

# Data processing for next-generation retail-based incentive programs

October 28, 2014

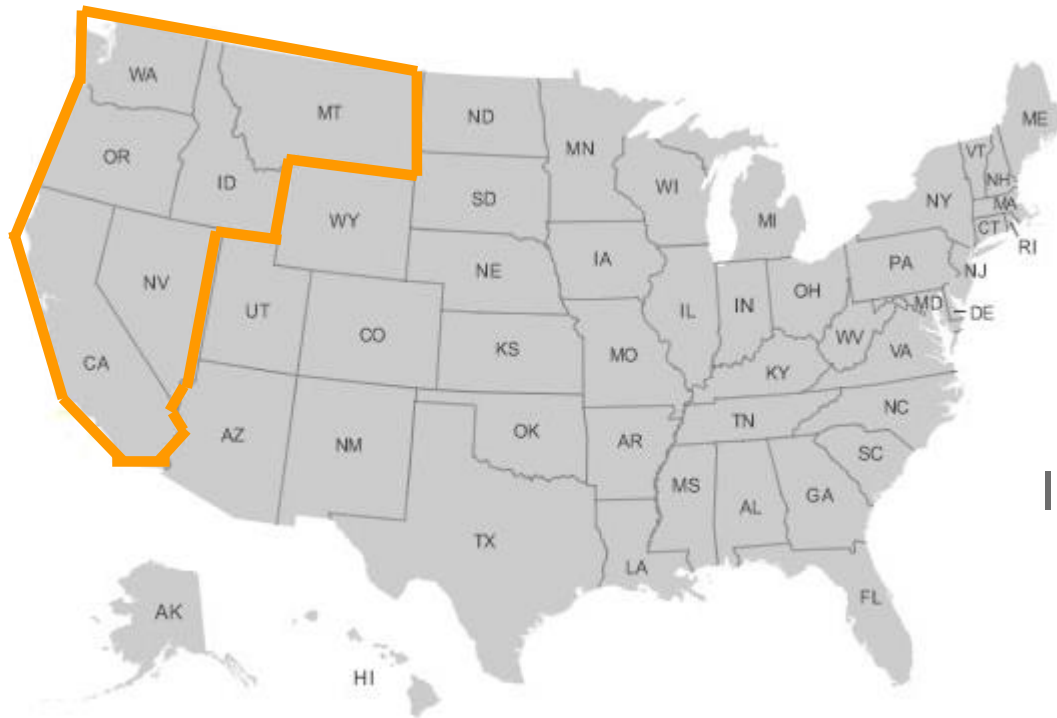
ENERGY STAR  
Products Partner  
Meeting  
Arizona

PRESENTED BY

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Energy Solutions

# Business and Consumer Electronics Program (2009-2013)

- BCE Program provided retailer incentives to stock and sell efficient consumer electronics



Applications:  
**5.2 million**

Incentives Paid:  
**\$70 million**

Also supporting current RPP pilot for NEEA, PG&E and SMUD in 2014



# ENERGY STAR's Retail Channel Success

- In 2013, 225 million non-lighting ENERGY STAR products were sold, at least half of that through retail channels.
- Partnerships with EE Programs, Retailers, and Manufacturers have played a key role in improved efficiency of consumer electronics and appliances.



**70% less energy since 2008**

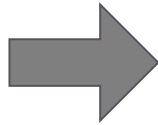
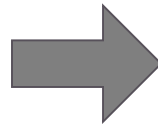


**33% less energy than 2001**



# Where do efficiency programs go from here?

- **Diminishing energy savings challenge existing programs**
  - Savings potential is still significant, just distributed across more products
  - Smaller per unit savings result in smaller incentives

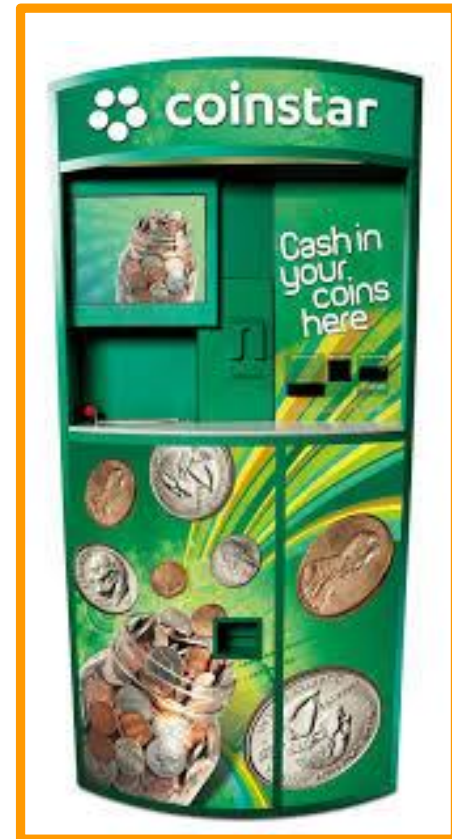


- **Need to expand product categories, increase sales volume**



# Implications for data processing

- Programs must reduce per unit processing costs
  - Need to develop ways to fully automate processes across all product categories.



# Reducing transaction costs through automation

- Process for incentive and data processing:

Already significant automation

Upload & Validation

- Retailer uploads sales data into online system
- Automated Validation Process

Opportunity for further automation

Product Qualification

- Generation of Qualified Product List
- Matching of retailer data with ENERGY STAR QPL

Already significant automation

Savings & Incentive Generation

- Determines retailer incentive
- Determines energy savings



# Using the Energy Star API to Automate Data Collection

- **EPA recently released an API for all product datasets**
  - **API (Application Programming Interface):** An automated way for one computer to communicate with another computer without human intervention.
- **The API is an important step towards automation and reducing costs**
- **There are two different ways to interact with the API**
  - Individual queries of specific models in real-time
  - Pulling an entire product category
  - We use the API for an automated download of QPL for six different product categories, with weekly refresh



# Using the Energy Star API to Automate Data Collection



U.S. ENVIRONMENTAL PROTECTION AGENCY

[ABOUT ENERGY STAR](#) [PRODUCT FINDER HOME](#)

[Sign Up](#) [Sign In](#) [Help](#)

To access an Excel list, click Export, then select .xls, .xlsx or .csv

Find and compare the energy efficiency of these products. [Switch to Basic View](#) »



## ENERGY STAR Certified Televisions

Certified models meet all ENERGY STAR requirements ▶



Find in this Dataset

- Manage
- More Views
- Filter
- Visualize
- Export
- Discuss
- Embed
- About

	PD_ID	ENERGY STAR Partner	Brand Name
1	2,195,163	AmTRAN Video Corporation	AVC
2	2,195,160	AmTRAN Video Corporation	AVC
3	2,175,854	AmTRAN Video Corporation	JVC
4	2,192,786	AmTRAN Video Corporation	JVC
5	2,206,111	AmTRAN Video Corporation	JVC
6	2,215,472	AmTRAN Video Corporation	JVC
7	2,177,209	AmTRAN Video Corporation	JVC
8	2,192,176	AmTRAN Video Corporation	JVC
9	2,215,449	AmTRAN Video Corporation	JVC
10	2,191,513	AmTRAN Video Corporation	JVC
11	2,199,960	AmTRAN Video Corporation	JVC
12	2,215,473	AmTRAN Video Corporation	JVC
13	2,180,045	AmTRAN Video Corporation	JVC
14	2,199,959	AmTRAN Video Corporation	JVC
15	2,215,450	AmTRAN Video Corporation	JVC

### Export

**API Access Endpoint:**

```
http://data.energystar.gov/resource/
```

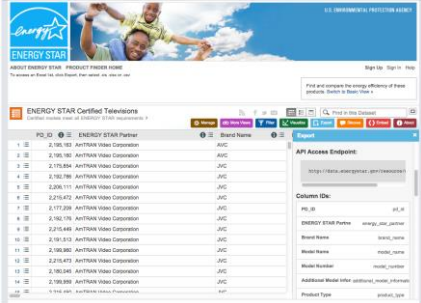
**Column IDs:**

PD_ID	pd_id
ENERGY STAR Partne	energy_star_partner
Brand Name	brand_name
Model Name	model_name
Model Number	model_number
Additional Model Infor	additional_model_informati
Product Type	product_type



# Benefits of using the ENERGY STAR API

- **The API is a critical part of scaling up data collection**
  - Replaces manual process of downloading ENERGY STAR QPL and integrating into our data system.
  - Simple to replicate and automate across multiple categories
  - Improves data integrity and reduces operation costs
- **Next Steps for the API:**
  - Automated way to provide feedback on problematic data
  - Provide data for a “delta” report so consumers of the data can see that some models were purposely left off current list and why and easily identify new models



The screenshot displays the ENERGY STAR Certified Televisions API interface. The main content area shows a table of product listings with columns for EPC ID, Brand Name, and Model Name. The table lists 15 products, all from the brand 'AVC'. The right-hand side of the interface features an 'API Access Endpoint' panel with a text input field containing the URL 'http://data.energystar.gov/televisions'. Below this, there are sections for 'Column IDs' and 'Model Name', both with input fields. The 'Model Name' field contains 'model\_name'. At the bottom of the panel, there are fields for 'Address' and 'Product Type'.

EPC ID	Brand Name	Model Name
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC
2.192.182	AVC	AVC



# Next Steps in Automation: Improving Link between retailer and ENERGY STAR data

- **Matching retailer sales data to the ENERGY STAR list continues to be a major barrier to automation.**
  - Need to agree on a common naming convention

Retailer Model	Energy Star Model
ABC123	ABC12***
ABC123	ABC1

- **Consistency is a win-win for everyone**
  - Retailers receive more incentives
  - Utilities reduce data processing costs and can claim more savings
- **We recommend that EPA work with manufacturers and retailers to develop data consistency.**
  - Standardize unique model identifiers (ex: UPCs)
  - Critical to outline data requirements to minimize future work.



# THANK YOU

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# Appendix



# Recommended refinements to the API

- Allow API to use the query of wildcards.
- Automated way to provide feedback on problematic data
- Provide data for a “delta” report so consumers of the data can see that some models were purposely left off current list and why and easily identify new models
- Develop automated notifications about key values being outside of specific value ranges.

