

# IEc

## Benefits to DACs and Low-Income Communities from Building Energy Efficiency

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# Background

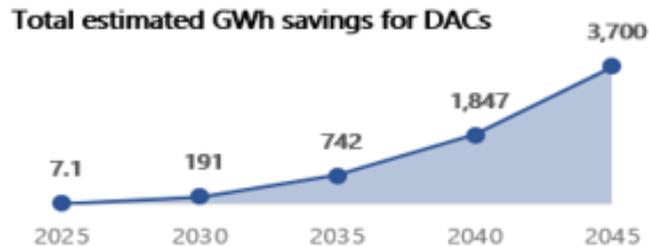
- CEC is required to spend least 25 percent of TD&D funds on projects that are located in and benefit disadvantaged communities (DACs), and 10 percent on projects that benefit low-income communities
- Many of these benefits are particularly important for residents of DACs and low-income communities, who are disproportionately affected by air pollution, and stand to benefit more from reducing electricity and heating costs
- 20% of communities in CA are categorized as both a DAC and low-income community

# General Methodology

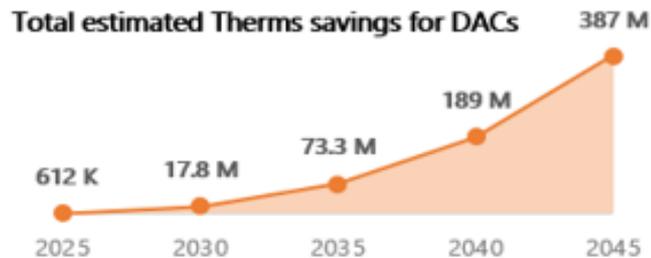
- For energy and on-bill savings, IEc identified three of the 19 technologies that are likely to have market penetration in DACs and low-income communities:
  - EPC-014-010 (Solar Reflective Cool Walls)
  - EPC-16-013 (Smart Ceiling Fans)
  - EPC-18-019 (Low-GWP, High-Efficiency Heat Pump and Air Conditioner)
  - Relevant sectors: Residential and schools
- For health benefits, IEc considered all 19 technologies
- EPIC's contribution to the impacts is not isolated within benefit estimates

# Energy Savings

- Energy savings estimates by 2045: 3,700 GWh and 387 Million therms of savings for DACs



GWh	2025	2030	2035	2040	2045
<b>Total</b>	<b>7.1</b>	<b>191</b>	<b>742</b>	<b>1,847</b>	<b>3,700</b>
Residential	7	187	727	1,810	3,625
Schools	0.1	4	15	37	75

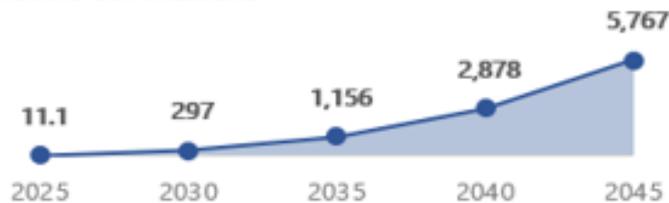


Therms	2025	2030	2035	2040	2045
<b>Total</b>	<b>612 K</b>	<b>17.8 M</b>	<b>73.3 M</b>	<b>189 M</b>	<b>387 M</b>
Residential	606 K	18 M	73 M	188 M	384 M
Schools	5.5 K	163 K	668 K	1.7 M	3.4 M

# Energy Savings

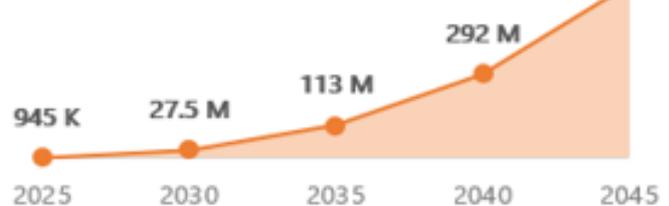
- Energy savings estimates by 2045: 5,767 GWh and 598 Million therms of savings for low-income communities

Total estimated GWh savings for low-income communities



GWh	2025	2030	2035	2040	2045
<b>Total</b>	<b>11.1</b>	<b>297</b>	<b>1,156</b>	<b>2,878</b>	<b>5,767</b>
Residential	11	287	1,114	2,774	5,557
Schools	0.4	11	42	105	210

Total estimated Therms savings for low-income communities

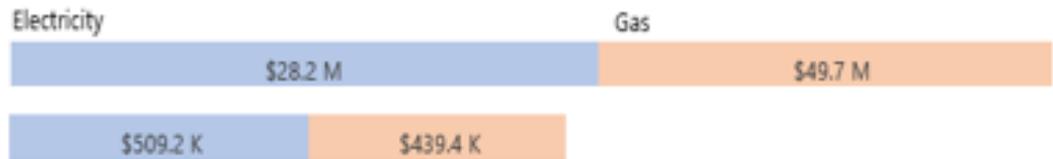


Therms	2025	2030	2035	2040	2045
<b>Total</b>	<b>945 K</b>	<b>27.5 M</b>	<b>113 M</b>	<b>292 M</b>	<b>598 M</b>
Residential	929 K	27 M	111 M	288 M	588 M
Schools	15.4 K	459 K	2 M	4.8 M	9.6 M

# On-Bill Savings

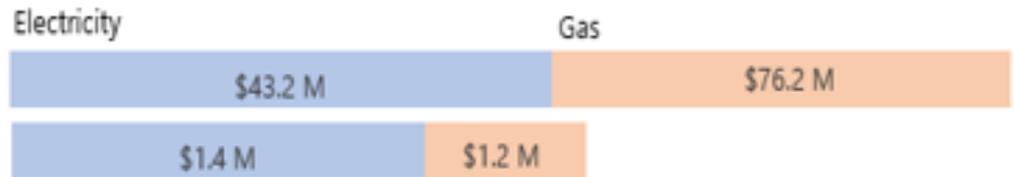
- Total on-bill savings for DACs: **\$78.8 million**

DACs On-bill Savings	Electricity	Gas
<b>Total</b>	<b>\$28.7 M</b>	<b>\$50.1 M</b>
Residential	\$28.2 M	\$49.7 M
Schools	\$509.2 K	\$439.4 K



- Total on-bill savings for low-income communities: **\$122 million**

Low-Income Community On-bill Savings	Electricity	Gas
<b>Total</b>	<b>\$44.6 M</b>	<b>\$77.4 M</b>
Residential	\$43.2 M	\$76.2 M
Schools	\$1.4 M	\$1.2 M



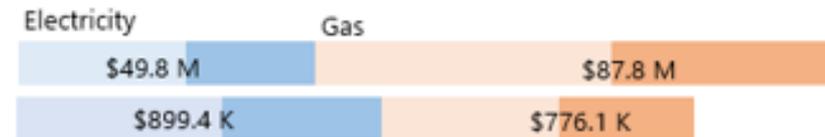
# Equity Weighting Background

- Economists have long agreed that the value - **utility** - of a certain amount of money, varies with income
  - i.e., an additional dollar is more “valuable” to someone with less money
- Distributional weights identify the difference in value
  - Can be applied to energy cost savings in low-income households to illustrate the equity effects of energy investments
  - e.g., Savings of \$1 million in Beverly Hills will have an equity value of \$320,000 and savings of \$1 million in Stockton will have an equity value of \$1.9 million
- Weighted benefits are useful as a separate indicator of the societal impact of improving equity

# Equity Weighted On-Bill Savings

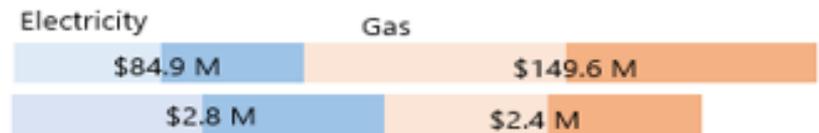
- Total equity weighted on-bill savings for DACs: **\$139 million**

DACs	Electricity: On-bill Savings	Electricity: Equity Weighted On-bill Savings	Gas: On-bill Savings	Gas: Equity Weighted On-bill Savings
<b>Total</b>	\$28.7 M	<b>\$50.7 M</b>	\$50.1 M	<b>\$88.5 M</b>
Residential	\$28.2 M	\$49.8 M	\$49.7 M	\$87.8 M
Schools	\$509.2 K	\$899.4 K	\$439.4 K	\$776.1 K



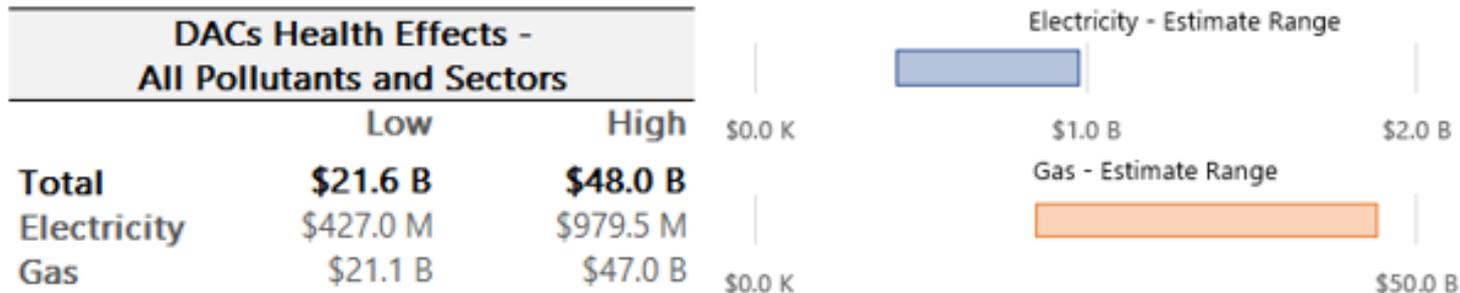
- Total equity weighted on-bill savings for low-income communities: **\$240 million**

Low-Income Communities	Electricity: On-bill Savings	Electricity: Equity Weighted On-bill Savings	Gas: On-bill Savings	Gas: Equity Weighted On-bill Savings
<b>Total</b>	\$44.6 M	<b>\$87.7 M</b>	\$77.4 M	<b>\$152.0 M</b>
Residential	\$43.2 M	\$84.9 M	\$76.2 M	\$149.6 M
Schools	\$1.4 M	\$2.8 M	\$1.2 M	\$2.4 M

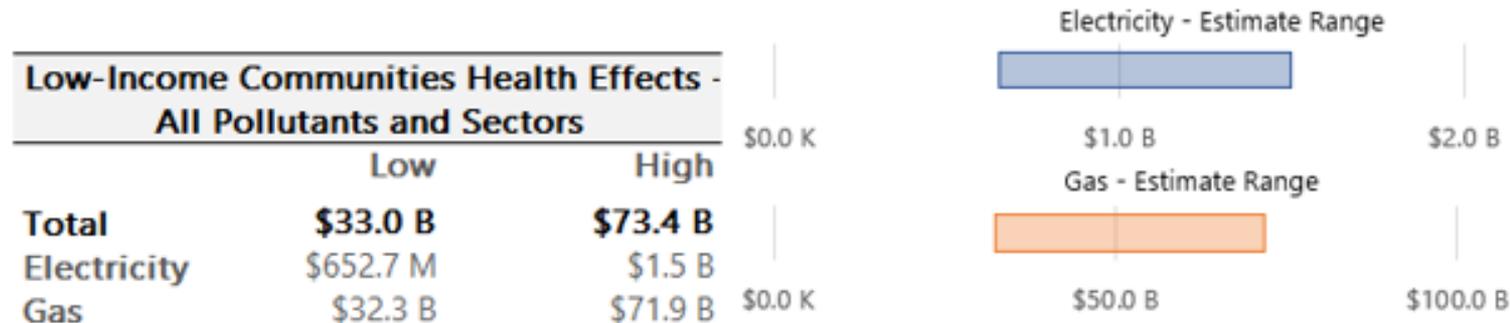


# Health Benefits

- Total health benefits for DACs: \$21.6 to \$48 billion



- Total health benefits for low-income communities: \$33 to \$73.4 billion



IEC



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