



# LOW-INCOME ENERGY NETWORK

## Low Income Energy Consumers and Conservation – What is Needed

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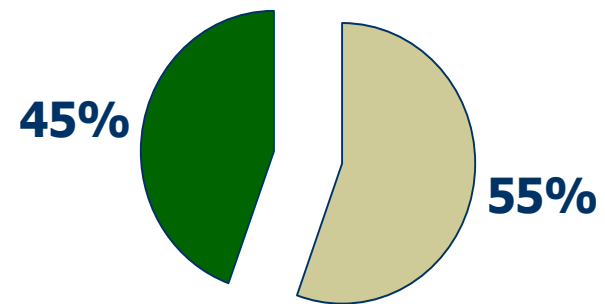


# Energy use and the environment

- ◆ Electricity generating stations are big polluters.
  - 20% of greenhouse gases
  - 15% to 23% of smog-causing pollutants
  - Radioactive wastes we don't know how to deal with
  - 38% of electricity used by residential sector and apartments
- ◆ Home heating (electricity, natural gas and oil) responsible for 15% of greenhouse gas emissions in Ontario.
- ◆ Higher energy costs may spur conservation, BUT higher prices will increase the energy burden on low-income people who face barriers to accessing energy conservation/efficiency measures

## Housing affordability and tenants

- ◆ 45% of Ontario's tenant households pay 30% or more of their household income on shelter costs (including utilities)
- ◆ 20% pay 50% and over of their household income on shelter costs - and are at risk of homelessness
- ◆ Impact of rising energy costs....





## **Forms of Energy Efficiency Programs in other jurisdictions**

- ◆ California – Low Income Energy Efficiency programs offered by electric and gas utilities
- ◆ Includes free weatherization, furnace repair or replacement
- ◆ Age, income, size of household and also disability form entitlement criteria



## **Energy efficiency – other jurisdictions, cont'd**

- ◆ Connecticut – legislation requires delivery of low income residential programs
- ◆ Electrical programs delivered through community agencies; gas programs through a state Housing and Investment Fund for energy conservation loans and heating equipment upgrades



## **Energy efficiency – other jurisdictions, cont'd**

- ◆ Illinois program since 1981
- ◆ 10 per cent of the benefits charge collected for the low-income energy assistance fund is provided for the low income weatherization assistance program
- ◆ Delivered through community agencies with priority to seniors and those with disabilities



## **Energy efficiency – other jurisdictions, cont'd**

- ◆ Maryland - Columbia Gas Low Income Weatherization Program with Maryland Office of Weatherization
- ◆ Energy audits followed by weatherization; eligibility based on income and high gas usage



## **Energy Efficiency in other jurisdictions**

- ◆ Massachusetts, Minnesota, Montana, New Jersey, New York and Oregon all also deliver low income energy efficiency programs



# CDM/DSM Programs for Low-Income Consumers



## What is needed:

- ◆ Permanent, adequately-funded energy conservation programs for low-income consumers, with targets for the number of homes to be retrofitted annually.
- ◆ Such programs should be available at no cost to eligible participants and be equitably accessible province-wide.



# Energy conservation and low-income consumers

Conservation is a cheap, fast, clean solution to energy crunch and climate change crisis

More efficient use of energy:

- reduces pollution major respiratory health improvements especially for youngest and oldest
- avoids cost of new generating plants
- reduces energy bills and lessens effect of rising prices
- makes housing more affordable & comfortable

BUT, it won't happen in low-income residential sector without financial investment ...



## CDM/DSM measures



- ◆ To achieve deep reductions in energy use, fuel-neutral programs should have a wide suite of measures (draftproofing, insulation, heating equipment upgrades) and be tailored to distinct low-income consumer groups: homeowners, tenants in private rental housing, and tenants in social housing.



# DSM for Low-Income Consumers in Ontario

- ◆ Low-income housing is also older and more in need of maintenance than the Ontario average, implying there are significant energy efficiency gains to be made
- ◆ Low-income households have fewer appliances than the average home, although these appliances and heating systems in low-income housing are older than the average, and hence less energy efficient



# Access and control issues

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- ◆ Much of the energy burden of low income consumers is “inelastic”
- ◆ Examples include heating, water heating, lighting, and basic appliances such as refrigeration
- ◆ Low income consumers lack control or access to capital in terms of building envelope, insulation, weatherization, efficient appliances



# Characteristics of low-income dwellings

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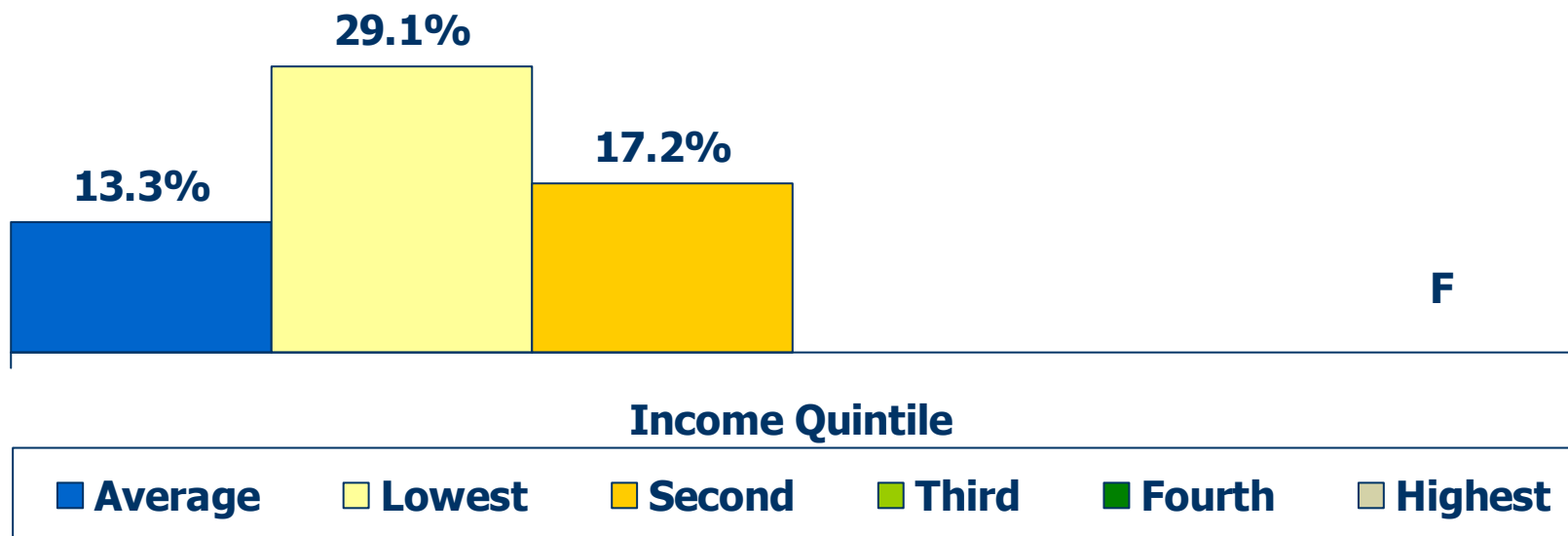
- ◆ More likely to be space heating
- ◆ More likely rented
- ◆ More likely spending relatively more on basic energy needs than higher income quintiles

# Household equipment

- ◆ 29.1% of the lowest household income quintile have electric heating as their principal heating equipment (compared to 13.3% for the average income household)
- ◆ 66.5% of lowest income households had principal heating equipment over 10 years old (compared to 37.1% in highest income households)
- ◆ 35.2% heated hot water with electricity in lowest income quintile, compared to 12.8% in highest quintile
- ◆ The age of heating equipment also implies efficiency and cost differences in absolute terms
- ◆ Impacts of these differences on lowest income households are disproportionate

# Principal Heating Equipment

## Electric Heating



Source: Survey of Household Spending 2006, Statistics Canada





## Types of low-income energy efficiency programs

- ◆ Energy audits
- ◆ Weatherization including weather stripping, caulking, attic insulation, storm windows
- ◆ Appliance replacement, particularly refrigerators
- ◆ Furnace repair or replacement
- ◆ Fuel switching (e.g. electrical space heating to natural gas, propane or oil in Vermont)



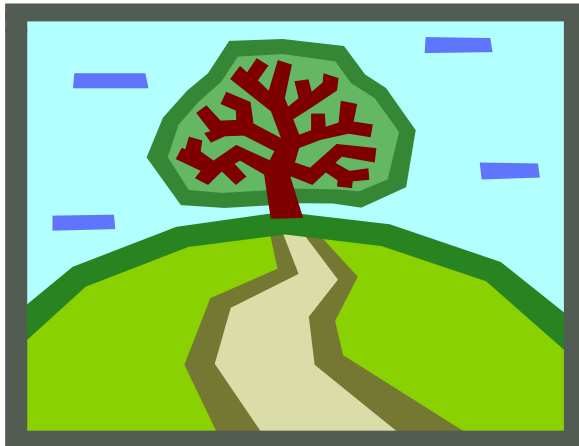
## **Societal benefits of low-income DSM**

- ◆ Participation in energy savings and climate change
- ◆ Significant component of residential energy use
- ◆ Avoidance of energy cost mobility and improved educational outcomes for youth

## **Societal benefits of low-income DSM cont'd**

- ◆ Reduced need for public expenditures on health, fire, housing and homeless shelters
- ◆ Reduced emergency calls to utilities
- ◆ Reduced utility costs re collection, termination, reconnection
- ◆ 17 to 300 percent “benefit adder” cited\*

# Going Forward



- Needed: A Province-wide low-income CDM/DSM program that provides deep reductions in energy use



# Principles of a Low Income CDM Program

- ◆ From Conservation Working Group convened by the OEB summer of 2009
- ◆ LIEN along with diverse array of sectors including gas and electric utilities participated
- ◆ Reached consensus as to what principles should govern short and long term programs



# Low Income CDM Principles- derived from the CWG

- ◆ Province-wide
- ◆ No upfront costs to low income energy consumers
- ◆ Result in improvements in energy efficiency within their residences
- ◆ Address non-financial barriers (eg communication, cultural, linguistic)

## Principles cont`d

- ◆ Delivered in a cost effective manner (but not using Total Resource Cost test)
- ◆ Provide simple, coordinated, integrated application and screening for eligibility
- ◆ Include all types of low income tenure – homeowners, tenants, owners and occupants of social & assisted housing, private buildings with low income residents



# Principles cont`d

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- ◆ Integrated and coordinated with electric LDCs and Natural Gas and with provincial, municipal and social service agencies
- ◆ Be a direct install program – turnkey from point of view of program participants





# Principles cont`d



- ◆ Emphasize deep measures – including energy efficiency, demand response, fuel switching, customer based generation and renewables
- ◆ An education and training strategy that includes skills development and participation



# Principles cont`d

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- ◆ Include measurement and design for persistence of energy savings
- ◆ Sufficient incentives to utilities
- ◆ Balance between a stable framework including multi-year programs and capacity building, and responsiveness to changing market conditions