eTRM Stats
Data Visualization
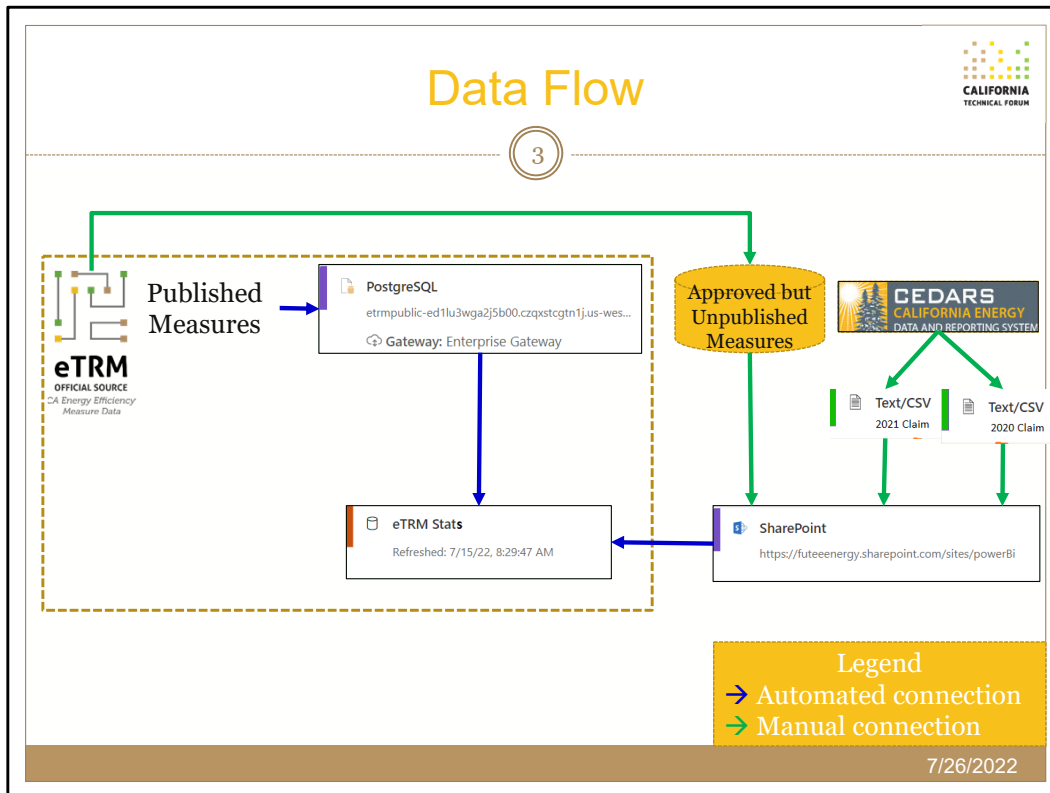
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eTRM Stats Overview

- Data Flow
- eTRM Stats Pages
  - Numbers of permutations
  - Claims data visualization
  - Cost effectiveness visualization
  - Measure version comparisons
- PowerBI Capabilities and Limitations

We want your feedback on which visualizations are the most valuable.

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Arrow color key:
- Green: Data processing done outside PowerBI (not automated)
- Blue: Data processing done within PowerBI (automated)
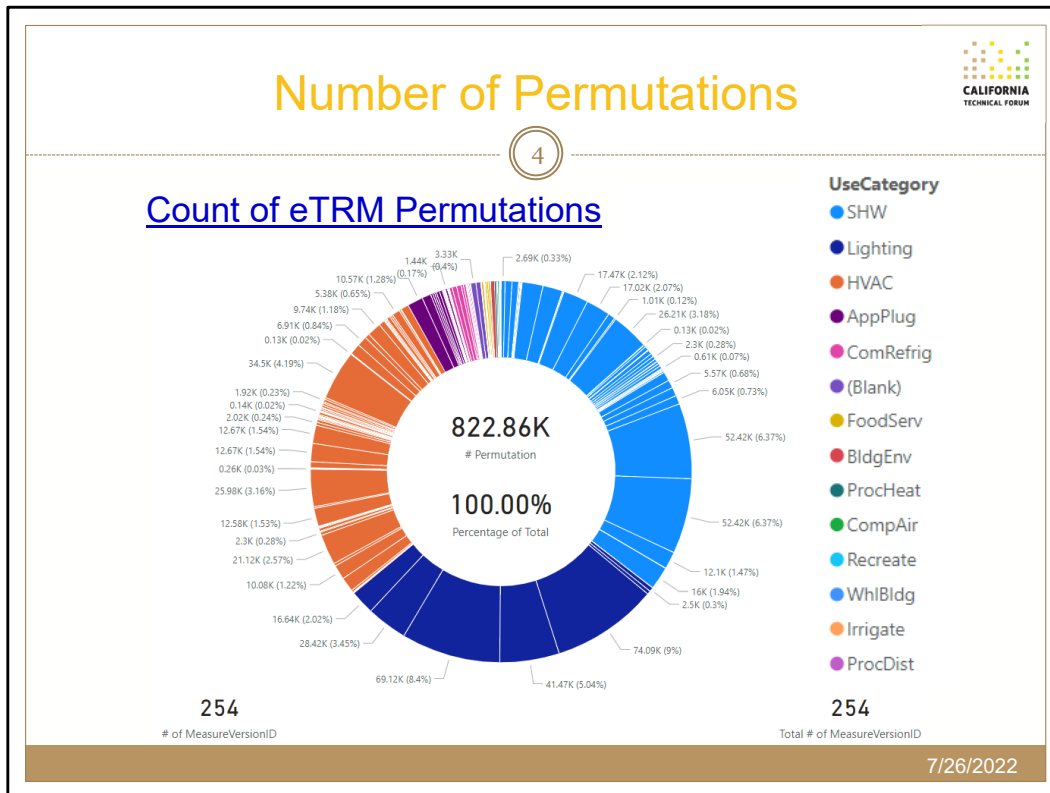
Flow Process:
1. Data Sources
   - Postgre SQL:
     - Pulls in the read-only public eTRM data, including published permutations, measure reports, and SD objects
     - Data can be set to update once a day

   - SharePoint
     - Stores the claim data files and unpublished measures, which require manual data extraction and processing
     - Claim files are downloaded from CEDAR. Unpublished measures are downloaded from the eTRM and compiled in Excel

2. PowerBI Dataset - Data processing
3. Power BI Report – Visuals
4. eTRM Stats page
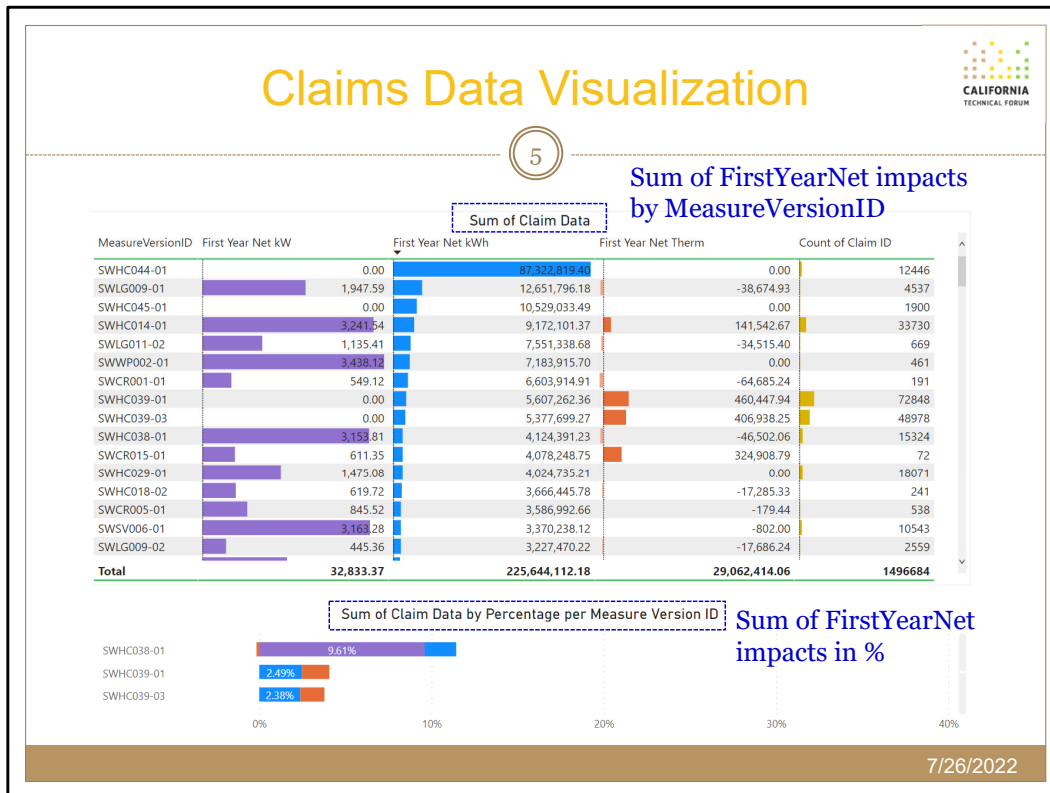   - iFrame HTML code is generated and embedded to the eTRM

This visual shows an overview of what is housed in the eTRM:
- Report counts the # of measure version ID and the size (# of permutations) for each
- Color coded by UseCategory

Filters – to narrow search area and see the breakdown per each measure group
- Measure ID/measure version ID:
- Use Category
- Sectors
- Start Date/End Date
- Measure Impact Types: DEER, WP, Fuel-sub, custom
- Last updated – to see what measure version was last updated within a chosen time stamp
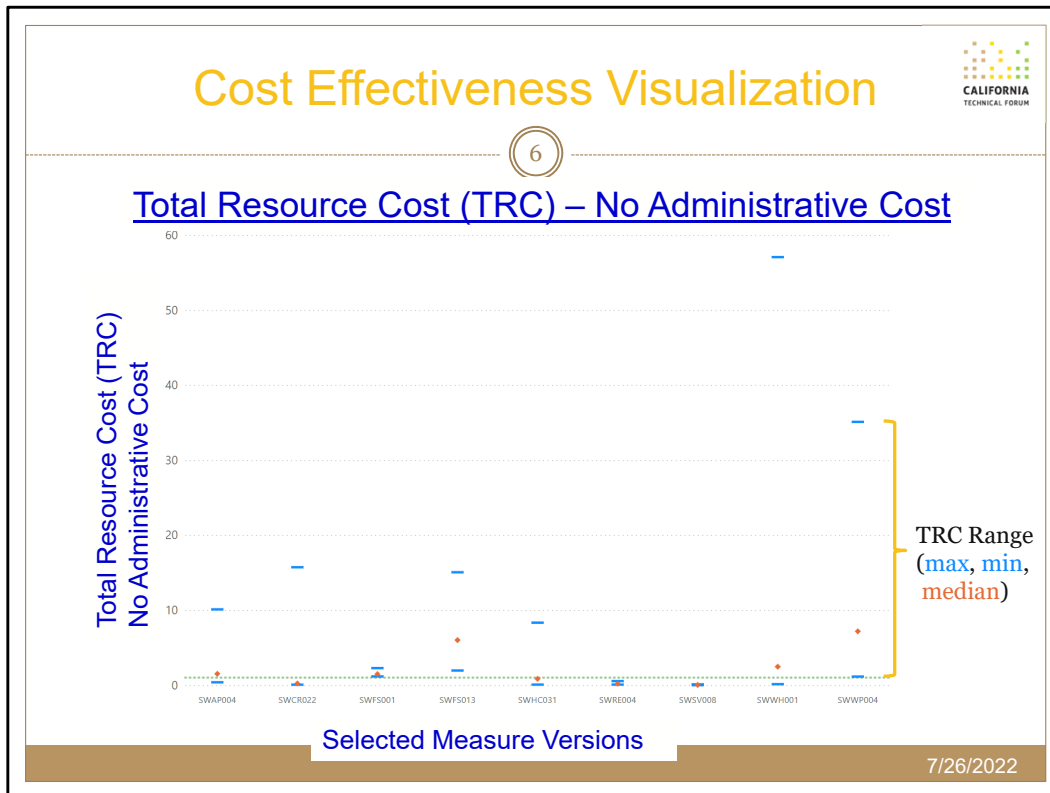
This visual incorporates eTRM measure data and CEDAR claim data:
- Include 2020 and 2021 claim data
- 2022Q1 is available but not yet included
- Blanks (claims that are not mapped to a deemed measure) are not included

Visuals:
- Top: Sum of Claim Data
    - Bar charts: Individual sum of electric, gas, demand reduction value
    - Click on each column to reorder by that field

- Middle: Sum of Claim Data in term of percentage
    - Calculate the % of the total kWh, kW, and therm claim, respectively, for each measure version ID
    - Stacked chart: See the energy make-up (i.e. measure is high gas, electric, and/or demand) and see the total contribution

- Note card provides the total % of kWh, therm, kW, and # of claim IDs, respectively (when selected multiple measures via filters)

Same filters as first chart - Include claim PA and claim quarter/year

This visual provides the 6 CET fields for each measure ID
- Available from measure level (see a range and the median of TRC) to permutation levels (all CET fields).

Visual:
- At measure level
    - A data graph showing the range and the median
    - Green line represents the threshold TRC = 1

- At measure version ID, offerings, and permutation level,
    - A data table showing the 6 CET fields (6 columns)
    - TRCRatioNoAdmin includes the following conditional formatting rule:
        - Green: ≥ 1
        - Yellow: 1 > TRC ≥ 0.5
        - Red: 0.5 > TRC ≥ 0

Filters:
Parameters that can vary impacts: See how TRC varies with each sub-group

Measure Version Comparison

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View average of impacts in original value, %Δ, or both

| Value | Percentage Difference | **Both** |

Compare at the offering level or measure level

Compare by Measure

Average and Percentage Difference of Average Impacts

OfferingID	SWCR007-02	SWCR007-03
A		
UnitkW1stBaseline	0.05	0.02
		-59.91%
UnitkWh1stBaseline	928.31	848.50
		-8.60%
UnitTherm1stBaseline	0.44	0.25
		-43.65%
UnitMeaCost1stBaseline	217.80	241.89
		11.06%
Life1stBaseline	7.00	5.00
		-28.57%
UnitkW2ndBaseline	0.00	0.00

Description and Parameters

OfferingID	SWCR007-02	SWCR007-03
A		
OfferingDesc	Control SCT to ambient +12 deg F TD, 70 deg F min, backflood setpoint of 68 deg F	Control SCT to ambient +12 deg F TD, 70 deg F min, backflood setpoint of 68 deg F
Version	ExAnte2022	ExAnte2023
# of MeasDetailID	800	768
# of MeasAppType	1	1
# of BldgType	25	24
# of BldgLoc	16	16
# of BldgVint	1	1
ETP_Flag		
E3MeaElecEndUseShape	DEER:HVAC_Chillers	DEER:HVAC_Chillers
NormUnit	Cap-Tons	Cap-Tons

Compare between two versions

Understand what make the measure versions different

Understand if it legitimate to compare these versions?

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This visual is a measure version comparison tool
- Select up to 2 measure versions with the same measure ID (Note: can select more, but # could be non-sensical)
- This page ONLY: Hold {Ctrl} to do more than 1 selection
- This page ONLY: Include non-published (but CPUC Approved) measures

Visual:
- On the right: Side-by-side of the measure scopes (offering IDs, logistic of parameters, etc)
- On the left: Side-by-side of the impacts

Visual options:
- Whole page: Compare at the measure level or the offerings level
- Impacts: Can view in original value, percentage difference, or both

Filters
- Offerings ID: to view one offering Ids at a time (can also do that by click on the report directly)
- Additional parameters that could vary impacts: to narrow down the comparison (ex. MAT, Bldg Loc, … level)

Power BI - Operation

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Capabilities	Limitations

• Diverse data sources
• Visual:
  ○ Interactive
  ○ Tooltips: More details on a datapoint
  ○ User-defined filters
• Viewing modes:
  ○ Visual v. Table
	• Data Download
	  ○ Not available from the public visual
	  ○ From PowerBI:
	    ⚊ 30k for *.xlsx
	    ⚊ 15k for *.csv

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Capabilities:
- Diverse data sources:
    - The free PowerBI version can connect to an extensive list of data sources, including Postgres and Sharepoint
    - Allows automated connection and scheduled data source update
- Interactive: Highlighting one datapoint on 1 visual will also filter the same datapoint for another visual in the same page
- User-defined filters: Some filters are crossed-report
- Tooltips
    - Hover the mouse on the datapoint for more "hidden" details
- View mode
    - Right click on the visual or on specific data point to view "summarized data" in table mode

Limitations:
- eTRM Stats page is for visualization only, not for data extraction purposes
- Download can be done through request to CalTF Staff
    - Download as summarized or underlying data
    - Size limitation: 30k for *.xlsx and 15k for *.csv
- Tableau (paid version) and capacity-based PowerBI premium do not have this limitation

Questions and Feedback

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