



Energy Efficiency Training Week

Indicators and Evaluation

Session8: Assessing energy savings

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Estimating energy savings – appliances/equipment

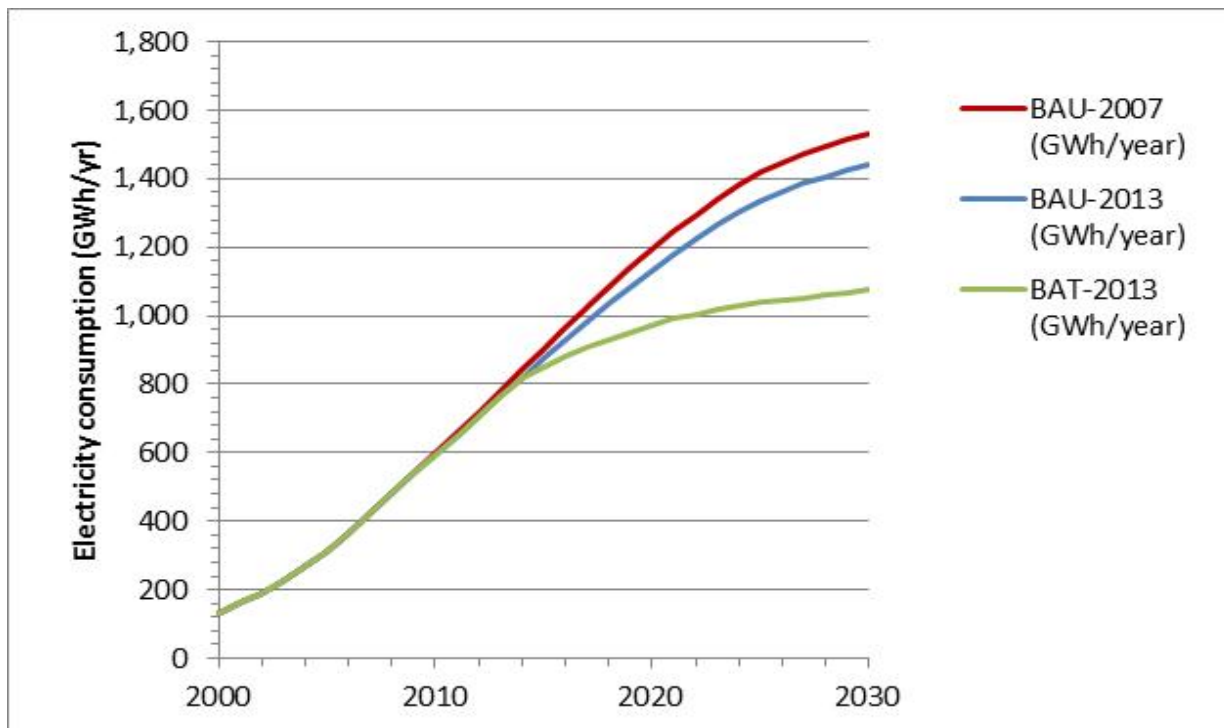


- Annual energy consumption (kWh) = kW in an hour x hours of use in a year
- Cost = kWh x cost per kWh

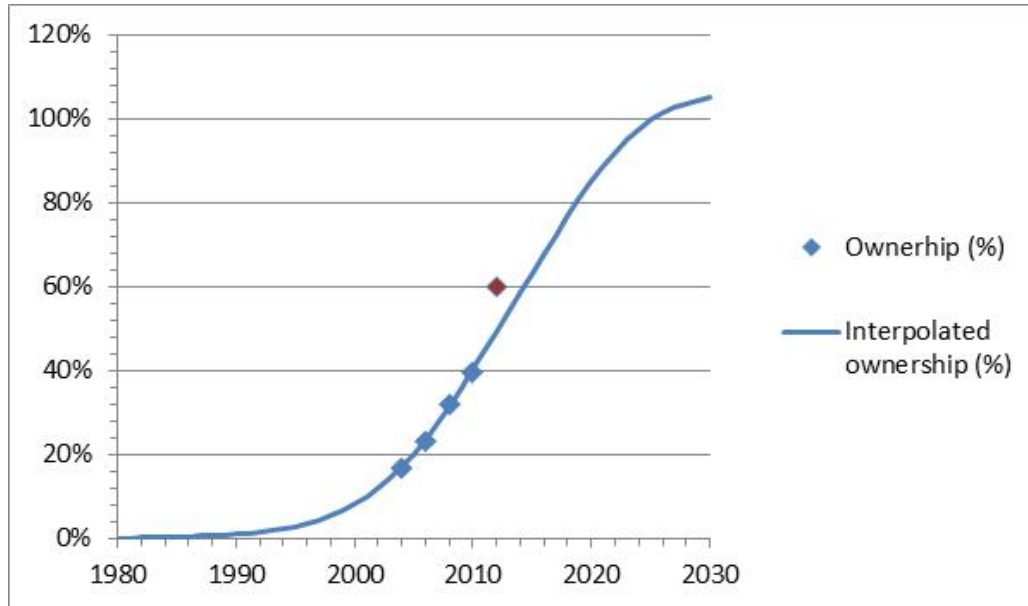
Refrigerator example	Standard	Efficient
kW	50	18
Hours of use	8760	8760
Annual consumption	438kWh	158kWh
Cost @ 10c/kWh	USD 44/year	USD 16/year

- Number of products in use
- Multiplied by annual energy consumption
- Scenarios
 - Baseline – assumes that the policy does not affect energy efficiency
 - With policy – assumes new purchases are more energy efficient in line with policy
 - Best Available Technology – assumes new purchases are most efficient on the market

Example of energy consumption forecast

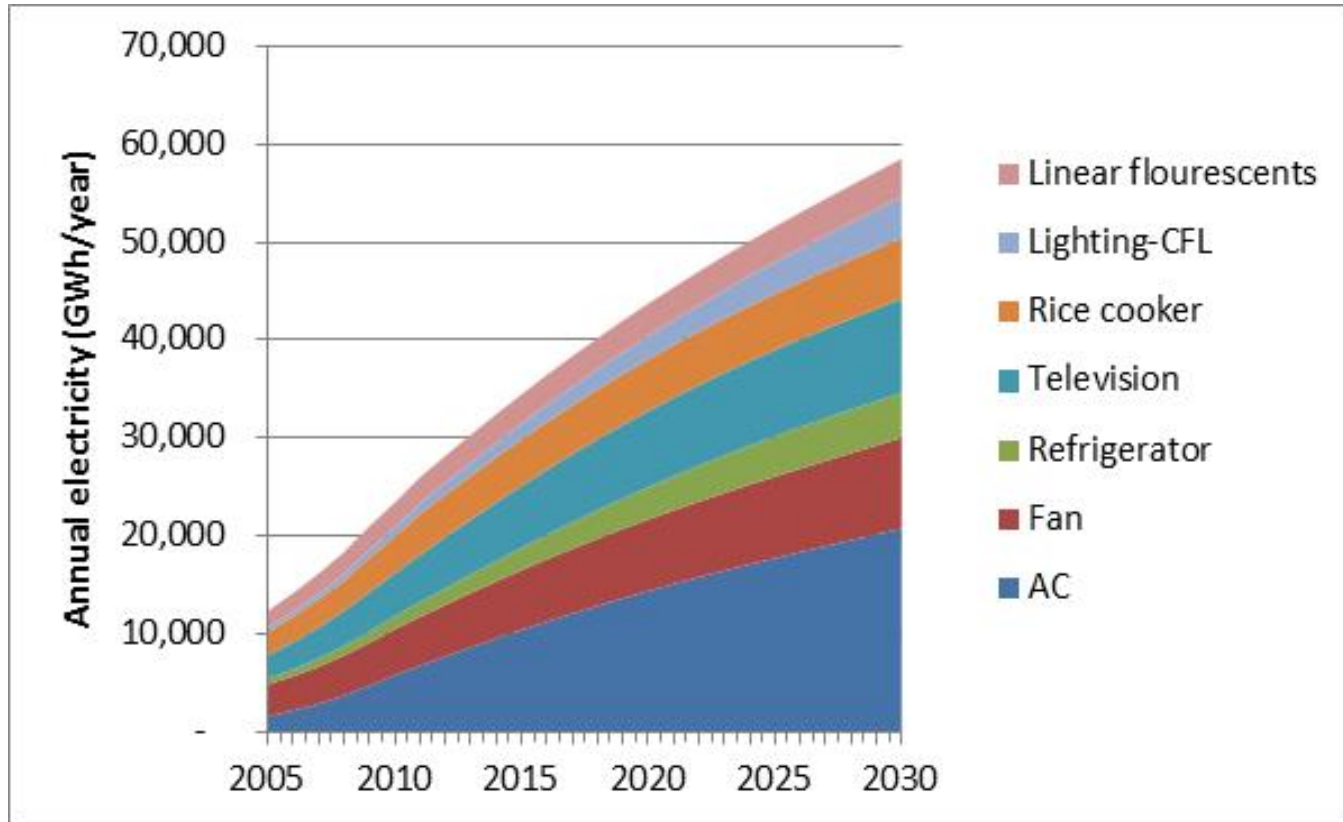


- Stock = number of households x appliance diffusion (number of products per household)
 - Forecast for number of households from national statistics
 - Percentage ownership is modelled

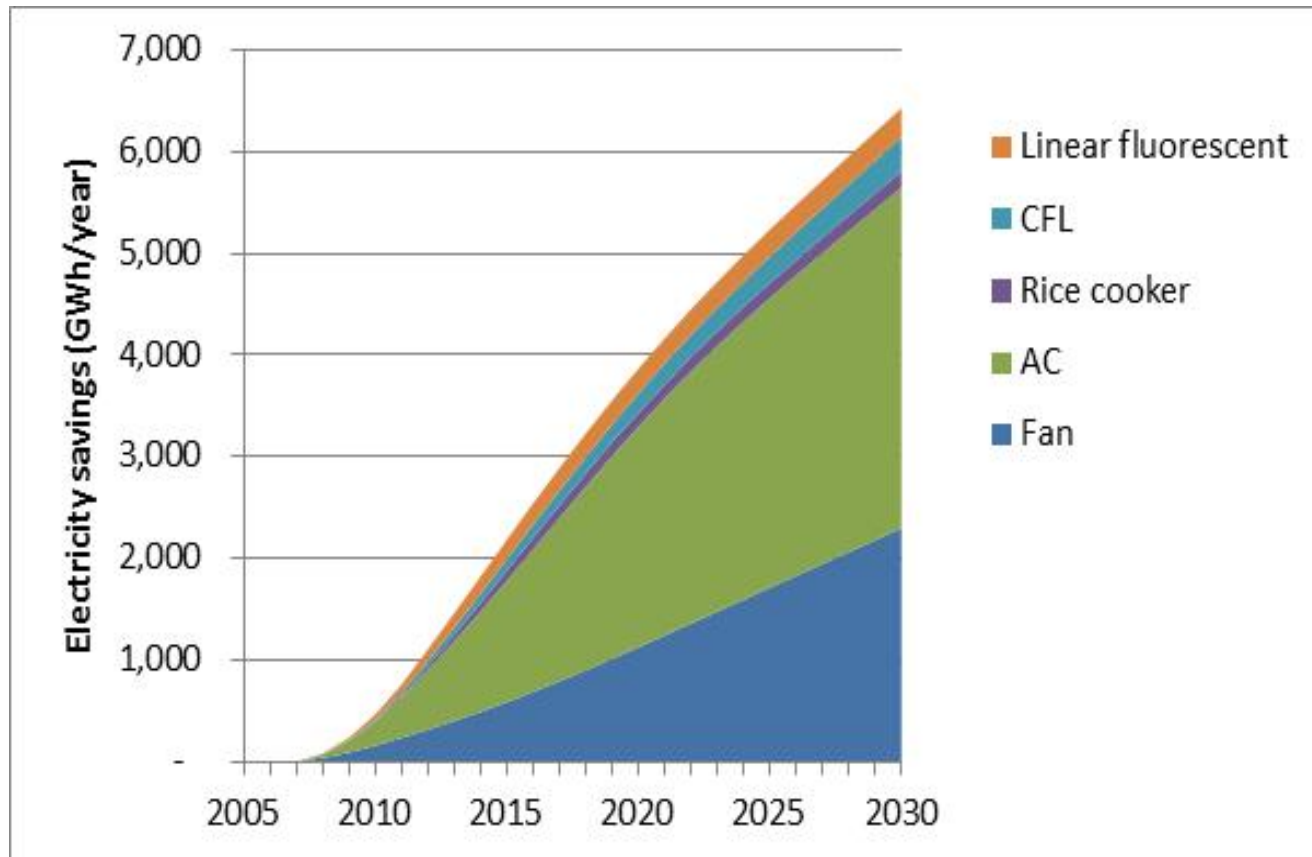


- Annual sales = change in stock (from model) + products retired (after 12 years)
- Energy consumption of new products from registration system
- Energy consumption of pre-policy products from:
 - Past policy
 - Market survey
 - Manufacturer estimates
 - Assumption
- Forecast energy consumption:
 - Pre-policy products only (baseline)
 - Pre- and post-policy products (actual)
- Energy saving = baseline - actual

Forecast energy consumption



Forecast energy savings



What data do you need and where can you get it?



Data	Source
Ownership levels	Household survey/national statistics
Historic sales	Manufacturers
Current sales	Registration system/market survey
Replacement rate	Household survey/international experience
Annual hours of use	Household survey
Average energy consumption before policy	Market survey/manufacturers/assumption/ past household surveys
Energy consumption of efficient products	Registration system
Compliance levels	Market survey/enforcement action



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