What is ENERGY STAR?

- **ENERGY STAR is a U.S. voluntary program that helps businesses and individuals save money and protect our climate through superior energy efficiency.**

EPA

Who manages ENERGY STAR?

- The U.S. Environmental Protection Agency manages the Energy Star program.
- The U.S. Department of Energy develops energy test procedures for products covered by Energy Star and conducts product compliance testing.

How did ENERGY STAR start?

- In 1992, the US Environmental Protection Agency (EPA) introduced ENERGY STAR as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions.
- Computers and monitors were the first labeled products.
- Through 1995, EPA expanded the label to additional office equipment products and residential heating and cooling equipment.
- In 1996, EPA partnered with the US Department of Energy to cover more product categories.

What does ENERGY STAR cover?

- The ENERGY STAR label is now on major appliances, office equipment, lighting, home electronics, new homes and commercial and industrial buildings and manufacturing plants.

What has ENERGY STAR Accomplished?

- Through its partnerships with 18,000 private and public sector organizations, has successfully delivered energy and cost savings across the country, saving businesses, organizations, and consumers $24 billion in 2012 alone.
- Over the past two decades, ENERGY STAR has been a driving force behind the more widespread use of such technological innovations as efficient fluorescent lighting, power management systems for office equipment, and low standby energy use.

Greenhouse Gas Savings Over Time

GHG REDUCTIONS ($MMTCO_2e$)													
GHGS ADDRESSED: CO_2													
KEY SECTORS: Residential, Commercial, Industrial													
2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	1993 –2012 CUMULATIVE
53.5	64.9	78.1	91.7	103.8	115.5	128.3	144.8	156.2	169.8	195.8	221.2	254.7	1,903

How does it work? -Products

- EPA evaluates products sold in the US market.
- If all products use close to the same amount of energy, EPA will not create an Energy Star category.
- If some products are significantly more efficient and cost-effective, EPA may create an Energy Star specification that sets product efficiency and performance criteria.
- Manufacturers that make products that meet these criteria are eligible for the Energy Star.
- In order to earn the Energy Star, products must be certified or tested by a qualified 3rd party.
- EPA maintains a list of specifications and qualified certification and test labs at energystar.gov.

Example Residential Products Eligible for Energy Star

Building Products	Electronics	Appliances	Heating and Cooling	Lighting
Windows and skylights	Phones	Refrigerators	Air conditioners	Light bulbs
Roof products	Computers	Freezers	Heat pumps	Light fixtures
Insulation	Televisions	Dishwashers	Furnaces	Ceiling fans
Power tools	Monitors	Clothes Washers	Ventilation fans	Decorative light strings
Doors	Battery chargers	Air cleaners and dehumidifiers	Boilers	
			Water heaters	
Other:	Cable boxes	Pool pumps		

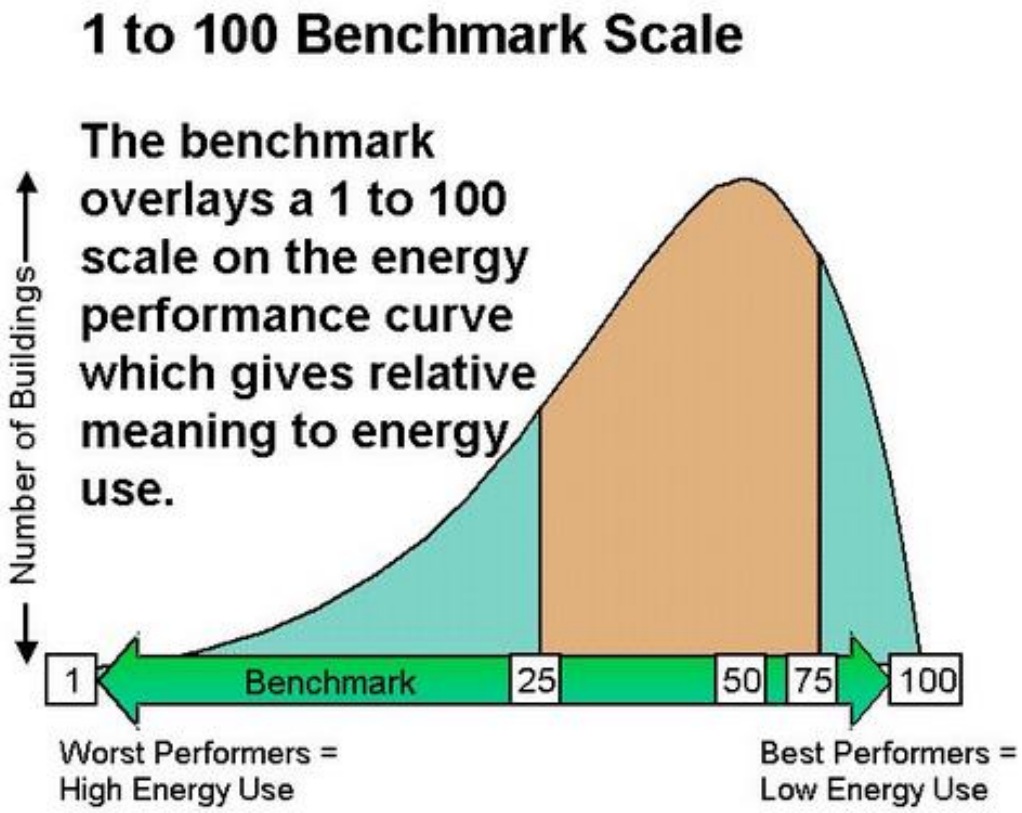
Example Business Products Eligible for Energy Star

Restaurant Equipment	Office Equipment	Heating, Cooling and Lighting	Other
Dishwashers	Computers	water heaters	Vending machines
Fryers	Data Center Storage	Small building heating and cooling systems	Large clothes washers
Griddles	Monitors	Commercial light fixtures	
Ice makers	Enterprise Servers		
Ovens	Imaging (copying) equipment		
Refrigerators and freezers	Power supplies		
Steam cookers	Water coolers		
	Audio and visual equipment		

How does it work? -Buildings

- EPA evaluates data on the actual energy use intensity (energy used per square foot) of buildings across the country, using data from the Department of Energy's Commercial Building Energy Consumption survey and other sources.
- EPA creates a 1-100 score for different types of buildings
  - Buildings that use the most energy score low (1)
  - Buildings that use the least energy score high (100)
- Buildings that are in the top 25% (score of 75 or above) are eligible to earn the ENERGY STAR label
- Building owners use the EPA's Portfolio Manager tool to enter their energy consumption data and obtain their score

ENERGY STAR Buildings

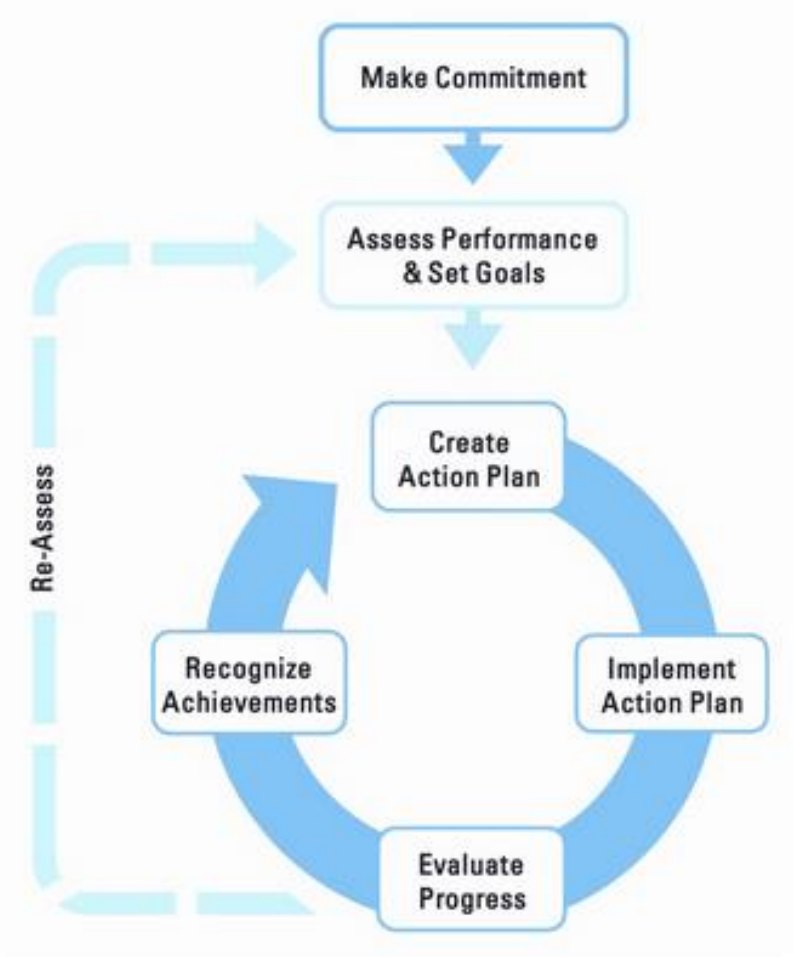


ENERGY STAR Buildings

- Commercial buildings that have certified as ENERGY STAR: More than 20,000
- Cumulative cost savings: $2.7 billion
- Cumulative greenhouse gas emissions prevented: More than 14 million $MtCO_2e$
- That's equal to: The electric use of more than 2 million homes annually
- Commercial buildings actively measuring and tracking their energy use: More than 300,000
- Percentage of the commercial buildings market: More than 40 percent of space in USA

EPA

Guidelines for Energy Management



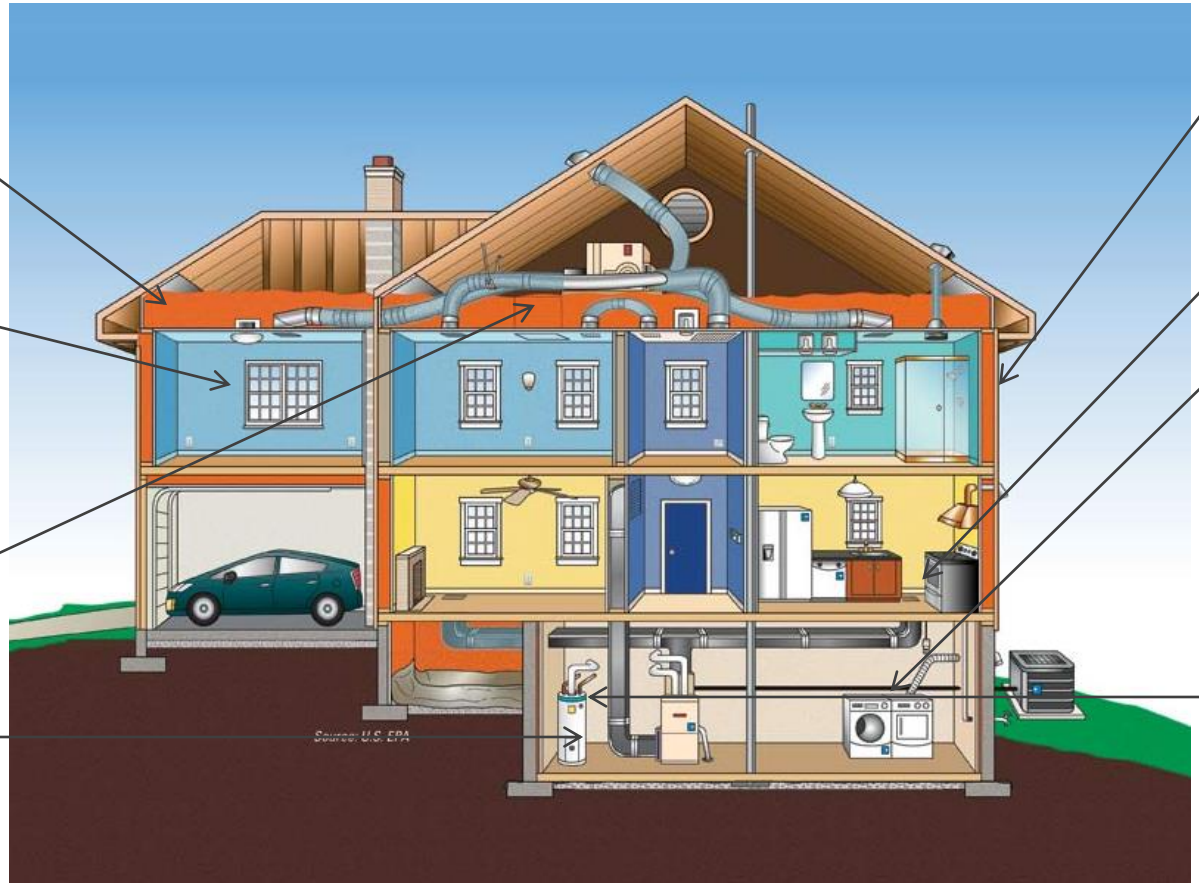
- Step 1: Make Commitment
- Step 2: Assess Performance
- Step 3: Set Goals
- Step 4: Create Action Plan
- Step 6: Evaluate Progress
- Step 7: Recognize Achievements

How does it work? -Homes

- ENERGY STAR certified new homes are designed and built to standards well above most other homes on the market today, delivering energy efficiency savings of up to 30 percent when compared to typical new homes.
- A new home that has earned the ENERGY STAR label has undergone a process of inspections, testing, and verification to meet strict requirements set by the U.S. Environmental Protection Agency (EPA), delivering better quality, better comfort, and better durability.

Energy Star Homes

- ✓ Properly installed insulation
- ✓ Efficient windows
- ✓ Efficient heating and cooling and ventilation equipment with quality installation



- ✓ Advanced lighting
- ✓ Energy Star qualified appliances
- ✓ Independent inspections and testing
- ✓ Efficient water heating system

How a Home Earns the ENERGY STAR

Step 1: Builder Chooses to Partner with ENERGY STAR

- Through a Partnership Agreement with EPA, a builder agrees to affix an ENERGY STAR label on homes that are independently verified to meet program guidelines and to build at least one ENERGY STAR certified home every 12 months to maintain their partnership. Through the Partnership Agreement process, the builder also selects a Home Energy Rater to work with to qualify their homes.

Step 2: Builder Works with the Rater to Select Energy–Efficient Home Features

- The builder submits their architectural plans to their Home Energy Rater for review and analysis. The Rater looks for key information on the plans to help the builder choose the best combination of energy–efficient features to ensure that the home will earn the ENERGY STAR label when constructed.

Step 3: Builder Constructs Home and Rater Verifies Features and Performance.

- With the energy–efficient features selected, the builder then proceeds with construction of the home. Throughout the construction process, the Rater performs a number of inspections and diagnostic tests to verify the proper installation of the selected energy–efficient features and overall energy performance of the home.

Step 4: Rater Qualifies the Home as ENERGY STAR and Issues an ENERGY STAR Label

- After the Rater completes the final inspection and determines that all requirements have been met, the Rater will provide the builder with an ENERGY STAR label, which is placed on the circuit breaker box of the home.

ENERGY STAR Partners with Other Countries

- ENERGY STAR partners with foreign governments to promote specific ENERGY STAR qualified products in their markets
  - These partnerships are intended to unify voluntary energy-efficiency labeling programs in global markets
  - This helps avoid confusion over different country requirements
- Companies that sell ENERGY STAR qualified products in other countries are held to the same technical or eligibility requirements as they are in the USA

ENERGY STAR International

- Energy Star is interested in advancing product efficiency globally through international harmonization efforts
- EPA and the Department of Energy are interested in working with countries—including countries that have not officially signed a partnership agreement—to harmonize product efficiency metrics and test methods
- Interested parties should contact Chris Kent at Kent.Christopher@epa.gov.
- The following slides provide details of current international agreements

International Opportunities

- Engaged with partner countries on US ENERGY STAR efforts with enhanced testing and verification
- Enhance existing ENERGY STAR relationships
  - contributing to high-profile international energy efficiency projects.
  - sharing successful approaches and best practices.
- Continue to pursue test procedure harmonization

Existing Agreements

- EU – Dept of State negotiated agreement
  - renewed February 2013 - good until 2017
  - covers computers, displays, imaging and servers
- NRCan – Exchange of letters
  - renewed December 2013 – good until 2018
  - EPA now houses all NRCan qualified product data
  - covers office equipment, consumer electronics, heating and cooling equipment, home appliances, lighting , commercial food service, windows , and New homes

Existing Agreements

- EFTA - Norway, Iceland, and Liechtenstein
  - Currently updating agreement to align with EU
  - Covers computers, displays, imaging and servers
- Japan – Exchange of letters
  - Renewed February 2014
  - Covers computers, displays, imaging and servers
- Taiwan – Exchange of letters
  - Currently updating agreement to address third party certification for Taiwan program
  - Covers computers, displays, imaging and servers

Existing Agreements

- Australia – Exchange of letters
  - covers office equipment, consumer electronics, others
  - New Zealand taking over ENERGY STAR promotion for both AU and NZ
- New Zealand – Exchange of letters
  - office equipment, consumer electronics, others
- Switzerland – Exchange of letters
  - Covers computers, displays, imaging and servers

Questions / Preguntas?

?

Contact Information

- Kristen.Taddonio@ee.doe.gov
- Christopher Kent, Energy Star
- Kent.Christopher@epa.gov