2023 eTRM Enhancement Planning

CALIFORNIA
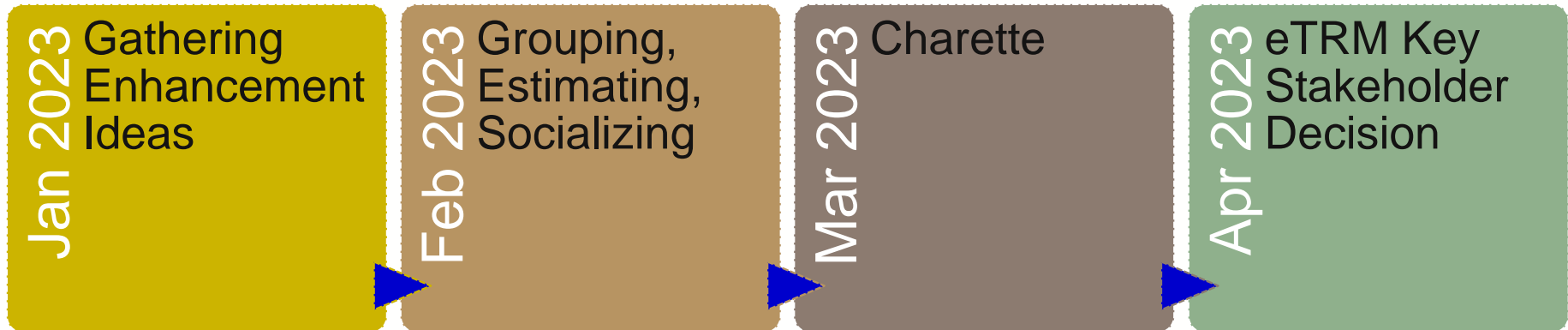**TECHNICAL FORUM**

TOMAS TORRES-GARCIA
AYAD AL-SHAIKH
CAL TF STAFF

eTRM Enhancement Selection Process

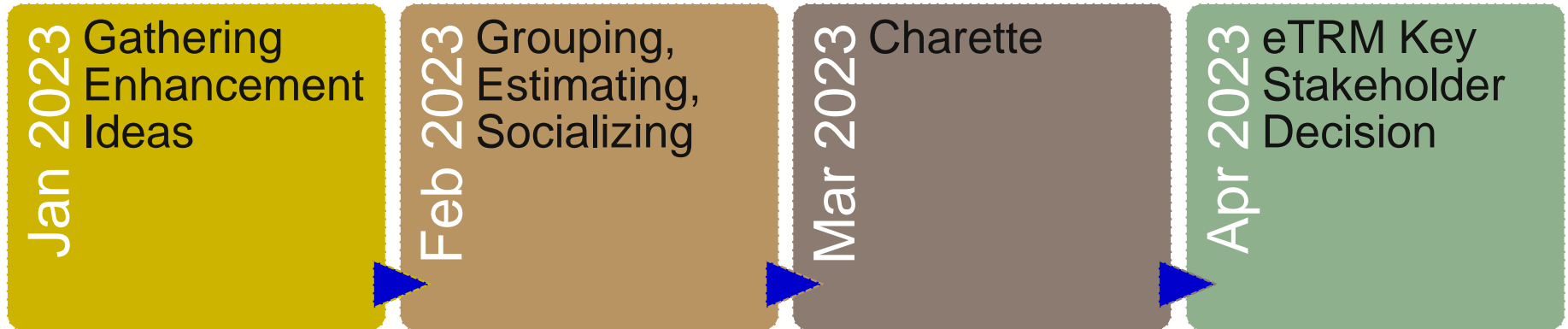| Jan 2023	Feb 2023	Mar 2023	Apr 2023
Gathering Enhancement Ideas	Grouping, Estimating, Socializing	Charette	eTRM Key Stakeholder Decision

- Goal today
  - Understand the process so you can provide input
  - Start to understand enhancements are being considered for 2023
    - We know that we can not do everything.
    - What would be most valuable for stakeholders?

eTRM Enhancement Selection Process

Jan 2023 — Gathering Enhancement Ideas

Feb 2023 — Grouping, Estimating, Socializing

Mar 2023 — Charette

Apr 2023 — eTRM Key Stakeholder Decision

Week Number:	1	2	3	4	5	6	7	8	9	10	11	12	13
Planning													
Development		Sprint 1					Sprint 2						
Stakeholder Testing													
Integration Testing													
Release and Acceptance													
Product Launch													

2/21/2023

2023 Enhancement Planning

- Measure Package Development
  - Shared Data
  - Dependencies
  - Parameters/Value Tables
  - Calculations
  - Permutations
  - Characterization
  - Workflow
  - Other
- Data Communications/Reports
  - Communication
  - Reports
  - Filtering
- Modules (Custom/Emerging Measures / API / Viewing/Comparing Load Shapes)
  - Custom/Emerging Measures
  - API
  - 8760 Capabilities
  - Other

CALIFORNIA TECHNICAL FORUM

Efficiency
Collaboration
Transparency

Measure Package Development

- ## Shared Data

  - ❑ Update the shared value tables' sync behavior to only sync when there is only data content change (versus including dependency versioning change).

  - ❑ Rewrite the script for the Energy Impacts CPUC Support Table.

- ## Dependencies

  - ❑ Measure developers can update all dependencies of shared items with one button.

  - ❑ Data health warning should identify not just that there is a difference, but also that the difference affects the specific measure.

  - ❑ Ability to note that a data health warning has been checked.

  - ❑ Information indicating that shared objects have changed, marigold vs. green icons, should be viewable only by a limited group (Measure Development team/CPUC Admin/System Admin).

Measure Package Development

- Parameters / Value Tables
  - ❏ Automatically sort the measure parameters and value tables to a preset order.
  - ❏ The csv files for value tables that are a part of the measure package that is downloaded for a measure should not include rounding and should show all the "true" values that were uploaded.
  - ❏ Add ability for the eTRM to generate a measure package revision history by parameter.
- Calculations
  - ❏ Add more mathematical functions to the eTRM.
  - ❏ Add more units to the eTRM (e.g., $/sqft).

Measure Package Development

- Permutations
  - Warnings before publishing and/or saving measures. eTRM should help a developer determine what can be done to resolve the issues (i.e., what field is not mapped).
    - Permutations are not built.
    - A change has been made since the last time permutations have been built.
    - If all required permutations fields are not correctly mapped (data spec standard warning).
    - If CET outputs have not been uploaded.
    - If the Measure Detail ID field unique.
  - Make the "This permutation configuration does not conform to the CalTF's standardized data spec" error message visible to more measure contributor roles.
  - In the configure permutation fields panel, fields that are not mapped will be color-coded so that they are easier to see and correct (i.e, "unmapped" fields will appear in red).
  - Permutations CSV file name that is download needs to include statewide ID.
  - Align the start year and quarter in the CET Input file that is generated by the eTRM with the start year of the measure.

Measure Package Development

- Characterization
  - ❑ Add more traditional mathematical notations to the symbol's options (e.g., Bar on top of symbols to indicate it is the average).
  - ❑ Add capability to show calculated values in value tables displayed in the characterization tab.
  - ❑ Allow sorting of value tables based upon any column (parameter or value) and save that sort to embed into a characterization field.
  - ❑ Implement text comparison and redlining feature for all measure text fields so textual differences between different versions of a measure are readily apparent.
  - ❑ Paragraph mark (¶) toggle
    - ⨯ When copying/pasting text into the characterization, the paragraph formatting sometimes is not correct (e.g., random indentation, line breaks, or new paragraph break). In the "Source Code" mode, you can identify these paragraph formats (but not everyone reads HTML)

Measure Package Development

- Workflow
  - ❑ Add error message when the effective start date is removed.
  - ❑ Add a measure announcement log, allow users who were not previously subscribed to a measure to read past measure announcements that were sent out (also useful for users who might have missed notifications).
  - ❑ Status of a measure should be tied to the release cycle instead of the whole measure. The measure status should be changed to "Draft" every time when created from a published version and a new release cycle is specified.
  - ❑ Email notifications to be sent to users when assigned measure contributor role or when a role is revoked.
  - ❑ Limit publishing to only be available when a measure is in the "POU Ready" or "CPUC Approved" status only.

Measure Package Development

- Workflow (*continued*)

- ☐ Add approval flow chart listing roles with person assigned to it to indicate who is involved and highlight or indicate where the current status is.

- ☐ Add more admin capabilities for PAs

  - ✖ Add a new PA-Admin role: Access data and review measures that are under development, measure manager capabilities, assignment of measure roles, assignment of PA association.

  - ✖ Measure manager role able to assign new non-CPUC measure development roles.

- ☐ Create a way to remove multiple measure contributor roles at once.

- ☐ Allow management of measure contributors while viewing a measure.

Measure Package Development

- Workflow (*continued*)

  ❑ Add a pop-up to verify actions (1) when a user changes status to "Submitted to CPUC", "Resubmitted to CPUC", "POU Ready", "CPUC Approval", "Cancelled" and (2) when choosing to make a measure log entry "open" to confirm that is what they really want to do.

Measure Package Development

- Other

  - Add/integrate coversheet fields to the eTRM (some fields are already in the eTRM).

  - EnergyPlus integration with the eTRM.

  - On the Dashboard with your assigned measures, add a column that states the role in the measure (reviewer/manager/admin).

  - Default view of a measure is the "active" published version.

  - Improve search field results. Expand to non-published measures where results vary if you have a development role (will search in drafts as well).

Data Communications/Reports

- Communications
  - Separate deemed measures (CPUC Approved) from POU only measures (POU Ready).
  - Share Measures prior to publication for use in program planning. Is it possible to share measures prior to publication for use in program planning (from customer)? At least, proposed changes.
  - Receive notification that a measure package is about to expire (90-day window, good to also do 60- and 30-day notifications as well).
  - Enable automatic email notifications to users who are subscribed to measures when (1) a new measure is published and (2) a measure is published (due to corrections).
  - Weekly digest of measure log notifications.
  - Add the ability for users to add suggestions and/or comments for future measure package updates

Data Communications/Reports

- Reports.
  - One-time setup for ongoing performance audits. With this enhancement, a software developer would be able to run reproducible performance reports on eTRM.
  - Allow base users to select what measures they want included in reports and have the option to get a report for only the measures that users are subscribed to. Allow users to prefilter reports (permutations and measure reports) so that they can select what measures they want included in reports, prefilters can include things such as (1) fuel, (2) sector, (3) climate zone, (4) other higher-level parameters. Create a report of measures that only show the measures that users are subscribed to, users are for the most part only interested in a subset of measures and might not be interested in all measures.

Data Communications/Reports

- Reports
  - ❑ Add different types of workflow reports.
  - ❑ Add the ability to download the system log.
  - ❑ Provide a single method to get all shared data versions, parameters, and value tables; big zip file.
  - ❑ Create a report to track measure development activity.
  - ❑ Creation of audit reports to verify data quality.
  - ❑ Ability to download Measure Log comments.

Data Communications/Reports

- Filtering

  - Expand filtering capabilities, (1) allow filtering on value columns, (2) allow multiple filters per column (check boxes), (3) allow formulas when filtering (e.g., EXCEPT, values > y, values <= y, etc.). Add the ability to download permutations, value tables, shared value tables, and CPUC support tables that are filtered. Filtering should apply to any field (value columns as well), and users should be able to download the filtered results.

  - Implement feature that allows range checking on value tables. An editor would be able to specify a maximum value, minimum value, allowable data type (such as text or number only) and/or "cannot be empty" validation on a value table column. Value table cells that do not meet the validation criteria would be flagged to the measure developer or measure reviewer.

Modules

- Custom/Emerging Measures
  - ❑ Simple Enhancements to host Emerging / New measures.
  - ❑ Simple Enhancements to host Custom measures / Implement phase 1 for custom in the eTRM.
  - ❑ Planning/development to host Custom Projects (unique packages of deemed/custom measures with customer information).
  - ❑ Ability for one measure to link to another. Ability for measures to link to one another so that some information can be assured to be the same.
  - ❑ Add capability to have global or imported calculations. Global calculations are calculations that are used in more than one measure.
  - ❑ Add an evaluate function/feature for calculations in the eTRM.

Modules

- API

  - ❑ Improve API endpoint performances so that they can be used for real time applications. This enhancement would pre-build the API responses so that providing the data occurs quickly.

  - ❑ The API performance is limited to permutations. Consider performance improvements to the other API endpoints.

  - ❑ Add the API endpoint for PA implementation codes so that that it includes PA Code Status field for the endpoint (no matter the status, i.e. don't exclude "pending" or "not offered"). PAs want to be able to use the APIs to check which codes are pending or not offered.

  - ❑ Add more API filtering capabilities for the eTRM.

Modules

- 8760 Capabilities
  - ❑ Allow ability to perform 8,760-hour array calculations (for example, developing annual carbon impact using hourly values that can be summed over full year using GHG look-up date and hourly measure energy savings), as well as over measure lifetime.

  - ❑ Add ability to associate load shapes--either 8,760-hour or compressed format--to measure permutations based on permutation attributes. eTRM should store library of load shapes, which may be associated at the permutation level. Energy Division will need to finalize appropriate measure-level load shapes that can be used for each measure or technology type, but we would like to add IDs now if we can.

Modules

- Other
  - ❑ Provide the framework that would allow the eventual sunsetting of the PEAR/Ex-Ante database, at which point the CPUC user roles may absorb all administrative permissions.
  - ❑ Transform "User Guide" page to "User Support" page with sections for: 1) base user 2) measure developer with ability to post user guide doc(s), embed YouTube or Vimeo training video play lists for each section. 3) API information (Update system text for the API Guide, change the system text from System Admin Guide to System API Guide.)
  - ❑ Change mentions of "Custom" in the eTRM to "Customized" or "Tailored".

Modules

- Other (*continued*)

❑ When a start date is modified in a measure, the PA Codes will be removed. Remove the PA implementation codes for measures that had the Start Date modified, this is needed so that the implementation Start Date that is in the PA codes file can align the newly updated start date of the measure. Consider doing this also when End Date is modified.

❑ Add validations to the implementation start and end dates fields in the file that is uploaded into the eTRM PA Implementations Codes. Validations for PA Codes upload:

  - Implementation start date: must be after or the same as the measure start date and before the measure end date.

  - Implementation end date: must be after the measure start date and before or the same as the measure end date.

- Other (*continued*)

  ❑ Set up an input form for references so that users could request references directly in the eTRM, apply checks to references to ensure good quality. Be able to extract the list of the measures that are uploaded into the eTRM for system admins (maybe base users, we will need to discuss).

  ❑ Add an automated/AI frequently asked questions feature where users can search basic questions like "how to create a draft?" and documentation would appear for that request.

2023 Enhancement Planning

- Questions?

- 2023 Enhancements Charette
  - ❑ To be announced