in many low-income retrofits

Insulation material	Chemicals of concern	Relative installed cost per R-value
Fiber glass		\$-\$\$
Cellulose		\$-\$\$\$
Mineral wool	Formaldehyde	\$-\$\$\$
Polyiso and EPS	Flame retardants	\$\$-\$\$\$
XPS	Flame retardants	\$\$\$
Spray foam	Isocyanates	\$\$-\$\$\$



 Achieved energy savings on par with national average using healthier insulation material (fiberglass)

ENERGY EFFICIENCY FOR ALL



NATURAL RESOURCES DEFENSE COUNCIL <u>WWW.NRDC.ORG</u> <u>www.energyefficiencyforall.org</u>

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